

MUNICIPAL DEVELOPMENT FUND OF GEORGIA



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სადაცაცაა მშენებლობის პროექტები დაგეგმილია მათში

## **Rehabilitation of Water Supply and Wastewater Systems in Tskaltubo town**

### **Environmental Review**

**Tbilisi, Georgia**

## **ABBREVIATIONS**

<b>WB</b>	<b>World Bank</b>
<b>MRDI</b>	<b>Ministry of Regional Development and Infrastructure</b>
<b>MDF</b>	<b>Municipal Development Fund</b>
<b>EMF</b>	<b>Environmental Management Framework</b>
<b>EMP</b>	<b>Environmental management plan</b>
<b>ER</b>	<b>Environmental Review</b>
<b>MoE</b>	<b>Ministry of Environmental Protection</b>
<b>MoCMP</b>	<b>Ministry of Culture and Monument Protection</b>
<b>RDP II</b>	<b>Regional Development Project II</b>

## Environmental Screening and Classification

The sub-project area is located in West Georgia, Imereti Region 250 km west from Tbilisi and comprises the territory of Tskaltubo Town. Access to the site is possible via Tbilisi-Kutaisi-Tskaltubo motor way.

The SP envisages provision of the secured sewage network service for inhabitants and visitors of Tskaltubo Town.

The subproject include replacement of existing main sewage collectors in the central part of Tskaltubo with the new polyethylene pipes (collector K-1 D=500 mm, length – 3610 m; collector K-2 D=500 mm, length – 3840 m), as well as arrangement of new branch collectors (D=200 – 2035 m, D=250 – 2570 m, D=300 – 920 m, D=400 – 120 m), installation of precast r/concrete manholes (D=1.0m – 317 units) and arrangement of connections to the new collectors.

Design envisages construction of water supply PE pipelines D32 – D90 (with total length 700 m), construction of small pumping station with 1 set of water pump 32m<sup>3</sup>/hr, N=11 kW, as well as installation of water meter units (d15 – d40) – 14 sets.

### (A) IMPACT IDENTIFICATION

Has the subproject a tangible impact on the environment?	The sub-project (SP) will have tangible positive social impact.
What are the significant beneficial and adverse environmental effects of the subproject?	<p>The SP will have a long term positive impact on the environment through improving living conditions of the local population. Project will develop the water and sanitation services, which will improve quality of life and optimize the social and economic development.</p> <p>The expected negative environmental and social impacts are likely to be short term and typical for small to medium scale rehabilitation works: noise, dust, vibration, and emissions from the operation of construction machinery; generation of construction waste; disruption of traffic and pedestrian access.</p>
Does the subproject have any significant potential impact on the local or affected communities?	<p>No new land take and resettlement are expected. The long term positive social impact will be beneficial.</p> <p>Temporary positive impacts include short-term employment of local population in construction</p>

	<p>activities and increased earnings in services in the vicinity of the construction sites.</p> <p>A permanent positive impact is the improvement of the functioning Water Supply and Wastewater Systems could be increased employment for local residents in the operational services for the Sub-Projects. (Improvement of local population living conditions and growth of tourist flow, Attraction of private sector investment in tourism infrastructure (hotels, bars, restaurants, shopping, entertainment, etc.).</p> <p>Negative impacts are short term and limited to the construction site. They are related to the possible disturbance described above.</p>
What impact has the subproject on the human health?	<p>The long term impact of the improvement of the functioning Water Supply and Wastewater Systems in town Tskaltubo will improve quality of life and optimize the social development.</p> <p>Minor negative impacts are related to dust, emissions, noise and vibration during construction period.</p>

**(B) MITIGATION MEASURES**

What alternatives to the subproject design have been considered and what mitigation measures are proposed?	<p>No alternatives were considered for the SP.</p> <p>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.</p>
What lessons from the previous similar sub-projects have been incorporated into the project design?	N/A
Have concerned communities been involved and have their interests and knowledge been adequately taken into consideration in subproject preparation?	Tskaltuboi population was informed about the upcoming project: Rehabilitation Water Supply and Wastewater Systems in town Tskaltubo in a meeting held in Tskaltubo Governor's office in

	<p>town Tskaltubo (05.06.2012) and generated positive reaction of the beneficiary community.</p> <p>Draft ER was disclosed on the web-site of MDF. Hard copies of the document was available at the MDF office and Tskaltubo municipality governance.</p> <p>Draft ER was discussed on the public consultation meeting on August 20, 2012.</p>
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**(D) CATEGORIZATION AND CONCLUSION**

Based on the screening outcomes,

sub-project 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:

• Completion of the Environmental Management Checklist for Small Construction and Rehabilitation Activities

• Environmental Review, including development of Environmental Management Plan

## Social and Cultural Resource Screening

<b>Social safeguards screening information</b>		<b>Yes</b>	<b>No</b>
1	Is the information related to the affiliation and ownership status of the subproject site available and verifiable? (The screening cannot be completed until this is available)	✓	
2	Will the project reduce other people's access to their economic resources, such as land, pasture, water, public services or other resources that they depend on?		✓
3	Will the 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 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 <b>Resettlement Policy Framework</b>			
<b>Cultural resources safeguard screening information</b>		<b>Yes</b>	<b>No</b>
5	Will the project require excavation near any historical, archaeological or cultural heritage site?		✓
If answer to question 5 is "Yes", then <b>OP/BP 4.11 Physical Cultural Resources</b> is applicable and possible chance finds must be handled in accordance with OP/BP and relevant procedures provided in the <b>Environmental Management Framework</b> .			

