

# Environmental Monitoring Report

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Bi-annual Report (Jul -Dec 2018)

June 2019

## Georgia: Urban Services Improvement Investment Program – Tranche 1

Prepared by United Water Supply Company of Georgia LLC for the Ministry of Regional Development and Infrastructure of Georgia and the Asian Development Bank.

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# SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

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*Project Number: 43405-023*

*Reporting Period: July-December 2018*

## **GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 1) (FINANCED BY THE ASIAN DEVELOPMENT BANK)**

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**For:** The Ministry of Regional Development and Infrastructure of Georgia and the Asian Development Bank

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January, 2019

## ABBREVIATIONS

<b>ADB</b>	Asian Development Bank
<b>DC</b>	Design Consultant
<b>DEPP</b>	Department of Environmental Protection and Permit
<b>DPM</b>	Department of Project Management
<b>EA</b>	Executing Agency
<b>EARF</b>	Environmental Assessment and Review Framework
<b>EHS</b>	Environmental Health & Safety
<b>EIA</b>	Environmental Impact Assessment
<b>EIP</b>	Environmental Impact Permit
<b>EMP/ SSEMP</b>	Environmental Management Plan/ Site-Specific Environmental Management Plan
<b>ES/ SES</b>	Environmental Specialist/ Senior Environmental Specialist
<b>GoG</b>	Government of Georgia
<b>GRC</b>	Grievance Redress Committee
<b>GRM</b>	Grievance Redress Mechanism
<b>IPMO</b>	Investment Program Management Office
<b>USIIP</b>	Urban Services Improvement Investment Program
<b>IA</b>	Implementing Agency
<b>IEE</b>	Initial Environmental Examination
<b>MFF</b>	Multi-tranche Financing Facility
<b>MEPA</b>	Ministry of Environmental Protection and Agriculture
<b>MoRDI</b>	Ministry of Regional Development & Infrastructure
<b>NEA</b>	National Environmental Agency
<b>SC</b>	Supervision Consultant
<b>UWSCG</b>	United Water Supply Company of Georgia
<b>WSS</b>	Water Supply & Sewerage

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## **I. INTRODUCTION**

### **1.1 Preamble**

1. This report represents the Semi-Annual Environmental Monitoring Review (SAEMR) for “Urban Services Improvement Investment Program” (USIIP), Tranche 1 and describes the period of July-December 2018.
2. This report is the 10th Semi-Annual EMR for the T1 of “Urban Services Improvement Investment Program”.

### **1.2 Headline Information**

3. Based on the changes to the project design under the Ureki Water Supply Sub-project (URE-01), IEE for URE-01, prepared and approved by ADB in June 2013, was updated in December 2018 and sent to ADB for final approval.

## **II. PROJECT DESCRIPTION AND CURRENT ACTIVITIES**

### **2.1 Project Description**

4. The Urban Services Improvement Investment Program was developed as the Government’s response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is intended to optimize social and economic development in selected urban areas through improved urban water and sanitation services, and is financed by the ADB through its Multi-tranche Financing Facility. The Ministry of Regional Development and Infrastructure is the Executing Agency and the United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
5. The Investment Program will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network. Sewerage improvement works will include construction and/or rehabilitation of sewer network, pumping stations, main collectors and Waste Water Treatment Plants.
6. Tranche 1 of the Investment Program includes:
  - Construction of Mestia Headworks (MES-01)
  - Improvement of Water Supply Infrastructure in Anaklia, Kutaisi and Poti (REG-01)
  - Construction of Mestia Water Treatment Plant and Reservoirs (REG-02)
  - UWSCG Office Building (TBI-01)
  - Construction of the Water Supply Network in Ureki (Ure-01)

## Projects financed under Tranche 1:

7. **Mestia Water Supply Headworks (Contract MES-01).** The project comprises of the construction of a Tyrolean Weir as intake structure on Mestia Chala River for the capture of raw water. The discharge is estimated at minimum 1,000 liters/second in dry seasons. The location has been chosen for its altitude and the possibility to supply the water treatment plant, the adjoining reservoir and from there the largest part of the distribution network, by gravity. Apart from the intake, the scope of work comprises 10.75 km transmission lines to the site of Water Treatment Plant and a reservoir and the connection of this location to the distribution network.
8. The contract MES-01 was signed on October 10, 2011 with Joint Venture of Dagi LTD – Georgia and Enguri 2006 LTD – Georgia (which changed its corporate name to Enguri - New Construction LTD on 11 April 2013), the contract was completed on October 31, 2013.
9. **Kutaisi, Poti & Anaklia water supply infrastructures (contract Reg-01).** The scope of works includes improvement of water supply infrastructure in Anaklia, Kutaisi and Poti, in particular, reservoirs and pumping stations, transmission lines and distribution lines of water supply systems as well as a water treatment plant in Poti. The project envisages installation of water pipelines on 96 km. Concrete water reservoirs will be built on 5 places with total capacity of 35,000m<sup>3</sup>. The project also covers construction of 4 pumping stations (with total capacity of 4,516 m<sup>3</sup>/h) as well as construction of water treatment facility.
10. United Water Supply Company of Georgia signed a contract (#UWSCG/ICB/CW-2013-REG-01) with Spanish Cobra Instalaciones y Servicios for implementation of Reg-01 project. The Contract was made effective on September 19, 2013.
11. Construction work was completed on May 16, 2016, and Post Construction Environmental Audit was conducted in January 2017 by independent consultant.
12. **Construction of Office Building of UWSCG in Tbilisi.** A detailed project for the construction of a new UWSCG head office was prepared and funded by the Government of Georgia. The contract (# CW/ICB / Office-01) for the construction of the above-mentioned head office was signed between the United Water Company of Georgia and the Georgian construction company DAGI Ltd on December 1, 2015. Date of commencement of civil works is December 29, 2015. The initial completion date was 21.06.2017. Construction work was postponed due to design changes. New completion date is December 2019.
13. **MESTIA Water Supply Facilities (Contract REG-02).** The scope of works includes: a new water treatment plant (WTP); the rehabilitation of Tsrniashi spring catchment; a new reservoir at Lanchvali (1,000 m<sup>3</sup>); a new reservoir at Shgedi (1,000 m<sup>3</sup>); transmission pipes of approximately 9,200 meters.
14. The Contractor had to design and build a Water Treatment Plant with a treated water standard that complies with the European standard for the drinking water quality and is defined in the Council Directive 98/83/EC. The WTP has a design capacity of 80 l/s to serve the projected population in 2040. Contract was signed with JV Ludwig Pfeiffer Hock und Tiefbau GmbH & Co. KG and Protecno Srl on 22 September 2014 and Notice-to-Proceed given on 08 December 2014. Contract completion date is May 2018.
15. **Construction of Water Supply and Wastewater Network in Ureki/Phase I (URE-01).** The project is simultaneously financed from Tranches I, II and III and therefore might be some overlap of T1-T3 Semi-Annual EMRs. The planned works under Tranche I included construction of Res-01 and Res-02 (2 x 3,000 m<sup>3</sup> and 1 x 1,200 m<sup>3</sup>) and one water supply pumping station (78m<sup>3</sup>/h and 676 m<sup>3</sup>/h).
16. The Contract is signed with JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan) on October 28, 2014. Commencement date was November 24, 2014. Initial Completion date was scheduled on November 22, 2018 but due to changes in the design of project, which

include the construction of an Aqueduct across the Natanebi River, the construction of Gabion wall to protect well fields from flooding and erosion, and the construction of an additional deep well No. 8 along the banks of the Natanebi River, completion date was extended to June 2019. The project is foreseen to serve 35,000 tourists and 5,400 local inhabitants by year 2040.