# ENVIRONMENTAL REVIEW

## 1. Introduction

### 1.1. 1 Background Information

The Government of Georgia approved in June 25, 2010 (Government resolution no. 172), the State Strategy on Regional Development of Georgia for 2010-2017, prepared by the Ministry of Regional Development and Infrastructure (MRDI). The main objective of the strategy is to create a favorable environment for regional socio-economic development and improve living standards. These objectives will be attained through a balanced socio-economic development, increased competitiveness and increased socio-economic equalization among the regions.

In order to better utilize the tourism and agriculture potentials that exist in Imereti and reduce internal socio-economic disparities, the Government of Georgia approached the World Bank with the request to provide financial support to the regional development in Imereti. A Regional Development Project II (RDP II) was prepared jointly by the Government of Georgia and the World Bank, and the latter is expected to provide a loan funding for the implementation of RDP II.

Sub-project for rehabilitation water supply and wastewater systems in Tskaltubo town is a part of the RDP II 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 II.

### 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 II 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 Assessment (EA) 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).

## **Key Stakeholders**

Grant Recipient/ Borrower: Government of Georgia represented by the Ministry of Finance

Local Representation: Municipality of town Tskaltubo

### Sources of Funding/

Financing: World Bank (WB) and Municipal Government (MG)/Government of Georgia (GOG)

Implementing Agency: Municipal Development Fund of Georgia (MDF)

## **Financial Arrangements**

The Appraisal as well as the design comprises Rehabilitation of road, Storm Water Drainage and outdoor lighting Systems around the Central part of town Tskaltubo. The estimated project costs to be financed: 4 003 956.00 GEL.

## **Implementation Structure**

World Bank (WB) Loan Agreement with the Government of Georgia; Project Implementation Agreement between the Borrower (Georgia) and MDF for the project; Investment Financing Agreement (IFA) for the funding of the Rehabilitation of central part of town Tskaltubo between MDF and the Municipal Government (MG) of town Tskaltubo.

Institutional arrangements WB	Project Team Leader Ahmed Eiweida	Safeguard Supervision Darejan Kapanadze	
Implementation arrangements (Borrower)	Implementing entity: Municipal Development Fund of Georgia	Local Counterpart Supervision Technical Supervisor Consulting Firm Eptisa Servicios de Ingenieria S.L. Spain	Works Contractor Ltd ``In-Si`` and Ltd ``Service``

## **2. Legislation and Regulations**

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

The subproject triggers to the OP/BP 4.01 Environmental Assessment and OP/BP 4.11 Physical Cultural Resources safeguard policies of the World Bank.

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

The subproject has been adopted by the Tskaltubo municipality (Sakrebulo).



### 3. Project Description

The subproject area is located in West Georgia, Imereti Region 250 km west from Tbilisi and comprises the territory of Tskaltubo Town. Access to the site is possible via Tbilisi-Kutaisi-Tskaltubo motor way.

The subproject envisages provision of the secured sewage network service for inhabitants and visitors of Tskaltubo Town.

Contract works include:

Replacement of existing main sewage collectors in the central part of Tskaltubo with the new polyethylene pipes (collector K-1 D=500 mm, length – 3610 m; collector K-2 D=500 mm, length – 3840 m), as well as arrangement of new branch collectors (D=200 – 2035 m, D=250 – 2570 m, D=300 – 920 m, D=400 – 120 m), installation of precast r/concrete manholes (D=1.0m – 317 units), and arrangement of connections to the new collectors.

Design envisages construction of water supply PE pipelines D32 – D90 (with total length 700 m), construction of small pumping station with 1 set of water pump 32m<sup>3</sup>/hr, N=11 kW, as well as installation of water meter units (d15 – d40) – 14 sets.

Due to financial implications of removal of the old pipes, as well as due to risks associated with their disposal, the old pipes will not be removed from the ground. New pipes will be placed alongside them. Prior to connection to the water supply network newly installed drinking water pipelines will be washed and disinfected. This is achieved via filling and flushing the pipeline with a disinfection solution, typically chlorination. Construction works, as well as testing and disinfection of the new pipelines will be conducted in accordance with regulations currently in force in Georgia i.e. GOST and SNIP norms.

#### Baseline Environmental Conditions

Tskaltubo - the town in Georgia, an administrative center of Tskaltubo Municipality is located on the bank of the river Tskaltubostskali, at 120 m altitude above the sea level. It was established as the town in 1959 with the population of 16.8 thousand (as of 2002). It is well known as the balneotherapeutic health resort. Tskaltubo is located at 10 km distance from Kutaisi, and at 200 km distance from the Tbilisi City.

#### Climate and Meteorology

The town is characterized by the maritime subtropical rather humid climate, winter there is mild and relatively warm, summer – hot, average temperature in January reaches 5.3°C, in August - 23.3°C. The observed absolute minimum temperature is (-19°C), absolute maximum (+42°C). The total annual average multiannual volume of precipitations is within the range of 1820 mm. In addition, the following regimen-climatic properties are notable: average relative humidity – 73%, duration of insolation - exceeds 2000 hr/per year, winds are mainly observed in late autumn period, winter and spring.

The table below includes climatic conditions of the territory under survey, the data are based on the figures provided by the nearest meteorological station (Kutaisi airport).

Average Annual temperature of Atmospheric Air

month	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	average
°C	5.2	5.8	8.4	12.9	17.9	21.0	23.2	23.6	20.5	16.4	11.5	7.5	14.5

## **Geology**

According to the geotechnical zoning, the survey area is within the bounds of the Transcaucasian intermountain plain western molassic submersion zone (the Rioni intermundane trough). The surface is mostly characterized by occurrence of neogenic-quaternary age molassic deposits, which are settled on the cretaceous and paleogene weakly dislocated rocks.

## **Main Soils and Landscapes**

In the river Rioni area the soils are characterized by diversity: in the mountainous area – the average and thin strata of humus-calcareous soils and thin strata of the forest brown soils occur on the vast territory.

The territory of this district consists of the humid subtropical plains and foothills and humid mountain-forest landscape types, out of which the following main landscape types are distinguished:

- plain-hilly foothills with Colchis vegetation, humus-calcareous zheltzem soils and subtropical-forest brown soils;
- Hilly foothills with Colchis vegetation, and humus-calcareous soils.

## **Hydrogeology**

Tskaltubo is rich with hydro resources, the main artery of which is the river Rioni with its tributaries – rivers Tskaltubo and Gubistskali. Their annual run-off amounts to 1690 million cubic meters, and the flow rate - to 0.28 per second. Average annual precipitation volume is 1420 mm.

Ground waters play immense role in formation of the engineering-geological conditions of the survey area. Here several aqueous horizons and complexes are distinguished.

According to the hydro geological zoning of the territory of Georgia (I. Bouatchidze), this territory falls within the boundaries of the Georgian block artesian basin region Tskaltubo cavernous, fissure, fissure-karst and karst water artesian basin district. The characteristic hydrogeological feature of the artesian basin region of the Georgian block is existence of the relatively small size numerous artesian basins.

The Tskaltubo artesian basin comprises major part of the Kvemo Imereti Plain and Sagurali mountain ridge. The main artesian horizons: lower cretaceous limestone, upper cretaceous Paleogene limestone and Quaternary sand-pebble are distinctly observable in this basin and in neighboring districts as well.

The lower cretaceous limestone contains fissure and fissure-karst pressure groundwaters. Radioactivity of the groundwater of the artesian basins is 5-7 Mach and is characterized with high debits - 200-220 l/sec.

## **Fauna and Flora**

Hardwood and the evergreen conifers (as sparse plantations) are cultivated in the cultural environment of the town. There are shrubs growing in the town suburb adjacent area. As for the town surrounding district area, here the plant cover is Colchis type, instead of the formerly prevailing forests, currently the major part of this area is used for crops, fruit and vegetable gardens and vineyards, the forests are generally remaining in the northern part of the area, where the forest forming species are : hornbeam, oak, hawthorn, here and there beech, liem and elm, chestnut is rare, underwood is represented by evergreen willow and laurel cherry; deciduous – by azalea and medlar; In the plain the forests are mostly hewn down and only the small canopies of oak-hornbeam and oriental hornbeam can be found, zelkova is very rarely found here ; willow and alder are prevailing on the river banks, the forests abound

in liana, the woodless and uncultivated areas in this district are mostly occupied by meadows, which are used for mowing and pastures.

The fauna is very diverse in this district : the forests and boscage is inhabited by wolf, fox, caucasian marten, badger, jackal, there is abundance of hare, field mouse, bush vole, least weasel ; mink is rarely found here ; the birds are represented by : raven, magpie, starling, woodpecker, quail, duck, hoopoe, golden oriole, cuckoo, turtle dove, hawk, pheasant ; the following fish is found in the rivers : Barbus tauricus Escherichi, caucasian herring, Cottus gobio, wels catfish, colchis Chondrostoma, etc. sometimes sturgeon enters this district, there are also lots of vermigrades here.

### **Population**

Number of the Tskaltubo Municipality population as of 2002-2006 is rather stable, it has not significantly decreased, just by 0.9%, and according to the available data amounts to 71381 (females - 37696; males -34193).

According to 2012 data from the Ministry of Internally Displaced Persons from the Occupied Territories, Accommodation, and Refugees, some 6 657 IDPs (2.465 families), mainly from the occupied territory of Apkhazia, live in Tckaltubo.

As of the figures of 2002, 98,6% of the population is Georgian, the rest belongs to other nationalities. By age groups, major part of the population falls under the 7-17 and 46-55 age group category.

Within the 2002-2006 time period, birth rate has decreased by 14,2%, which is 53 units in natural value, death rate has also decreased by 43,8%, which is 344 units in natural value

During the same period, the marriage and divorce rates have also negligibly decreased, in terms of natural value - the marriage has decreased by 5 units, divorce - by 1 unit. Within the 2002-2006 time period the internal migration rate has decreased by 59,9%.

### **Employment and Economics**

58,8% of the municipal population is economically active, 72.9% of the population is unemployed (excluding the population employed in the household activities in the rural areas). As for the employment rate, 45.9% of the economically active population is employed, which slightly exceeds the overall national rate of the same (40.3%).

By economic activity, major part of the employed population is occupied in the following sectors: agriculture, hunting and forestry (87,8%). In general, the number of population employed during the period of 2002-2006 has negligibly increased.

Within the period of 2002-2006 the economic indicators in the Municipality are showing the growth trend, they have increased by 13.4%, out of it the agricultural and hunting sector has increased by 19.9%, the household sector - by 24%, the industry sector – by 32%, commerce and technical services - by 145%; it should be hereby noted that in monetary terms the products processed by the households have leading part.