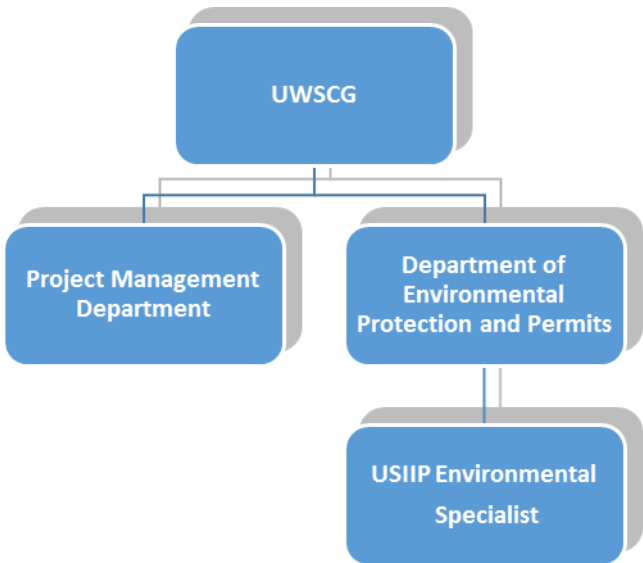
## 2.2 Project Contracts and Management

17. The following agencies are involved in implementing the Investment program: Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for management, coordination and execution of all activities funded under the loan. MoRDI has overall responsibility for compliance with loan covenants.
18. Ministry of Environmental Protection and Agriculture of Georgia (MEPA). MEPA has the overall responsibility for protection of environment in Georgia. The Department of Permits of MEPA is responsible for reviewing EIAs and for issuance of the Environmental Permits. MEPA is the main state body pursuing state policy in the sphere of environment. Their functions for regulating economic or development activities with regard to environmental protection include:
  - Issuing permits for project development (Environmental Decision)
  - Setting emission limits and issuing surface water intake and discharge consents
  - Responding to incidents and complaint
19. United Water Supply Company of Georgia (UWSCG) is the implementing agency (IA), which is responsible for administration, implementation (design, construction and operation) and all day-to-day activities under the loan. Since September 2018, the Investment Program Management Office (IPMO) under UWSCG is Project Management Department, the Head of Department is Mr. Giorgi Archiaia. Environmental issues are followed by the Department of Environmental Protection and Permits of UWSCG. The head of the department is Ms. Maka Goderdzishvili. Ms. Ketevan Chomakhidze is the Environmental Specialist of USIIP under the Department of Environmental Protection and Permits.
20. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) – Eptisa under T1. The national and international team of consultants assists UWSCG in the supervision of the construction of subprojects under the USIIP. The SC also provides capacity building training to contractor staff in the management and operation and maintenance of the subprojects. The SC assists UWSCG in ensuring that the subprojects are implemented according to the specified standards. SC assignment also includes the supervising of the implementation of the environmental management plans.
21. All mitigation measures during construction are implemented respectively by the contractor companies: Peri; SMK; Dagj; As Inshaan-N. Each contractor company have Environmental and safety officers responsible for HSE issues during construction process. Construction companies are monitored by the supervision consultant (Eptisa) environmental specialist – Irakli Legashvili and Environmental Specialist of UWSCG/USIIP Ms. Ketevan Chomakhidze. Environmental Specialists of SC and UWSCG/USIIP conduct routine observations and surveys of project sites, issues non-compliance notes. ES of Eptosa prepares quarterly environmental reports and submits to UWSCG.
22. The Contractor, prior to the onset of the construction, is obliged to conduct a number of studies and develop environmental plans, including “Site Environment Management Plan” (SEMP). Such plans can be further subdivided into Topic Specific or Site Specific EMP’s. The number of such plans will depend upon the type of project, complexity and sensitivity of the receiving environment.

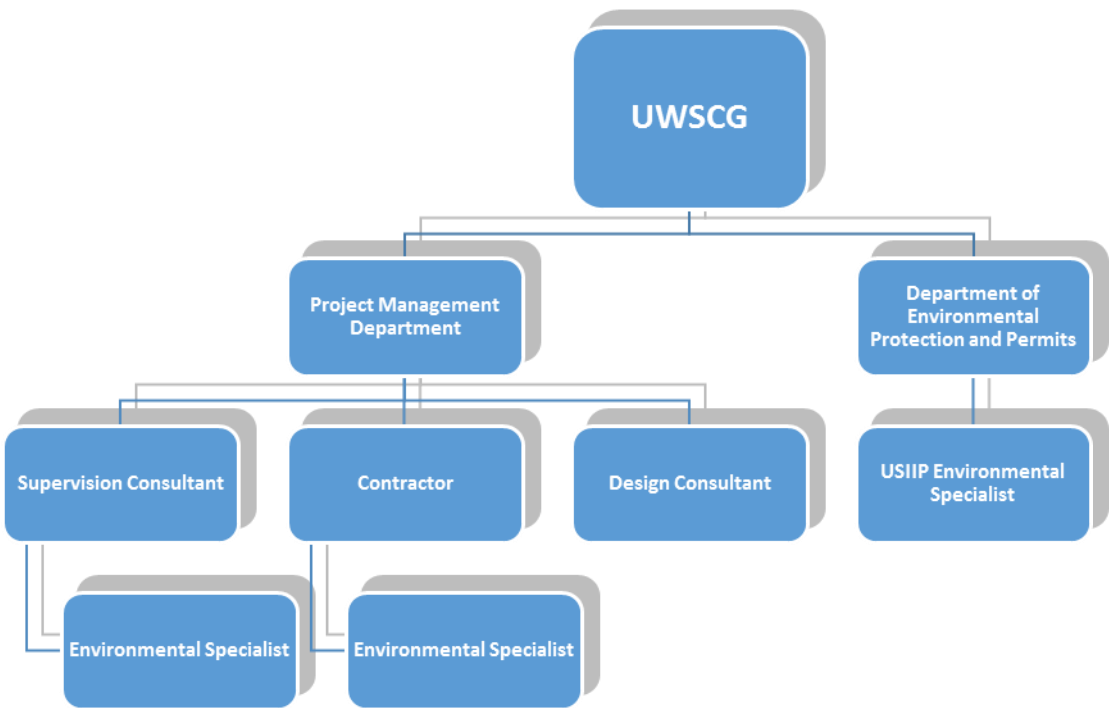


- 23.** Topic Specific EMPs are developed on a topic by topic basis. For example:
- Waste Management Plans;
  - Traffic Management Plans;
  - Protected Species Management Plans;
  - Water Management Plans.
- 24.** These plans are detailed and set out how the project will address potential issues identified in the impact assessment process and ensure that specific mitigation and monitoring measures are fully implemented. A topic specific environmental management plan will cover all of the project.
- 25.** The environmental specialist of UWSCG/USIIP assists and advise the Department of Environmental Protection and Permits of UWSCG for implementation of USIIP in compliance with the ADB Safeguard Policy Statement 2009 and National Legislation, and oversee the work of DCs and SCs in safeguards compliance. ES supports DEPP in EARF implementation, in particular, reviewing IEE/EIA Reports, overseeing implementation of EMPs, Reviewing and approving SEMP and carrying out training and capacity-building activities in cooperation with Supervision Company. The ES prepares Semi-annual and annual environmental monitoring reports and submits to ADB.
- 26.** Department of Environmental Protection and Permits of UWSCG is responsible for the implementation of mitigation and monitoring measures during construction and operation of subprojects under USIIP. Currently DEPP is staffed with a Head of Department and 4 specialists, those are responsible for environmental safeguard and construction permission issues.
- 27.** ADB is the donor financing the Investment Program. Environmental management organization is shown in Figure 1 and Figure 2.

**Figure 1:** Structure Diagram of the Environmental Management Unit of UWSCG



**Figure 2:** Structure Diagram of the Agencies Involved in Investment Program Implementation



28. A list of main organizations involved in the USIIP/T1 and relating to environmental safeguards is presented in Table 1 below.

**Table 1:** List of Main Organizations under USIIP/T1

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Lender	Asian Development Bank	Head Office, Environmental Specialist, Portfolio, Results, Safeguards and Gender Unit (PSG), CWRD.	Duncan Lang E-mail: <a href="mailto:dlang@adb.org">dlang@adb.org</a>
		Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili +995 595 070442 E-mail: <a href="mailto:nnadashvili@adb.org">nnadashvili@adb.org</a>
		ADB RETA International-Regional Environmental Consultant	Keti Dgebuadze +995 577232937 E-mail: <a href="mailto:ketdgeb@yahoo.com">ketdgeb@yahoo.com</a>
Borrower	UWSCG	UWSCG, Department of Environmental Protection and Permits, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: <a href="mailto:m.goderdzishvili@water.gov.ge">m.goderdzishvili@water.gov.ge</a>
Borrower	UWSCG	UWSCG/IPMO Department of Projects Management, Head	Mr. Giorgi Archaia E-mail: <a href="mailto:G.Archaia@water.gov.ge">G.Archaia@water.gov.ge</a> Tel: +995 577 380213
Borrower	UWSCG/USIIP/T3	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: <a href="mailto:Chomakhidzek@yahoo.com">Chomakhidzek@yahoo.com</a>
Supervision Consultant	A Consortium of Consulting Firm led by Eptisa Servicios de Ingenieria S.L.	Environmental Specialist:	Mr. Irakli Legashvili Tel:

	(Spain) in association with SAFEGE (Belgium) and JSC Georgian Water Project (Georgia)		+995 577 177016 E-mail: <a href="mailto:chem_ira@yahoo.com">chem_ira@yahoo.com</a>
Contractor URE-01	JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan)	Environmental H&S Specialist	Mr.Mamia Mikiahsvili Tel: +995 551 577 728 Email: <a href="mailto:mmamia@yandex.ru">mmamia@yandex.ru</a>
Contractor TBI-01	Dagi LTD (Georgia)	Environmental H&S Specialist Specialist	Mr.Aleksandre Chumburidze Tel: +995 597744164 E-mail: <a href="mailto:a.tchumburidze@dagi.ge">a.tchumburidze@dagi.ge</a>

### 2.3 Project Activities During Current Reporting Period

29. During the reported period construction activities were implemented only under URE-01 and TBI-01 Projects, therefore only URE-01 and TBI-01 sub-projects are reported in this Semi-annual EMR. Contractors have intensified all activities to improve the progress of the works on sites. The Engineers gave processed frequent instructions to the Contractor for the planning and outstanding documents preparation which shall ensure steady improvement of the works progress.

#### 2.3.1 Project Activities under URE-01:

##### Water Supply Pumping Station

30. At Pumping Station excavation and sheet piling works and installation of ground drainage system is ongoing. Pipelines were connected to the PSs. Plastic chambers and precast concrete cabinet are installed.