### **Health Services**

The Tskaltubo Municipality medical service is represented by the following medical-preventive institutions: “Tskaltubo District Hospital” LTD, „District Polyclinic” LTD, „Tskaltubo T.B. Clinic” LTD, „Geguti Policlinic” LTD and 10 village outpatient clinics. 137 medical doctors and 193 paramedical personnel are employed in these establishments

In comparison with the past period, the number of beds in the hospitals has significantly decreased and equals to 43.

## **Education**

There are 50 educational institutions in the Municipality, which serve 8406 students and pupils in all. 1048 professors and teachers are employed for educational purposes.

## **Infrastructure**

Total length of irrigation canals of the Municipality is 175km, which irrigate a 10285ha area, the abovementioned is 36.1% of the irrigable territory, 5678 households in the Municipality are provided with the water for irrigation purposes.

4756 households are supplied with potable water on 24 hour basis per week. Total length of the potable water networks is 149 km. Notwithstanding the fact that within the period of 1999-2006 the total volume of investments in the irrigation and potable water systems equaled GEL 496.3 thousand.

The mobile communication covers 70% of the Municipality.

The mainline railroad passes through the territory of the Municipality, it has 4 stops, the passenger conveyance is also provided by the public and licensed private transportation facilities. Within the period of 2002-2006 the passenger conveyance by individual means of transportation has increased by 39%.

The site directly borders on the Zestaponi-Kutaisi-Samtredia highway, which forms part of the E-60 highway. This highway is the place for the main transit traffic heading for the west-east direction.

## **Description & brief history**

The Government of Georgia is intended to revive the Tskaltubo Spa Resort, which consist of 80 ha Town Park, nine operational public baths, 22 sanatoriums situated in circle around the Town Park, and Lake Tsivi.

Geothermal waters, which are the main mineral resource of the district, are unique due to their consistency and medical qualities. The water is radioactive and contains Radium Emanation, high concentrations of Nitrogen and Helium. The temperature of the geothermal water is +35°C. Tskaltubo geothermal water is used for treatment of rheumatism and bone, heart, peripheral nervous system, blood vessel diseases, etc.

Tskaltubo was especially popular in the Soviet era, attracting around 125,000 visitors a year. Bathhouse 9 features a frieze of Stalin, and visitors can see the private pool where he bathed on his visits.

Presently the infrastructure is deteriorated and in poor condition. Currently the spa receives only some 700 visitors a year, and since 1993 many of the sanatorium complexes have been devoted to housing of refugees, primarily women and children, displaced from their homes by ethnic conflict in Abkhazia.

As a prerequisite for the revival of the spa resort the Government of Georgia is committed to improve the infrastructure in and around the spa resort. The objective of the Project is to improve infrastructure services and institutional capacity to support the development of tourism-based economy.

## **4. Analysis of Potential Impacts**

### **4.1. Construction Phase**

## Social Impacts

- **General set of social issues.** Significant social impact of construction activities, like change of local demographic structure, influx of new settlers, secondary development, job opportunities, and increase of AIDS risks is not envisaged.
- **Resettlement Issues.** Project 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, vibration.** Limited and temporary.
- **Traffic Disruption.** Local traffic can be impacted limited and temporary by transport activities related to the project.
- **Safety and Access.** There will be reduced access to areas adjacent to rehabilitation and potential hazards to vehicles and pedestrians during rehabilitation downtime.

## Environmental Impacts

This sub-project is complementary to the “Wastewater Treatment Plant” Sub-Project, which together comprehensively address the sewerage issues in Tskaltubo Town – to eliminate the current situation of raw sewage discharges to the Tskaltubela River.

Improper handling, storage, use and disposal of construction materials and wastes could pose a risk of water/ soil contamination at the construction site and storage site. Improper maintenance and fueling of equipment could also lead to the potential contamination of soil and to some extent – water (near the crossings of the unnamed seasonal stream). The later impact is less probable.

### Soil Pollution

Potential pollutants from a project 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 silty 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 high chlorine concentration (content) 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**

Steel and cast iron water and waste water pipes were placed 50-60 years ago. This pipeline network is worn out and needs to be entirely replaced. The old pipes will not be unearthed and removed, though, due to cost implications and risks associated with their safe disposal. The new pipes will be laid alongside the old ones and the old pipes will remain in place.

### **Inert Construction Wastes**

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

- Natural materials (soil and rock);
- Contaminated soil with nonhazardous substance or objects

### **Non Hazardous Construction Wastes**

In summary the main non-hazardous construction wastes will include the following:

- Packaging materials.
- Metals (including scrap metal and wire) – negligible amount of metal waste is expected.

### **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

Risks & challenges during infrastructural works are not expected & obvious. Entrance of the monument is not located pretty closed from work field. Minimizing shakes are required

#### **Construction Related Impacts at the Camp Site**

Small construction camp will be arranged near the project areas. The potential impacts related to the construction and operation of the camp could be summarized as follows:

- Potential damage of topsoil
- Contamination related to fuel storage and fuelling operations
- Waste management

### **4.2. Potential Impacts - Operation Phase**

#### **Socioeconomic Environment**

The improved and expanded water supply system would require additional workforce – both skilled and unskilled, for operation and maintenance, and therefore creates new employment opportunities for local people

The re-establishment / introduction of a waste water system will bring numerous benefits when it is operated. The main beneficiaries will be the citizens of Tskaltubo and tourists who will get a better water quality of surface waters. This will improve the quality of life of people as well as raise standards of both individual and public health as the improvements in hygiene should reduce the incidence of disease associated with poor sanitation.