##### Wells & Well Field:

31. Old transformer is demolished and new cabinet of 400 kW is installed, borehole pumps in to well 5 and 6 are installed. Electrical panels are on site and installed.

##### Sewer Pump Station:

32. There has been little progress during the last months of the reporting period. The Contractor informed EPTISA that they are waiting for more materials and work will recommence when these arrive.
33. Mechanical works are almost completed, waiting for the missing parts to be transferred. Electrical materials are not at site yet so the electrical works are not started.

##### Reservoir #3:

34. Electrical work has not yet begun, only reinforced concrete work was carried out.

35. The overall progress of the contractor during July-December 2018 for the project URE-01 is presented in table 2 below:

**Table 2:** URE-01, project progress during the July-December 2018

Ure-01	Sites
	<b>Construction of Reservoir #1</b>
Works undertaken during July-December 2018	Mechanical Installation Works – 30%
	<b>Well Field</b>
Works undertaken during July-December 2018	Construction Works – 100%
	Finishing Works – 100%
	Road Installation Works – 100%
	Mechanical-Electrical Installation Works – 100%
	<b>WS Pumping Station</b>
Works undertaken during July-December 2018	Mechanical Installation Works – 80%
	Electrical Installation Works – 30%
	Finishing Works – 80%
	<b>Sewer PS Pumping Station</b>
Works undertaken during July-December 2018	Installation Works – 90%
	Mechanical Installation Works – 80%
	Electrical Installation Works – 80%
	<b>Construction of Reservoir #3</b>
Works undertaken during July-December 2018	Excavation Works – 100%
	Drainage Installation Works – 90%
	Reinforced Concrete Works – 100%

#### **TBI-01:**

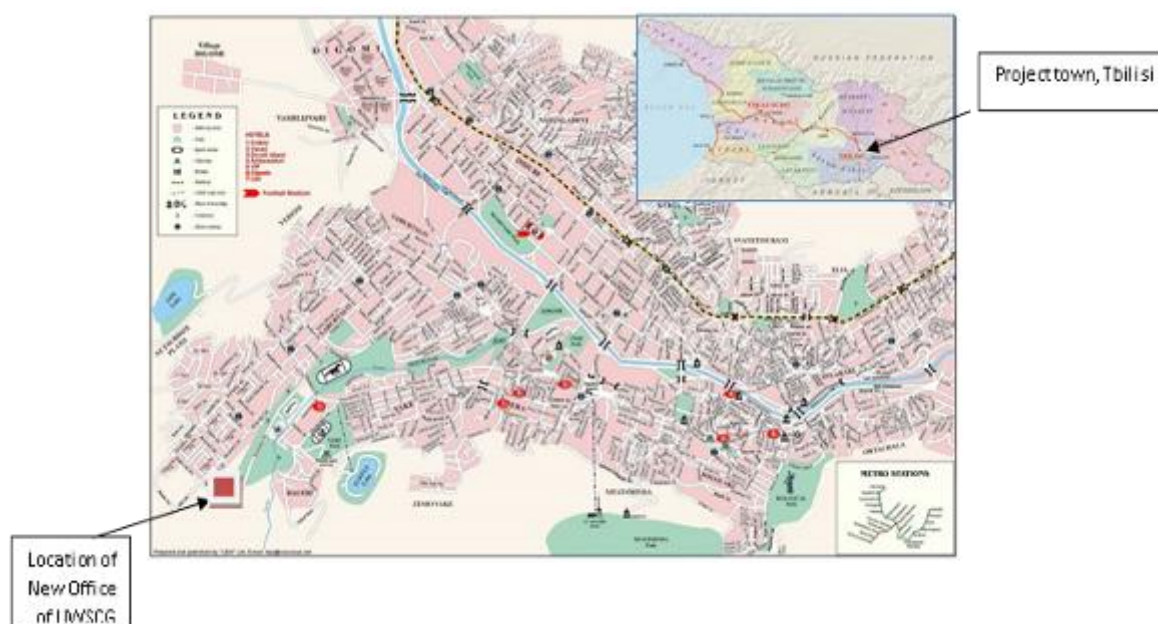
36. The Contractor Dagi is providing construction works for the 4th floor of the office building. Supervision Consultant Eptisa, is checking the reinforcement details, formworks and concrete casting (Concrete walls, beams, columns, slabs and stairs).
37. The overall progress of the contractor during July-December 2018 for the project TBI-01 is presented in table 3 below:

**Table 3:** TBI-01, project progress during the July-December 2018

Time Frame	Concrete works
Works undertaken during July-December 2018	667,5m <sup>3</sup> pouring concrete.
Site	Reinforcement works
Works undertaken during July-December 2018	The used 70-ton armature.
Site	Filling ballast works
Works undertaken during July-December 2018	No
Site	Formwork Mounting works
Works undertaken during July-December 2018	2159m <sup>3</sup>

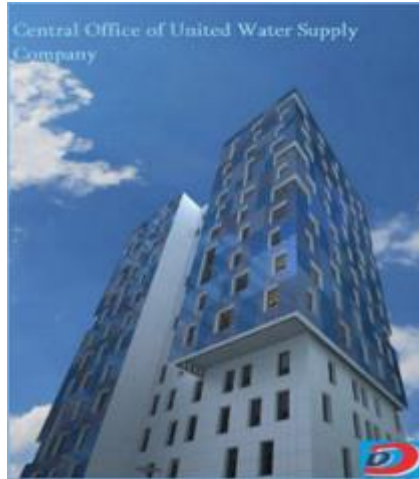
38. Map of Project Town and Location of Tbilisi Head Office is presented in the Fig.3 below:

**Fig.3** Location of Head Office and Map of Project Town



39. Image No1 below represents the building of the UWSGC's Head Office in Tbilisi after the completion of the TBI-01 project.

**Image 1:** A New Design of Tbilisi head office:



40. During the reporting period, no construction work under the contracts Mes-01, Mes-02, Reg-01 was conducted.

## 2.4 Description of Any Changes to Project Design

### URE-01

41. According to project requirements, installation of additional eight Deep Well has been determined within the URE-01 project at the same location as existing 7 wells along the River Natanebi, approximately 2 km to the north of the village Laituri and installation of Gabion for protection of well fields from flooding and erosion is considered. Natanebi river crossing Aqueduct will be located also 6 km away from the protective wall to connect Laituri reservoir to the pumping station by means of transmission pipe.
42. Based on this above mentioned changes to the project design, IEE for Ureki Water Supply Project was updated in December 2018 and sent to ADB for approval.

### TBI-01

43. Construction of the New Office Building for United Water Supply Company of Georgia takes place in Saburtalo district, Tbilisi, on 7634 m<sup>2</sup> land plot. At the first stage design envisaged a 9 story drop shaped building with a parking area and technical facility buildings on the territory. After, the design was changed into 14 floor geometrical shaped, glassed and stone- facade combination pattern. All technical facilities are installed inside the structure. Land plot is connected to the main street with a newly designed access road. Around the building and parking area, retaining wall structures are to be built (Please see Image No1 above).

## 2.5 Description of Any Changes to Agreed Construction methods

No Changes.

## III. ENVIRONMENTAL SAFEGUARD ACTIVITIES

### 3.1 General Description of Environmental Safeguard Activities

44. Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC and Environmental Specialist of USIIP on a regular basis, during the reporting period. Also unscheduled monitoring visits were carried out and non-compliance notes has

been issued to the contractor as needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.

45. The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under TBI-01 and URE-01 sub-projects.
46. Environmental Monitoring Specialist hired under the TBI-01 project Mr. Aleksandre Chumburidze conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Eptisa.
47. During the reporting period, Mr. Tengo Mgaloblishvili, the environmental specialist of the URE-01 sub-project, was replaced by Mr. Mamiya Mikiashvili. A new environmental specialist of contractor was responsible for the daily monitoring of the project sites, development of monthly monitoring reports for submission to SC/Eptisa.
48. Environmental Monitoring Specialist of Eptisa, Mr. Irakli Legashvili conducted monthly monitoring of project sites under T1 and developed Non-Conformance Notices were required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
49. Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP, and other environmental commitments of the contractor. USIIP/ES developed Semi-annual monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
50. In accordance with the requirements of IEEs, Contractor is required to undertake parametric measurements and observations on air quality and noise and socio-cultural resources. The monitoring guidelines were set as shown in the Table 4 below for TBI-01 and URE-01 sub-projects.

**Table 4:** Parametric Measurement Guidelines

Parameters	Frequency & Location	Remarks
<b>TBI-01</b>		
Air Quality	Air Quality Every 3 months UWSCG/Office Construction Site	Watering site during excavation works to avoid dust spreading  Conduct measurements of Dusts Mg/m <sup>3</sup> ; CO Mg/m <sup>3</sup> ; NO <sub>2</sub> Mg/m <sup>3</sup> ; SO <sub>2</sub> Mg/m <sup>3</sup>
Noise	Noise, Every 3 months Mukhnari Reservoir, Networks, Transmission Main	Ensure that all equipment & vehicles used for construction activity are in good condition  Limiting working hours to 8 am – 6 pm
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of



Parameters	Frequency & Location	Remarks
		low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
<b>Ure-01</b>		
Air Quality	Air Quality Every 3 months UWSCG/Office Construction Site	Watering site during excavation works to avoid dust spreading  Conduct measurements of Dusts Mg/m3; CO Mg/m3; NO2 Mg/m3; SO2 Mg/m3
Noise	Noise, Every 3 months Mukhnari Reservoir, Networks, Transmission Main	Ensure that all equipment & vehicles used for construction activity are in good condition  Limiting working hours to 8 am – 6 pm
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality

**51.** There are no protected areas, wetlands, mangroves, or estuaries. Trees, vegetation (mostly shrubs and grasses), and animals in the subproject sites are those commonly found in built-up areas. The geological structure of the area is stable and no potential land subsidence is foreseen.

### 3.2 Site Audit

**52.** Regular inspection and monitoring of construction sites under TBI-01 was conducted by ESs of USIIP and Eptisa. The schedule of Joint inspection and audit under Ure-01 project is provided in the Table 5 below.

**Table 5:** The Schedule of Conducted Audits and Monitoring during the Reporting Period

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
Continuously during reporting	Peri	Environmental and H&S Specialists of	Day-today monitoring of	Poor housekeeping H&S issues of	Environmental Specialists of CC fill out the

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
period (July-December 2018)	URE-01	Contractor Mr. Mamia Mikiashvili under URE-01 project	sites	workers	checklists and develop monthly monitoring reports  Please see Annex E
2-3 July, 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites	Waste should be placed only at the proper waste container  All construction materials should be properly segregated and stored adequately  Safety norms during working at height should be respected	Verbal instruction is given to contractor to improve minor non-conformances on sites
13-15 August 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Environmental monitoring and Audit	Construction site has to be properly organized and cleaned on a regular basis	Verbal instruction is given to contractor  To improve minor non-conformances on sites
5-6 September 2018		Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili  Environmental specialists of USIIP Ms.Ketevan Chomakhidze	Monthly monitoring of sites	Construction site should be properly fenced from all sides and equipped with lockable gate  Trees at the construction site should be protect to avoid its damage  Construction waste should be timely removed from the construction site and disposed properly	Non-Compliance issued, 06.09.2018 (Please see Annex C)

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
				<p>Construction territory should be lighted adequately</p> <p>Safety norms during working at height should be provided</p> <p>Equipment &amp; vehicles used for construction activities should be in good condition (no leakage)</p> <p>All construction materials should be properly segregated and stored adequately</p> <p>Special equipment during working at heights should be used</p> <p>Ladder safety should be insured</p> <p>Tarpaulins cover should be used during loose materials transportation</p> <p>Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site</p> <p>Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination</p> <p>Workers always should use complete PPE</p> <p>Site internally should be arranged properly</p>	

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
				and cleaned regularly	
15 September 2018		Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites	<p>Safety norms during working at height should be provided</p> <p>Ladder safety should be insured</p> <p>Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly</p> <p>Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination</p> <p>All construction materials should be properly segregated and stored adequately</p>	<p>Non-Compliance issued (Please see Annex C)</p> <p>Corrective Action Plan (CAP) was developed by Contractor (Please see Annex E)</p>
15 October		Environmental Specialist of UWSCG/USIIP, Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites	<p>Construction territory and wooden materials should be freed from big nails to avoid personnel damage</p> <p>Safety norms during working at height should be provided</p>	Completed
1 November 2018		Environmental Specialist of UWSCG/USIIP, Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites	<p>Proper toilet with relevant sign should be arranged (<i>Completed</i>)</p> <p>Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site (<i>Completed</i>)</p> <p>Construction waste</p>	Completed

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
				should be timely removed from the construction site and disposed properly	
Continuously during reporting period (July-December 2018)	DAGI Ltd	Environmental and H&S Specialists of Contractor Mr. Aleksandre Chumburidze	Day-today monitoring of sites	Poor housekeeping  H&S issues of workers	Environmental Specialists of CC fill out the checklists and develop monthly monitoring reports and Near Missis reports  Please see Annex E and Annex F
15 July 2018		Environmental and H&S Specialists of Contractor Mr. Aleksandre Chumburidze  Environmental monitoring specialists of SC/EPTISA Mr. Irakli Legashvili	Monthly monitoring of construction site	H&S issues of workers  dangerous stair case for workers on the high floors	Near Missis report issued by contractor,  Please see annex F
10 August 2018		Environmental and H&S Specialists of Contractor Mr. Aleksandre Chumburidze  Environmental monitoring specialists of SC/EPTISA Mr. Irakli Legashvili	Monthly monitoring of construction site	H&S issues of workers  Workers are not in complete standard PPE	Near Missis report issued by contractor,  Please see annex F

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
5 August 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites		Verbal instruction is given to contractor to improve minor non-conformances on sites
15 September 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites	Jacks fixator should be properly installed to avoid damage of workers. High risk of workers health damage  HSE officer should be present at the site permanently to ensure execution of all HSE requirements  Site internally should be arranged properly and cleaned regularly	Verbal instruction is given to contractor to improve minor non-conformances on sites
25 October 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monthly monitoring of sites	Safety norms during works at the height should be respected to avoid workers damage. Special equipment during working at heights should be used  Jacks fixator should be properly installed to avoid damage of workers. High risk of workers health damage!	Non-Compliance issued (Please see Annex C)  Corrective Action Plan (CAP) was developed by Contractor (Please see Annex D)

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
				<p>HSE officer should be present at the site permanently to ensure execution of all HSE requirements</p> <p>Ladder safety norms should be ensured. Proper ladders should be installed in every case</p> <p>Safety rules during electric equipment use should be respected</p> <p>High visible safety signs/tapes and barriers should be installed at the each floor of the building (not leaving even small open gaps) to avoid workers falling</p> <p>Construction territory and wooden materials should be freed from nails to avoid personnel damage. Regular cleaning of site from used nails is required</p> <p>Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination</p> <p>Waste should be placed in proper waste container and discharged timely</p> <p>Site internally should be arranged properly and cleaned regularly</p>	
28		Environmental	Monthly	High visible safety	Verbal

Date of visit	Name of Company Name of Contract	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
December 2018		specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili	Monitoring of sites	signs/tapes and barriers should be installed at the each floor of the building (not leaving even small open gaps) to avoid workers falling  Construction territory and wooden materials should be freed from nails to avoid personnel damage. Regular cleaning of site from used nails is required	instructions are given to contractor,  On-site training is conducted  Corrective actions plan is requested by the 7th of January

### 3.3 Issues Tracking (Based on Non-Conformance Notices)

**53.** Several Non-Conformances have been observed during the site visits under URE-01 and TBI-01 sub-projects. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send photos of improvements made together with the corrective action plans. Environmental team of EPTISA and UWSCG/USIIP monitored the improvements during the next monitoring visits. All Non-conformance Notices issued during the reporting period is presented in ANNEX C of this Semi-Annual EMR.

**54.** A summary of the identified environmental issues for July-December 2018 is presented in table 5 below.

**Table 5:** Summary of Issues Tracking Activity for Current Period

**Table 5:** Summary Table URE-01

<b>Total Number of Issues for Project</b>	<b>16</b>
<b>Issues Opened This Reporting Period</b>	<b>1</b>
<b>Issues Closed This Reporting Period</b>	<b>15</b>
<b>Percentage Closed</b>	<b>98%</b>

**Table 5:** Summary Table TBI-01

<b>Total Number of Issues for Project</b>	<b>12</b>
<b>Issues Opened This Reporting Period</b>	<b>3</b>
<b>Issues Closed This Reporting Period</b>	<b>9</b>
<b>Percentage Closed</b>	<b>75%</b>

### 3.4 Trends

**55.** To identify trends in environmental issues information from previous Semi-Annual EMR (January-June 2018) is used. The summary of the issues is provided in the table 6 below.



**Table 6:** Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
1 January-June 2018	30	65%	35%
2 July-December 2018	28	75%	25%

56. All major Non-Conformances under USIIP/T2 during the reporting period are provided in an Annex C of this report.

### 3.5 Unanticipated Environmental Impacts or Risks

N/A

## 3 RESULTS OF ENVIRONMENTAL MONITORING

### 4.1 Overview of Monitoring Conducted during Current Period

57. Noise standards and air pollution guidelines defined by IFC/WHO 1999, are presented in the Table 7 and 8 below.

**Table 7:** Noise Level Guidelines

Noise	dB		dB	
	National Regulations		WHO	
Receptor	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00	Daytime 07:00- 22:00	Nighttime 22:00- 07:00
Residential; institutional; educational	55	45	55	45
Industrial; commercial	70	70	70	70

**Table 8:** Air pollution Guidelines

Contaminants	IFC/WHO Guideline Value (Limit mg/m <sup>3</sup> )
1	2
Inorganic dust	(*IFC does not have a standard for "inorganic dust". Instead IFC applies standards for PM2.5 and PM10). PM10 – 0,02/1 Year

Contaminants	IFC/WHO Guideline Value (Limit) mg/m <sup>3</sup> )
	0,05/24 Hour PM2,5-0,01/1 Year 0,025/24 Hour
Carbonic monoxide	n/a
Nitrogen dioxide (NO <sub>2</sub> )	0,2/ 1 Hour 0,04/1 Year
Aldehyde	n/a

**58.** Monitoring measurements under Office-01 project were conducted by the National Environmental Agency under the MEPA in the nearest sensitive receptors to construction sites in July 2018 and October 2018 (See Table 9 and Annex A). Location and data are included in the Table below. The next monitoring measurements will be conducted in March 2019 and results will be reflected in the next January-June EMR 2019.