#### **Noise/Vibration**

There are no sources of noise/vibration from the operation of the water supply system.

#### **Natural Environment**

The potential risks of chlorination of the supplied water are related to disruption of chlorination process when:

- The leakages of liquid chlorine may occur and chlorine content in potable water exceeds the established threshold.
- The leakages of liquid chlorine on the territory of chlorination unit may endanger the personnel; and
- Interruption of chlorination process.

The water supply of town Tsklatubo is provided from village Mitsatsitela where the headworks are located. For potable water the gas chlorination is practiced using the Advance equipment. The existing chlorination system has chlorination control system which excludes risks of over dosage or supply of water without chlorination.

## 5. Environmental Management Plan

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

### 5.1. Mitigation Measures

#### 5.1.1. Construction Phase

A number of restrictions and mitigation measures are to be taken into account during the construction process:

#### Noise and vibration

- The selected movement route of the heavy vehicles should be maximally distances from densely populated districts of Tskaltubo. In exceptional cases the allowed intensity of the vehicle traffic and speed should be determined;
- The import of the inert material shall be conducted from the licensed quarries nearby project area. The rout of the transport movement during the transportation of inert material and any other construction material should be agreed upon with the appropriate regional services and overload with the trucks and violation of the allowed traffic intensity should not take place;
- The maximum speed should be restricted to the safety level during the pass of the trucks in the proximity of the residential areas.

#### Chance finds

In case chance find is encountered in the course of earth works, the contractor must immediately sea any physical activity on site and inform the MDF. The MDF promptly notifies the Ministry of Culture and Monument Protection, which takes over responsibility for the following course of action. Works may resume only upon receipt of written permission from the Ministry of Culture and Monument Protection.

#### Water/Soil Pollution

- Prevent operation of vehicles in the watercourses (e.g. unnamed stream near crossing sites) and if there is no alternative, revision of vehicles will be required to ensure that there is no leakage of fuel and lubricating materials.



Contractors will ensure the proper handling of lubricants, fuel and solvents. Fuel and lubricant storage tanks will not be located within 50m of any watercourse, well or dry river bed (first of all, the dry gorge where the water main passes). All tanks will be placed in a bund of at least 110% of the tank's maximum capacity. If more than one tank is stored within the bund, the system must be capable of storing 110% of the biggest container's capacity or 25% of their total capacity, whichever is greater. The bund will be impermeable (e.g. concrete-lined), without drainage points or other breaches. Accumulated rainwater in bunds will be pumped out of the bund to either drains or the ground if uncontaminated. In case of fuel spillage the spilled fuel should be recollected and contaminated bund treated by the absorbents: sawdust, sand or straw.

All fuel / hydrocarbon dispensing nozzles are to be of a drip control design and securely locked when not in use.

No fuel storage or refuelling of vehicles or equipment will be allowed within 50m of any watercourse, water body, well, dry gorge or within any designated wetland area or aquifer. Vehicles will not be left without supervision during refueling process. All refuelling operations on the working sites will use absorbent pads and/or straw to minimise spills, which will be put in place prior to the commencement of refuelling operations. Ground water and surface water pollution risk will be reduced or eliminated in case of immediate removal of polluted ground. Soiled ground and absorbents will be removed, stored and treated as hazardous waste. In case of significant spill authorized and responsible person will be informed, works will be stopped till the elimination of pollution risk Refuelling will always be carried out with the correct equipment (i.e. nozzles of the appropriate size), and only by suitably trained and experienced Refuelling Operators. Fuel supply equipment will be regularly revised to prevent leakage due to inappropriate condition of refueling equipment. Equipment and storages will be isolated and guarded to prevent pollution due to cases of stealing or vandalism. All mobile plant, including but not limited to cranes, compressors, generators, bulldozers, excavators etc. and storage tanks will be maintained and operated such that all leaks and spills of materials will be minimised. Daily plant checks (Vehicle Maintenance Procedure) will be undertaken to ensure no leaks or other problems are apparent. Vehicle maintenance, cleaning, degreasing etc. will be undertaken in designated areas of hard-standing, not over made ground. Maintenance points will not be located within 50m of any watercourse, well or dry gorge. The storage of potentially polluting materials, refuelling and maintenance of mobile plant within 50m of all watercourses/water bodies, dry riverbeds and within designated wetlands and aquifers will be prohibited.

- Erosion control measures will be applied during construction activities to prevent increased runoff into the watercourses.

Contractor will plan all excavations, topsoil and subsoil storage so as to reduce to a minimum any runoff. Contractors will be required to organize and cover material storage areas and to isolate wash down areas from watercourses by selecting areas that are not free draining into any watercourse.

Where any area of the spread is at risk from silt pollution washing off into a watercourse of water body, effective measures will be put in place to ensure that such pollution does not occur. Such measures may include: use of silt fences, use of straw bales to deflect and filter water, use of a system of bunds and grips to prevent water from entering watercourses, etc., and use of holding/settling lagoons to store water running off the spread. It is intended to use natural settling rather than flocculants to facilitate sedimentation following which clean water can be disposed.

Wet cement and/or concrete will not be allowed to enter any watercourse, pond or ditch.

Where the aquifer is directly affected by the works (i.e. the excavation will be through permeable / water-bearing strata), the methodology employed will ensure that no contamination can enter the aquifer. This may involve the use of impermeable layers being placed in the trench and/or the use of clay stanks (plugs) along the trench.

- Waste Management

Allow local communities to utilise any excess rock, which may be left following reuse. Suitable access to the materials will be agreed with the local authorities in consultation with the community.

Distribute the excess rocks (less than 7m<sup>3</sup>) using it for improving the local unpaved road;

Transport any further material, if required, to the nearest licensed spoil disposal pit (agreed with the local authorities). Spoil disposal pits used for final disposal must meet the requirements for Inert Landfills by the MoE.

All waste from the construction site will be disposed of in accordance with environmental regulations and at approved landfills.

Small quantities of hazardous wastes will be generated as a result of vehicle operations and the maintenance activities.

There are no specific hazardous waste treatment facilities in Georgia, so the common construction practice accepted by the authorities is to dispose of these types of wastes at the municipal landfills. However, prior to disposal appropriate consultation and agreement of MoE is required, and controlling will be required to obtain the necessary approvals. To ensure good practice they will also be required to store, transport and deposit all hazardous materials in secure watertight containers.

Municipal waste may be generated on the Storage area. Mainly this is rubbish, plastic or glass bottles, glasses, waste food, etc. and a stationary waste. Waste should be collected both by the specially assigned personnel and the workshop workers on the area. The waste is placed into 0.24m<sup>3</sup> plastic containers and further a local Sanitary Service takes it to Kutaisi landfill.

Burning of waste on any construction site is forbidden with the exception of stub and small branches from felled trees and bushes, which is better to be burned in order to avoid pest dissemination.

- Dust and emissions

All vehicles shall be maintained so that their emissions do not cause nuisance to workers or local people. Activities will be limited to daylight working hours to reduce impacts. All vehicles will be checked and repaired in case of need to eliminate increased level of noise due to damaged parts.

Regular maintenance of diesel engines will be undertaken to ensure that emissions are minimised, for example by cleaning fuel injectors. Routine maintenance will be to a high standard to ensure that vehicles are safe and that emissions and noise are minimised. All plant used on site will be regularly maintained so as to be in good working order at all times to minimise potentially polluting exhaust emissions.

Vehicle refuelling will 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).

- Reinstatement of topsoil

Topsoil removed from the facility sites) will be used for reinstatement of the topsoil in the adjacent Construction Corridor affected by the project activities. Topsoil from the sites, which will not be reinstated to the initial conditions will be distributed carefully on the surrounding area. Topsoil from the construction Row will be used to reinstate the Row. Topsoil will be reinstated separately from

subsoil, with care taken to avoid mixing of the materials. The topsoil reinstatement will be sufficient to restore the fertile depth to the initial conditions as judged by the topsoil strip during visual observation and comparison of the reinstated site and adjacent land. When replacing the topsoil Contractor will program the works such that the areas furthest away from the stockpiles are reinstated first with reinstatement getting progressively closer to the stockpiles, thus reducing the number of vehicle movements over the reinstated topsoil. The reinstated topsoil will then be harrowed, where practical, to protect the stability and promote vegetative growth.

- Washing and disinfection of the newly laid pipelines

Upon completion of washing and disinfection of pipes the disinfection solution will be neutralized by the contractor (via a treatment mechanism) 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 bisulfite, sulfur dioxide or others, 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 by consuming dissolved oxygen required by many organisms. Releasing of neutralized water to the environment by the contractor will be agreed with the local municipality.

### **5.1.2. Operational Phase**

Tskaltubo municipality supervises operation of the water supply and sanitation system. The rehabilitated part of the system will continue to be under the municipality control. This would include timely detection of possible leakages or other damage to the system, diagnostics of the issue, and repair of damage in the manner least disruptive for the water users and the affected communities. If repair works require temporary closure of water supply, water users will be informed about time and duration of the interruption. Location of repair works in streets will be properly demarcated to mitigate risk for pedestrians and traffic. Waste generated during repair works will be out-transported from streets immediately upon completion of works and disposed at the Tskaltuboi municipal landfill.

Rehabilitation of town Tskaltubo water supply system is underway which is implemented by UWSC and will be completed in April of 2013. The project among the other rehabilitation works envisages renovation of existing chlorination system using SCADA and chlorination control system which will increase level of control and safety of water supply system. In case of leakages of chlorine there is envisaged arrangement of chlorine neutralization system.

The risks related to wastewater discharge will be mitigated by provision of WWTP as a parallel activity to this subproject.

## **6. Monitoring**

MDF carries overall responsibility for monitoring of the implementation of the environmental mitigation measures. A consulting firm hired for supervision of works will supplement MDF's in-house capacity for tracking environmental and social compliance of works undertaken under this subproject. Field monitoring checklist will be filled out and photo material attached on monthly basis. Narrative reporting on the implementation of EMP will be provided on 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. Costs of Implementation**

Costs of implementing the proposed individual 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.