**59.** According to data received in July and October 2018 under TBI-01 project Ambient Air Quality and Noise level do not exceed the standards required by National Regulations and World Health Organization (IFC/WHO),1999, and therefore no additional measures are required. IFC/WHO standards for Noise and Air pollution are presented in Table 7 and 8 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:00pm to 15:00pm and no complaints were received from the local population about the noise during the reporting period.

**Table 9:** Monitoring Measurements under TBI-01 Project

N	Place of measurement	Coordinates	Results				
			Dusts Mg/m3	CO Mg/m3	NO2 Mg/m3	SO2 Mg/m3	Noise db
	National Environmental Standard (Maximum Permissible Level)		0,5	5,0	0,2	0,5	55 Residential; Institutional; Educational  70 Industrial; commercial
16 July 2018							
1	University Street N 41°43'05.9" EO 44°43'05.9"		0.125	0.63	0.001	<0.1	47.8
10 October 2018							
1	University Street N 41°43'05.9" EO 44°43'05.9"		0.098	0.82	0.007		53.2

N	Place of measurement	Coordinates	Results				
			Dusts Mg/m <sup>3</sup>	CO Mg/m <sup>3</sup>	NO <sub>2</sub> Mg/m <sup>3</sup>	SO <sub>2</sub> Mg/m <sup>3</sup>	Noise db

60. Monitoring measurements under Ure-01 project was conducted by the National Environmental Agency under the MEPA in the nearest sensitive receptors to construction sites in December 2018 (See Table 10 and Annex A). Location and data are included in the table below. The next monitoring measurements will be conducted in March 2019 and results will be reflected in the next January-June EMR 2019.

61. According to data received in December 2018 noise level does not exceed the standards required by National Regulations and World Health Organization (IFC/WHO),1999, and therefore no additional measures are required. IFC/WHO standards for Noise and Air pollution are presented in Tables 7 and 8 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 13:00pm to 16:00pm and no complaints were received from the local population about the noise during the reporting period.

**Table 10: Monitoring Measurements under Ure-01 project**

N	Place of measurement	Samples #	Results				
			Dust Mg/m <sup>3</sup>	CO Mg/m <sup>3</sup>	NO <sub>2</sub> Mg/m <sup>3</sup>	SO <sub>2</sub> Mg/m <sup>3</sup>	Noise dBA Daytime 07:00 - 22:00
	National Environmental Standard (Maximum Permissible Level)		0,5	5,0	0,2	0,5	55 Residential; Institutional; Educational  70  Industrial; commercial  <i>Note: Please see IFC/WHO in table 4 above</i>
1	PS-12 station of Ureki X 0728905 Y 4652381	1	0.012	0.67	0,005	<0,1	50.1
		2	0.011	0.87	0,006	<0,1	51.7
		3	0.009	0.58	0,004	<0,1	52.3
		4	0.008	0.49	0,004	<0,1	51.9
2	PS-15 station of Ureki X 0729097 Y 4612198	1	0.018	0.96	0,005	<0,1	45.4
		2	0.012	0.87	0,005	<0,1	44.3
		3	0.014	1.02	0,005	<0,1	43.8
		4	0.009	0.67	0,003	<0,1	42.4

N	Place of measurement	Samples #	Results				
			Dust Mg/m <sup>3</sup>	CO Mg/m <sup>3</sup>	NO2 Mg/m <sup>3</sup>	SO2 Mg/m <sup>3</sup>	Noise dBA Daytime 07:00 - 22:00
3	Shekvetili Station X 0729334 Y 4646672	1	0.019	0.81	0,004	<0,1	41.3
		2	0.012	0.96	0,003	<0,1	44.5
		3	0.015	1.31	0,008	<0,1	43.7
		4	0.011	0.76	0,006	<0,1	44.9
4	Well of Laituri X 0740579 Y 4646779	1	0.010	0.34	0,002	<0,1	41.5
		2	0.011	0.47	0,002	<0,1	42.0
		3	0.012	0.49	0,003	<0,1	41.5
		4	0.010	0.41	0,004	<0,1	41.8

#### a. Trends

**62.** Environmental Quality standards of ambient noise and air pollution is within the national and international regulations and no further deterioration is expected.

#### a. Summary of Monitoring outcomes

**63.** According to data received during the reporting period noise level and ambient air quality do not exceed the standards required by National Regulations and World Health Organization (IFC/WHO),1999, therefore no additional monitoring is needed.

### 4.4 Material resources Utilization

#### 4.4.1 Current Period

**64.** The table 11 below provides utilization of water and electricity during the reporting period under TBI-01 project only. No information about the material resources utilization was provided by contractor and SC under Ure-01 project during the reporting period.

**Table 11:** Material Resources Utilization under TBI-01 project

Water and Electricity meters indication use on the UWSCG's Head Office Construction Site Tbilisi University Street No 006/003	
Water M <sup>3</sup> Indication	14,00 M <sup>3</sup>
Electricity KV Indication	3600

## 4.5 Waste Management

### 4.5.1 Current Period

#### TBI-01 sub-project

65. The contract was signed between LLC Dagi and the LTD Tbilservice Group for waste disposal (Agreement № 2/18-1167). Amount of Waste and Disposal Schedule is provided in the table 12 below:

**Table 12:** Waste Disposal Schedule

Site Construction of Head Office of UWSCG. Tbilisi University Street No 006/003						
Waste Code	Waste Name	Quantity Piece/kg/T/m <sup>3</sup>	Hazardous Yes/No	Hazardous Specification	Recovery operations	Basel Convention Code
20 01 07	Wood Waste	55/ m <sup>3</sup>	No		R1	
20 01 01	Carboard	14/KG	No		D1	

### 4.5.2 Cumulative Waste Generation

N/A

#### Ure-01 Sub-project

66. At the construction sites there are mainly produced household, construction (inert, surplus soil) and hazardous waste.

67. Mainly household waste is collected in municipal containers which are served by the local cleaning service. However there are observed some construction sites with littering problem. There is need of routine cleaning of sites. Also it is important to have special container for household waste with proper labelling at the construction site.

68. In most cases waste/surplus soil is removed from the construction site for further use in agreement with municipality or it stays at the construction site for its future use.

- 69.** The construction waste that is allocated at the construction site is removed for its final disposal that is managed by formal agreement with local municipality or Ltd “Solid Waste Management Company”.
- 70.** At some sites there are observed small size bulks of construction waste that should be removed timely based on formal agreement for construction waste final disposal.

## **4.6 Health and Safety**

### **4.6.1 Community Health and Safety**

- 71.** During the reporting period no incidents have occurred under URE-01 and TBI-01 sub-projects which will result or could have resulted in Community Health and Safety issues.

### **4.6.2 Workers Health and Safety**

#### **TBI-01 project**

- 72.** DAGI LTD's HSE Manager is performing every day monitoring, induction and supervision of ongoing works according to HSE standards and by requirements of ADB/UWSCG/EPTISA and providing relevant reports on a regular basis taking into account any recommendations given by ADB/UWSCG/EPTISA engineers.

- 73.** Health & safety and environment issues which were covered during the reporting period are as follows:

- PPE;
- Housekeeping;
- Reinforcement;
- Protected all trees nearby construction to avoid its damage;
- Ground works;
- Manual works;
- Removal waste;
- Bending rebar, Cutting;
- Installation and dismantle formwork
- Induction all visitors
- Toolbox Talk
- Dust and Noise Measurements
- Upgrade Safety Hard and Warning Barricade

- 74.** Summary of the workers H&S Statistics for the reporting period (July-December 2018) are presented in table 13 below:

**Table 13:** Summary of Workers Health and Safety

Description	July-December 2018
without accident	100%
Total training man-hours from start of contract	48
Accidents	0
Total man hours	21929

#### 4.6.2 Incident and Accident Summary

75. The summary of Incidents and Accidents during the reporting period is provided in the table 14 below:

**Table 14: Incident and Accident Summary**

ITEM	Current Month
Fatality	0
Accident	0
Property Damage	0
Type	Current Month
First aid	1
Near Miss	11

76. In July-December 2018, only one incident was recorded. While working on a machine for cutting reinforcement, the worker damaged his finger because of inattentive work. First aid assistance was provided to worker and the incident was closed.

77. Below are provided the examples of the Near Misses under TBI-01 project, which may be resulted in Workers' Health and Safety problems.

78. Example No1: On the wooden material there were nails which could damage workers during construction activities. In accordance with the instructions given to workers by EH&S Specialist of DAGI, wooden materials were cleaned from nails.

79. Example No2: Wire is not properly affixed and damaged the tree (Please see photo below).

#### **Photo 1: Incorrectly attached wire on the tree**



**80.** Example No3: Electrical cables are not properly used. Electrical plug missing, no insulation.

**Photo 2: Incorrectly usage of electrical cables**



#### **4.7 Training**

**81.** The EH&S specialist of contractor DAGI, Mr. Alexander Chumburidze, conducted regular trainings for workers on Health and Safety Issues, as part of ongoing efforts to improve health and safety and reduce the number of accidental injuries occurring during the construction, DAGI has developed Near Misses reports in accordance with the ADB requirements (Please see Near Misses Reports in Annex G). This form has been developed to be simple and easy to fill out so that workers and supervisors can quickly complete and submit them in a time-effective manner.

#### **URE-01 Sub-project**

#### **4.8 Community Health and Safety**

**82.** No community incidents have been reported to SC during reporting period

#### **4.9 Worker Safety and Health**

**83.** No workers incidents have been reported to SC during reporting period. Contractor companies are currently working on compilation of statistics information (incidents, near



misses, trainings) during reporting period that will be communicated to SC for the next reporting period.

#### **4.10 Training**

**84.** Routine personnel trainings and toolbox talks happen by the construction companies almost on daily basis. The recording of such toolbox talks are available at the sites. SC also provides routine instructions and verbal trainings for construction company environmental officers. Statistics of routine toolbox talks will be communicated by the construction companies during next reporting period.

### **4 FUNCTIONING OF THE SEMP**

#### **5.1 SEMP Review**

**85.** Location Specific Environmental Management Plan under Ure-01 project was prepared for Reservoir #3 (Laituri reservoir) within the reporting period. The Location Specific EMPs were prepared by Contractor before commencement of construction activities, endorsed by SC, reviewed/commented by the RETA International-Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketii Dgebuadze and reviewed/ approved by UWSCG in August 2018.

**86.** The following SSEMPs were prepared by contractor, within the framework of Ure-01, Reg-02 and Office-01 projects during the previous reporting periods:

URE-01:

- SSEMPs for Ureki Well Fields;
- Reservoir#1;
- Water Supply Pumping Station;

REG-02/Mestia Water Supply Component

- Zargashi Reservoir
- Lanchvali Reservoirs
- Water Treatment Plant in Zargashi

TBI-01:

- Construction of Tbilisi Head Office

**87.** All these SSEMPs were prepared by contractor, endorsed by SC and approved by UWSCG after the review/comment by the RETA Regional Environmental Consultant, Ms. Ketii Dgebuadze.

**88.** It should be mentioned that all SEMP prepared under URE-01 and TBI-01 projects are effective

## 5 GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

### 6.1 Good Practice

N/A

### 6.2 Opportunities for Improvement

N/A

## 6 SUMMARY AND RECOMMENDATIONS

### 7.1 Summary

- 89.** During the reported period construction activities were implemented only under URE-01 and TBI-01 Projects. Contractors have intensified all activities to improve the progress of the works on sites. Individual and Joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of EPTISA and UWSCG/USIIP on a regular basis.
- 90.** Day-to-day monitoring of the construction sites were carried out by the environmental Specialists of Contractor, weekly checklists were filled out (Annex F) and monthly monitoring reports were developed and sent to Supervision Consultant.
- 91.** Environmental Monitoring Specialist of Eptisa, Mr.Irakli Legashvili conducted monthly monitoring of project sites under T1 and developed Non-Conformance Notice were required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
- 92.** The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under TBI-01 and URE-01 sub-projects.
- 93.** Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP's, and other environmental commitments of the contractor. USIIP/ES developed Semi-annual monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
- 94.** Also unscheduled monitoring visits were carried out and non-compliance notes has been issued to the contractor as needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.
- 95.** In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality, noise and socio-cultural resources. Locations for the measurements were initially identified in the IEE. Accordingly, the monitoring guidelines were set as shown in the Table 4 below for TBI-01 and URE-01 sub-projects.
- 96.** Necessary instructions have been given to the Contractor by UWSCG and SC to follow the EMP's and SEMP's requirements for Office-01 and Ure-01 projects.
- 97.** As presented in this report, Tranche-1 of this Investment Program is being implemented in compliance with the ADB Safeguards Policy Statement, 2009, National Legislation and overall EARF.

## 7.2 Recommendations

98. During the reporting period, from July to December 2018, the T1 of Investment Program was implemented in accordance with ADB SPS 2009 and the national legislation.

99. More detailed recommendations for the implementation of T1 during the next reporting period January-June 2019 are provided in the table 15 below:

**Table 15:** Recommendations to Address Environmental Issues under Ure-01 and TBI-01 projects

Recommendations Ure-01 and TBI-01 projects	
Ure-01, Reservoir #3 (Laituri Reservoir)	
Construction site should be properly fenced from all sides and equipped with lockable gate	Contractor is given strong instruction to improve the situation, develop CAP and send improved photos of site.
Construction waste should be timely removed from the construction site and disposed properly	
Construction territory should be lighted adequately	
Proper warning and information signs should be arranged at the entrance and perimeter of the site	
Proper toilet with relevant sign should be arranged	
Construction territory and wooden materials should be freed from big nails to avoid personnel damage	
Safety norms during working at height should be provided	
Special equipment during working at heights should be used	
Ladder safety should be insured	
Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly	
Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site	
Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination	
All construction materials should be properly segregated and stored adequately	
Workers always should use complete PPE	
Recommendations TBI-01	
TBI-01 Construction site	
Safety norms during works at the height should be respected to avoid workers damage. Special equipment during working at heights should be used	Contractor is given strong instruction to improve the situation, develop CAP and send improved photos of site.
Workers living camp should be arranged properly with all relevant utilities, i.e. toilets, shower, kitchen etc.	
Jacks fixator should be properly installed to avoid damage of workers. High risk of workers health damage!	
HSE officer should be present at the site permanently to ensure execution of all HSE requirements	
Ladder safety norms should be ensured. Proper ladders should be installed in every case	
Safety rules during electric equipment use should be respected	

Recommendations Ure-01 and TBI-01 projects	
High visible safety signs/tapes and barriers should be installed at the each floor of the building (not leaving even small open gaps) to avoid workers falling	
Construction territory and wooden materials should be freed from nails to avoid personnel damage. Regular cleaning of site from used nails is required	
Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination	
Waste should be placed in proper waste container and discharged timely	
Site internally should be arranged properly and cleaned regularly	

- 100.** Conduct monitoring of Ambient Noise and Air quality under Ure-01 project at the nearest sensitive receptors in May 2019.

**Table 16:** The Specific Plan for Environmental Measurement under Ure-01 Project

Parameters	Quarterly measurement
Dust	May 2019
Vibration	May 2019
Carbon monoxide	May 2019
Nitrogen dioxide	May 2019
Sulfur dioxide	May 2019
Noise	May 2019

1. Conduct Post-Construction Environmental Audit and prepare corresponding Audit report under Reg-02/Mestia sub-project.
2. Conduct monitoring of Noise and Ambient Air quality under TBI-01 project at Head Office Construction site in May 2019.

**Table 17:** The Specific Plan for Environmental Measurement under Office -01 Project

Parameters	Quarterly measurement
Dust	May 2019
Vibration	May 2019
Carbon monoxide	May 2019
Nitrogen dioxide	May 2019
Sulfur dioxide	May 2019

Noise	May 2019
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## ANNEX A: ENVIRONMENTAL QUALITY MEASUREMENT DATA

TBI-01

საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტრო  
MINISTRY OF ENVIRONMENT PROTECTION AND AGRICULTURE OF GEORGIA

 **სსიპ გარემოს ეროვნული სააგენტო**  
LEPL NATIONAL ENVIRONMENTAL AGENCY

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N 12/1-495 16 07 20120

შპს "დაგი"-ს დირექტორს  
ბ-ნ მიხეილ შარანგიას

ბატონო მიხეილ,

საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროს სსიპ „გარემოს ეროვნული სააგენტო“-სა და შპს „დაგი“-ს შორის 2018 წლის 10 ივლისს გაფორმებული ფასიანი მომსახურების შესახებ №ფმ-3/459 ხელშეკრულების შესაბამისად, გაწვდილი, ქ. თბილისში, უნივერსიტეტის ქუჩაზე, თქვენს შიერ მითითებული ატმოსფერული ჰაერის ერთ წერტილში ჩატარებული გაზომვების შედეგებს - მტვერის, ხმაურის, ნახშირჟანგისა და აზოტის დიოქსიდის შემცველობაზე.

დანართი: 1 გვ.

პატივისცემით,

სააგენტოს უფროსი  **ნინო თანდილაშვილი**



შ. აკმაშენებელი გამზ. 150, 0112, თბილისი, საქართველო  
150 D. AKMASHENEBELI AVE., 0112, TBILISI, GEORGIA

 Tel.: +995 32 2438603 Fax: +995 32 2438602  
E-mail: info@nea.gov.ge Web: www.nea.gov.ge

ქ. თბილისი, უნივერსიტეტის ქ№2-ის მიმდებარე ტერიტორიაზე

ჩატარებული გაზომვების შედეგები 12.07.2018წ.