**PART D: MONITORING MANAGEMENT PLAN**

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
<b>CONSTRUCTION PHASE</b>						
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
Restoration works	Compliance with design approved by NACHP	Construction site	Inspection	In the course of restoration works	Prevention of damage of historical features of building and historical site in hole.	MDF, Construction supervisor NACHP
Earth works	Temporary storage of excavated material in the pre-defined and agreed upon locations;	Construction site	Inspection	In the course of earth works	Prevent pollution of the construction site and its	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>Backfilling of the excavated material and/or its disposal to the formally designated locations;</p> <p>In case of chance finds immediate suspension of works, notification of the Ministry of Culture and Monument Protection, and resumption of works exclusively upon formal consent of the Ministry.</p>				<p>surroundings with construction waste;</p> <p>Prevent damage and loss of physical cultural resources</p>	
Sourcing of inert material	<p>Purchase of material from the existing suppliers if feasible;</p> <p>Obtaining of extraction license by the works contract and strict 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</p>	Borrowing areas	<p>Inspection of documents</p> <p>Inspection of works</p>	In the course of material extraction	<p>Limiting erosion of slopes and degradation of ecosystems and landscapes;</p> <p>Limiting erosion of river banks, water pollution with suspended particles and disruption of aquatic life.</p>	MDF, Construction supervisor

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
	protective barriers of gravel between excavation area and the water stream, and no entry of machinery into the water stream.					
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
Washing and disinfection of the newly laid pipelines	Neutralization of disinfecting solvent prior to release to the natural environment	End points of pipelines	Inspection	IN the course of pipeline washing by the time of completion of its contraction	Prevent environmental damage due to release of concentrated disinfectant solvents	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

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (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
<b>OPERATION PHASE</b>						
Regular operation and maintenance of rehabilitated utilities	Good technical condition of rehabilitated utilities.	Sites of rehabilitated utilities	Inspection	Throughout operation of the sites	Prevent impeding of water supply and sewage systems working.	Tskaltubo municipality
Chlorination of supplied water	Safe transportation and application of chlorine	Potable water treatment facility	Inspection	Throughout operation of the water supply system	Prevent environmental damage due to operational and emergency release of chlorine	Tskaltubo municipality



<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
Generation of waste from maintenance and repair of rehabilitated utilities	Disposal of solid waste formed during repairing works of rehabilitated utilities, to the municipal landfill.	Municipal area	Inspection	Throughout operation of the sites	Prevent pollution of urban area with solid waste	Tskaltubo municipality
Disruption of traffic and pedestrian access during maintenance works	Scheduling of maintenance works in streets at less busy hours and proper signage of maintenance area	Sites of rehabilitated utilities	Inspection	Throughout operation of the sites	Minimize nuisance to local residents	Tskaltubo Municipality

## **Attachment 1. Record of Public Consultation**

### **Minutes Public Consultation on the Draft Environmental Management Plans Urban Regeneration in Tskaltubo**

**Tskaltubo**

**August 20, 2012**

In order to discuss the environmental documentation prepared for urban regeneration of Tskaltubo, a public consultation meeting was held at Tskaltubo Municipality Conference Hall on August 20, 2012.

Local population was informed about the public consultation meeting in advance as the respective Statements were placed at the information boards of Gamgeoba building.

At the meeting were discussed the works with regard to the project as well as the expected impacts on environment and health of the people. There were discussed also the mitigation measures in order to minimize the potential negative impacts in the process of the project implementation. The attendees were informed about their rights and possible involvement in the construction process. In the process of the discussions concerning the Environmental Management Plans, those present were enabled to pose questions and express their critical attitudes in order to influence the plan finalization process.

Public Consultation was attended by attorneys of the territorial entities of Tskaltubo Municipality and representatives of population, as well as by representative of MDF – Nino Patarashvili and environmental consultant Irakli Kviladze.





Irakli Kaviladze, Environmental Consultant of the MDF presented to the attendees the draft Environmental Review (ER) and Environmental Management Plans (EMP) for the Tskaltubo Urban Development Sub-Project.

The meeting was opened by Nino Patarashvili, representative of the Municipal Development Fund of Georgia, she informed the attendees of the meeting about importance of the urban development in Tskaltubo in terms of improvement the social and economic conditions in the region and the Municipality.

At the meeting were discussed the works with regard to the project as well as the expected impacts on environment and health of the people. There were discussed also the mitigation measures in order to minimize the potential negative impacts in the process of the project implementation. The attendees were informed about their rights and possible involvement in the construction process.

The following main topics were presented during the meeting:

- Brief description of existing situation;
- Reviewing and analysis of design-construction solutions;
- Analysis of the existing environmental condition on the project sites;
- Evaluation and analysis of possible negative impact on environment;
- Mitigation measures, Environmental Management and Monitoring;
- Expected involvement of population in monitoring of construction process.

The presentation was followed by debates.

Q&A session:

Question/Comment	Comments
Will the local population be employed?	The employment issue and employing of workers essential for the project implementation will be carried out by the Contractor which will be identified by the Bidding. According to the World Bank requirements in the process of selecting the employees if the qualification is equal, priority should be given to the local one.
What does the rehabilitation of the administrative buildings mean?	Rehabilitation of the administrative buildings means restoration and renovation of the facades of the above-mentioned buildings.
The project implementation area is only the Tskaltubo park or other areas will also be subject to rehabilitation?	<p>As we have already mentioned, Tskaltubo urban regeneration program includes eight sub-projects, which are as follows:</p> <ul style="list-style-type: none"> <li>Restoration of Existing Buildings and Small Size Pedestrian Bridges in central part of Tskaltubo Town;</li> <li>Construction of Destination Management Office and Tourism-related Small Size Structures on Central Part, Park and Lake "Tsivi" Territories in Tskaltubo Town;</li> <li>Rehabilitation of Water Supply and Sewerage System in central part of Tskaltubo Town;</li> <li>Rehabilitation of Road Pavement and Stormwater Drain System of Circle Road in Tskaltubo Town;</li> <li>Rehabilitation of Roads, Foot Paths and Stormwater Drain System of Central Park and Lake "Tsivi" in Tskaltubo Town;</li> <li>Arrangement of Irrigation System and Landscaping of Central Park and Lake "Tsivi" Territory in Tskaltubo Town;</li> <li>Rehabilitation of Lake "Tsivi" and Water Channels In Tskaltubo Town;</li> <li>Rehabilitation of Outdoor Lightings of Circle Road, Central Park and Lake "Tsivi" Territory in Tskaltubo Town.</li> </ul>