(ხელშეკრულება №3/459)

№	გაზომვის ადგილი	კოორდინატები	CO მგ/მ³	მტვერი მგ/მ³	SO₂ მგ/მ³	NO₂ მგ/მ³	ხმაური დბ
1	უნივერსიტეტის ქუჩა №2	N 41°43'05.9'' EO 44°43'05.9''	0.63	0.125	<0.1	0.001	47.8
	ზღვრულად დასაშვები ნორმები		5.0	0.5	0.5	0.2	55

შეძრულებლები:



ბ. გატაევა

გ. მორგოშია

შეთანხმებულია:

გარემოს დაბინძურების მონიტორინგის

დეპარტამენტის უფროსი



მ. არაბიძე



N 12/1-758

09 X 2018

შპს "დაგი"-ს დირექტორს

ბ-ნ მიხეილ შარანგიას

ბატონო მიხეილ,

საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროს სსიპ „გარემოს ეროვნულ სააგენტო“-სა და შპს „დაგი“-ს შორის 2018 წლის 14 სექტემბერს გაფორმებული ფასიანი მომსახურების შესახებ №ფმ-3/640 ხელშეკრულების შესაბამისად, გაწვდით, ქ. თბილისში, უნივერსიტეტის ქუჩაზე, თქვენს მიერ მითითებული ატმოსფერული ჰაერის ერთ წერტილში ჩატარებული გაზომვების შედეგებს - მტკერის, ხმაურის, ნახშირჟანგისა და აზოტის დიოქსიდის შემცველობაზე.

დანართი: 1 გვ.

პატივისცემით,

სააგენტოს უფროსი



ნინო თანდილაშვილი





ქ. თბილისი, უნივერსიტეტის ქ. №2-ის მიმდებარე ტერიტორიაზე

ჩატარებული გაზომვების შედეგები

06.10.2018წ.

ხელშეკრულება №3/640 14.09.2018წ, პასუხის დანართი

№	გაზომვის ადგილი	კოორდინატები	CO მგ/მ³	მტვერი მგ/მ³	NO₂ მგ/მ³	ხმაური დბ
I	შპს „გაგი“ს სამშენებლო ეზოს ტერიტორია	N 41°43'05.9'' EO 44°43'05.9''	0.82	0.098	0.007	53.2
ზღვრულად დასაშვები ნორმები			5.0	0.5	0.2	55

შემსრულებლები:

გარემოს დაბინძურების მონიტორინგის დეპარტამენტის

მ. სპეციალისტი:

უფ. სპეციალისტი:

შეთანხმებულია:

გარემოს დაბინძურების მონიტორინგის

დეპარტამენტის უფროსი



სერგო ხაჯავა  
გიგლა მორგოშია

მ. არაბიძე

## Ltd "Feri" 20 December 2018

Samplin place coordinates	Sample N	Noise DB	Concentration mg/m <sup>3</sup>					
			Saturated hydrocarbons	Carbon oxide CO	Nitrogen dioxide NO <sub>2</sub>	Dust	Sulfur dioxide SO <sub>2</sub>	Hydrogen sulfide H <sub>2</sub> S
PS-12 station of Ureki X 0728905 Y 4652381	1	50.9	<1	0.67	0,005	0,012	<0,1	<0,1
	2	51.7	<1	0.87	0,006	0,011	<0,1	<0,1
	3	52.3	<1	0.58	0,004	0,009	<0,1	<0,1
	4	51.9	<1	0.49	0,004	0,008	<0,1	<0,1
PS-15 Station X0729097 Y4651198	1	45.4	<1	0.96	0,006	0,018	<0,1	<0,1
	2	44.3	<1	0.87	0,005	0,012	<0,1	<0,1
	3	43.8	<1	1.02	0,005	0,014	<0,1	<0,1
	4	42.4	<1	0.67	0,003	0,009	<0,1	<0,1
PS-32 station of Shekvetili საფეხური X0729334 Y4646672	1	41.3	<1	0.81	0,004	0,019	<0,1	<0,1
	2	44.5	<1	0.96	0,003	0,012	<0,1	<0,1
	3	43.7	<1	1.31	0,008	0,015	<0,1	<0,1
	4	44.9	0	0.76	0,006	0,011	<0,1	<0,1
Wells of Laituri X 0740579 Y 4646779	1	41.5	<1	0.34	0,002	0,010	<0,1	<0,1
	2	42.0	<1	0.47	0,002	0,011	<0,1	<0,1
	3	41.5	<1	0.49	0,003	0,012	<0,1	<0,1
	4	41.8	<1	0.42	0,004	0,010	<0,1	<0,1

## Executors:

Main specialist

Invited Specialist

## Agreed:

Head Environmental Pollution  
Monitoring Department



S.Khatsava  
G. Kargareteli

M. Arabidze

## ANNEX B: PROJECT PHOTOS

Photo: UWSCG Office Building, TBI-01



Photos: Construction of the Water Supply Network in Ureki (Ure-01)

Laituri Reservoir #2







## ANNEX C: NON-COMPLIANCE NOTICES

### URE-01 and TBI-01 Projects
















Urban Services Improvement Investment Project - Georgia

Date: 15/08/2018

Page 1 of 2

#### Non-Compliance Notice

Project: USIIP	Non-compliance Notice UREKI
Contract No: URE-01	
Contractor: PERI	
Reference: UREKI – RESERVOIR IN LAITURI	
This notice is to advice you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented <b>urgently</b> .	
<b><u>NON-COMPLIANCE IN UREKI</u></b>	
<b>RESERVOIR IN LAITURI</b>	
<ul style="list-style-type: none"><li>- Construction site should be properly fenced from all sides and equipped with lockable gate</li><li>- Construction waste should be timely removed from the construction site and disposed properly</li><li>- Construction territory should be lighted adequately</li><li>- Proper warning and information signs should be arranged at the entrance and perimeter of the site</li><li>- Proper toilet with relevant sign should be arranged</li><li>- Construction territory and wooden materials should be freed from big nails to avoid personnel damage</li><li>- Safety norms during working at height should be provided</li><li>- Special equipment during working at heights should be used</li><li>- Ladder safety should be insured</li><li>- Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly</li><li>- Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site</li><li>- Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination</li><li>- All construction materials should be properly segregated and stored adequately</li><li>- Workers always should use complete PPE</li><li>- Site internally should be arranged properly and cleaned regularly</li></ul>	
	

		
		
		
		
All these conditions have to be remedied within six days (by the 22 August 2018) by the prime Contractor (Peri).		
Date of site visits: 14.08-15.08.2018		
Irakli Legashvili EPTISA - Environment		





All these conditions have to be remedied within five days (by the 27 September 2018) by the prime Contractor (Peri).	
<b>Date of site visits: 5.09-6.09.2018</b>	
Irakli Legashvili	
EPTISA - Environment	





საქართველოს გაერთიანებული  
წყარმარაბების კომპანია  
UNITED WATER SUPPLY COMPANY OF GEORGIA

### Major Non-Compliance Notice

Project: USIIP	Major Non-compliance Notice TBILISI
Contract No: TBI-01	
Contractor: DAGI	
Reference: Tbilisi – NEW OFFICE BUILDING FOR UWSCG	
This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented <b>urgently</b> .	
Extraction from IEE, Office-01 project: There could be some short-term socio-economic benefits from the construction work if local people gain employment in the workforce. To ensure that these benefits are directed to local people, the Contractor should be required to employ as much of his labour force as possible from the local communities in the vicinity of construction sites.	
<u>Based on the above mentioned, the Contractor should as soon as possible justify why the Workers are hired from Azerbaijan.</u>	
<u>NON-COMPLIANCE IN TBILISI</u>	
<b>Construction of New Office Building for UWSCG</b>	
<ul style="list-style-type: none"><li>- Safety norms during works at the height should be respected to avoid workers damage. Special equipment during working at heights should be used</li><li>- Jacks fixator should be properly installed to avoid damage of workers. High risk of workers health damage!</li><li>- HSE officer should be present at the site permanently to ensure execution of all HSE requirements</li><li>- Ladder safety norms should be ensured. Proper ladders should be installed in every case</li><li>- Safety rules during electric equipment use should be respected</li><li>- High visible safety signs/tapes and barriers should be installed at the each floor of the building (not leaving even small open gaps) to avoid workers falling</li><li>- Construction territory and wooden materials should be freed from nails to avoid personnel damage. Regular cleaning of site from used nails is required</li><li>- Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination</li><li>- Waste should be placed in proper waste container and discharged timely</li><li>- Site internally should be arranged properly and cleaned regularly</li></ul>	





All these conditions have to be remedied within **five days (by the 30 October 2018)** by the prime Contractor (Dagi).

**Date of site visits: 24.10.2108**

Irakli Legashvili - EPTISA Environment  
Ketevan Chomakhidze – UWSCG USIIP  
Maka Goderdzishvili – UWSCG Head of Department



## ANNEX D: CORRECTIVE ACTION PLAN

TBI-01



Contractor: DAGI  
Project: Tbilisi – NEW OFFICE  
BUILDING FOR UWSCG/USIP  
Date: 15.08.18.