List of attendees (interested population)

იმერეთის რეგიონული განვითარების პროექტი

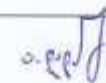




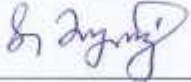

ქ. წყალტუბოში დაგეგმილი ქვეპროექტების გარემოსდაცვითი დოკუმენტაციის

საჯარო განხილვა

შეხვედრაზე დამსწრეთა სია

ქ. წყალტუბო

20.08.2012 წ.

#	სახელი და გვარი	მოქალაქე/ორგანიზაცია	საკონტაქტო ინფორმაცია	ხელმოწერა
1.	აექსრტე დენიშვილი	მსახურე ქ.წყალტუბო, ხელისაღიშნული №115	577965511	
2.	დვით ხიფაძე	მუნიციპალიტეტის ქ.წყალტუბო ჩოლოშვილი 1/29	551447244	
3.	გრიგოლ აბრამიძე	ქ. წყალტუბო 3 ახალი ქ. ან 26	595959620	
4.	გიორგი მჭავრედი	ქ.წყალტუბო ვ.ე.გ.გ.გ.გ.გ. 115	555509100	
5.	იხაფი წანავა	ქ.წყალტუბო, ბასნივის ქ.ა.წ.	595959384	
6.	ნიკიამ მეჩვიანიძე	ქ.წყალტუბო ვოლონტერის ქ.ა.წ.6/19	591221592	
7.	ფიქსია მუხომბაძე	წყალტუბო მუნიციპალიტეტის სოფ. სანთარხი ქ.წყალტუბო ქ.სანთარხის ქ.ა.წ. 1/34	598290928	

#	სახელი და გვარი	მოქალაქე/ორგანიზაცია	საკონტაქტო ინფორმაცია	ხელმოწერა
8.	ფაჩ ჯემელიძე	ასიპ „ნაღვლის მწიფისთვის“ ავილაზი	ქ.ნაღვი, უბნაკა მ-6 მხარე 598 33 96 86	
9.	გუგუნი ჩხეიძე	მედიკალური კონსულტაციის მსახური, სფ. სპ.	ქ.ნაღვი, უბნაკა მ-6 მხარე ქ. N4 მ/19 577 600 80	
10.	ვახტანგ ცხეიძე	ნაღვი, უბნაკა მ-6 მხარე ავილაზი და ინტენსიური კურსი, სამსახური 53101	ქ.ნაღვი, უბნაკა მ-6 მხარე ქ. N6 5 95 95 067	
11.	გიორგი ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე საღვთისმეტყველების სამსახური 1.02.67	ქ.ნაღვი, უბნაკა მ-6 მხარე 595 95 99 43	
12.	იონა ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე სამსახური და ინტენსიური კურსი 1.02.67	ქ.ნაღვი, უბნაკა მ-6 მხარე 8310101 535-95-95-98	
13.	მანანა ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე და ინტენსიური კურსის სამსახური 1.02.67	ქ.ნაღვი, უბნაკა მ-6 მხარე 535 2 127	
14.	მარიამ ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე სამსახური და ინტენსიური კურსი 1.02.67	ნაღვი, უბნაკა მ-6 მხარე N. 9/16	
15.	ნინო ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე სამსახური და ინტენსიური კურსი 1.02.67	557-33-85-88	
16.	მარიამ ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე სამსახური და ინტენსიური კურსი 1.02.67	595 90 89 44	
17.	ნინო ჭიჭილაძე	ნაღვი, უბნაკა მ-6 მხარე სამსახური და ინტენსიური კურსი 1.02.67	568-27-27-64	

#	სახელი და გვარი	მოქალაქე/ორგანიზაცია	საკონტაქტო ინფორმაცია	ხელმოწერა
18.	ივანიშვილი მხედველი	ხედიანთა მხედველი საოფისო მსახურე	577 528158	ი. ივანიშვილი
19.	ბიბიჯანიძე	მხედველი, საოფისო მსახურე	598 14 68 37	ბ. ბიბიჯანიძე
20.	ბიბიჯანიძე	საოფისო მსახურე, საბუღალტრო	598 834871	ბ. ბიბიჯანიძე
21.	ბიბიჯანიძე	საოფისო მსახურე	598 588 581	ბ. ბიბიჯანიძე
22.				
23.				
24.				
25.				
26.				
27.				

**Attachment 2: Letter of Tskaltubo Municipality Administration on allocation site (along the Tamar Mepe street, Tskaltubo) for disposal of excess soil**



**ს ა ქ ა რ თ ვ ე ლ ო**  
**წყალტუბოს მუნიციპალიტეტის გამგეობა**  
4500 ქ. წყალტუბო, რუსთაველის ქ. №25, ☎ 22-28-00, 22-26-17



№ 2240

„ 20“ ნოემბერი 2012 წ.

შპს „ინ-სი“-ს დირექტორს  
ბატონი, ტოგონიძეს

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პატივისცემით,

გამგებელი

ოთარ ჩიტაიშვილი