### CORRECTIVE ACTION PLAN

#	Non-Compliance	Corrective Action Taken	Evidence Provided	Date of Corrective Action	Responsible person(s)
1	Trees at the construction area should be protected on proper way to avoid its damage	Trees at the construction area protected to avoid its damage	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
2	High visible safety tapes should be installed around	Hard and warning fence installed around	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
3	Enough and relevant warning/information signs should be placed within site	Safety signs placed on the construction site	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
4	Safety norms during works at the height should be respected to avoid workers damage	All workers equipped with complete PPE	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
5	Fuel containers should be placed in a properly arranged place with roofing to avoid spillage	Fuel containers placed properly arranged place on the roofing to avoid spillage	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
6	Everyday safety related briefing should be carried out with relevant signature from personnel	Everyday toolbox talk, signature all personal and visitors	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
7	Waste containers should be properly labeled (Household waste, Hazardous waste etc.)	Waste containers properly labeled	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
8	Waste should be placed in proper waste container and	Waste placed in proper	✓	15.08.18.	HSE MANAGAR

	discharged timely	waste container and discharged timely			A.CHUMBURIZE
9	All construction materials should be properly segregated and stored adequately	All construction materials properly segregated and stored adequately	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
10	All workers should be equipped with complete PPE	All workers equipped with complete PPE	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE
11	Site Internally should be arranged properly and cleaned regularly	The construction site is cleaned regular and arranged correctly	✓	15.08.18.	HSE MANAGAR A.CHUMBURIZE

#### Corrective Action Evidence Photos





PERI Construction Company

**Corrective Action Plan**  
22.08.2018

**Evidence Photos**



Page 1 of 10

Photo 3



Photo 4



Photo 11



Photo 12





# ANNEX E: WEEKLY MONITORING CHECK-LIST

ყოველკვირული გარემოსდაცვითი მონიტორინგი

## Weekly Environmental Monitoring

Name of the Contractor and project number/lot მშენებელი კონტრაქტორის სახელი და პროექტის/ლოტის ნომერი	Dagi LTD (საქართველო); თბილისი საბურთალოს რ-ნ ყაზბეგის №14 Contact: No CW/ICB/Office-01	
კონტრაქტის #: Contract #:		
Description and Location of the Site სამშენებლო საიტის ადგილმდებარეობის აღწერა	This subproject is located in Tbilisi, at the University street. There is no intensive traffic on University street (no traffic lights and traffic jam). Geographically, it is situated at 41°43'07.06", latitude and 44°43'10.48" longitude, app 547m above the SL.	
Implementing Agency განმახორციელებელი სააგენტო	შპს „საქართველოს გაერთიანებული წყალმომარაგების კომპანია“ “United Water Supply Company of Georgia”, LLC	
Supervisor's Identity (name, last name, contact information and signature) საზედამხებელო კომპანიის წარმომადგენლის სახელი, გვარი, საკონტაქტო ინფორმაცია და ხელმოწერა	Supervisor's company: LLC Eptisa საზედამხებელო კომპანიის : შპს გვარის სახელი გვარი: ვახტანგ ლომთაძე Name: Vaxtang Lomtadze Signature:  მობილურის ნომერი: 577 177 096 Mobile Phone: 577 177 096	
Current Stage of Civil Works სამშენებლო სამუშაოების მიმდინარე სტატუსი	მიმდინარე, On-going	
Weather Conditions ამინდის პირობები	Good კარგი	
ობიექტის გარემოს დაცვაზე პასუხისმგებელი პირი (კონტრაქტორი) Staff responsible for environment/safety at the site (contractor)	სახელი: ალექსანდრე ჭუმბურიძე Name: Alexandre Tchumburidze	ხელმოწერა/ Signature: 
გარემოს დაცვის სპეციალისტი (კონტრაქტორი) Environmental Specialist (contractor)	სახელი: ალექსანდრე ჭუმბურიძე Name: Alexandre Tchumburidze	ხელმოწერა/ Signature: 

Date/თარიღი: 13.08.2018.

N	Documents and Facts to be Examined შესამოწმებელი დოკუმენტები და ფაქტები	კი/yes	არა/no	ნაწილობრივ/Partially	არ ეხება/N.A	შენიშვნა/ Comment
1	EMP/SSEMPs, Protocols and Reports					
1.1	Contractor's Site-specific Environmental Management Plan (SSEMP) is prepared, reviewed and approved by PIU prior to contractor commencing the works. შემუშავებული და დამტკიცებულია საიტ-სპეციფიკური გარემოსდაცვითი მართვის გეგმა.	✓				Construction of Head office for United Water Supply Company of Georgia", March 2016
1.2	Construction contractor has National Environmental Specialist in staff. მშენებელ კონტრაქტორს დადებული აქვს ხელშეკრულება ადგილობრივ გარემოსდაცვითი საკითხების მართვის სპეციალისტთან.	✓				ხელშეკრულება გაფორმდა პროექტის დაწყებისთანავე
1.3	Construction contractor has International Environmental Specialist in staff. მშენებელ კონტრაქტორს დადებული აქვს ხელშეკრულება საერთაშორისო გარემოსდაცვითი საკითხების მართვის სპეციალისტთან.		✓			ხელშეკრულება არა გაფორმებული
1.4	Monthly environmental monitoring reports are prepared by the Contractor and submitted to the Supervision Consultant მომზადებულია გარემოსდაცვითი მართვის გეგმის განხორციელების ყოველთვიური ანგარიშები კონტრაქტორის მიერ და წარდგენილია კონსულტანტისათვის	✓				ყოველთვიური ანგარიშები კონსულტანტის მიერ ეგზავნება კონტრაქტორს
1.5	Emergency Response Plan is prepared and approved. შემუშავებული და მიღებულია ავარიულ სიტუაციებზე რეაგირების გეგმა .	✓				მიღებულია ავარიულ სიტუაციებში მოქმედების გეგმა
1.6	Health and Safety Management Plan is prepared and approved. შემუშავებული და მიღებულია ჯანდაცვისა და უსაფრთხოების მართვის გეგმა და ჯანდაცვისა და უსაფრთხოების მართვის სისტემა მშენებლობის ფაზისათვის.	✓				მიღებულია ჯანდაცვისა და უსაფრთხოების მართვის გეგმა
1.7	Complaints log exists on construction site. საჩივრების ჟურნალი/რეგისტრი არსებობს სამშენებლო საიტზე.	✓				სამშენებლო საიტზე არსებობს საჩივრების ჟურნალი
1.8	Site inspection non-compliance notices issued and corrective action requests implemented. შეუსაბამებელი შეტყობინებების მომზადება და წარდგენა კონტრაქტორისთვის და მაკორექტირებელი ქმედებების განხორციელება.	✓				ტექ.უსაფრთხოების სტანდარტის დაცვით მართულის კლდის გაბიონით გამაგრებულია კლდოვანი ნაყარი გრუნტი.

1.9	Training/Capacity building activities undertaken as per EMP requirements and records kept of trainings. გაფორმებული და ხელმოწერილია მუშახელის ტრენინგის ოქმი ჯანდაცვისა და უსაფრთხოების საკითხებზე. ტრენინგის ანგარიშები მომზადებულია და ინახება საიტის კემპზე.	✓				უსაფრთხოების საკითხებზე ტარდება ტრენინგები. იცნება ტექნიკური უსაფრთხოების ჟურნალი, სამუშაო პოზიციიდან გამომდინარე და ტარდება სამუშაოზე მოღვაწის პირველადი ინსტრუქტაჟი. ყოველდღიურად იცნება სამუშაოს დაწყებამდე (toolbox talk)
<b>2 Permits, Licenses and Contracts</b>						
2.1	The Contractor has a permit or relevant contract from the Municipality for final disposal of construction waste/კონტრაქტორს მიღებული აქვს სამშენებლო ნარჩენების საბოლოო განთავსების ნებართვა ან შესაბამისი კონტრაქტი ადგილობრივ ორგანოებთან.	✓				ადგილობრივ ორგანოებთან არსებობს სამშენებლო ნარჩენების ტრანსპორტირება საბოლოო განთავსების ნებართვა.
2.2	The Contractor has a permit for final disposal of municipal waste. კონტრაქტორს მიღებული აქვს საყოფაცხოვრებო ნარჩენების საბოლოო განთავსების ნებართვა.	✓				ადგილობრივ ორგანოებთან არსებობს საყოფაცხოვრებო ნარჩენების განთავსების ნებართვა.
2.3	The Contractor has executed the contract with the licensed organization on the hand-over and disposal of hazardous waste. კონტრაქტორს გაფორმებული აქვს სახიფათო ნარჩენების გადაცემისა და გატანის ხელშეკრულება ლიცენზირებულ ორგანიზაციასთან.	✓				საიტზე მოწყობილია სახიფათო ნარჩენების განთავსების დროებითი საწყობი.
2.4	The Contractor has a license for tree felling/კონტრაქტორს გააჩნია ლიცენზია ხის ჭრისთვის.				✓	კონტრაქტორი არ აწარმოებს ხეების ჭრას
<b>3 Performance of civil works</b>						
3.1	სამშენებლო ტერიტორიის სრულად შემოღობვა Adequate fencing of construction area from all sides	✓				სრულად შემოღობილია
3.2	საკეტოანი შესასვლელი კარის მოწყობა, სტანდარტული გამაფრთხილებელი და საინფორმაციო ნიშნებით აღჭურვა Arrangement of lockable gate with standard warning and information signs	✓				საკეტოანი კარი მოწყობილია
3.3	სამშენებლო ტერიტორიაზე და პერიმეტრზე სტანდარტული გამაფრთხილებელი და საინფორმაციო ნიშნების განთავსება Placement of standard warning and information signs at the perimeter and inside of construction area	✓				სამშენებლო ტერიტორიაზე არსებობს გამაფრთხილებელი და საინფორმაციო ნიშნები
3.4	ლიად დატოვებულ თხრილებზე და ჭებზე უსაფრთხოების ლენტების, ბარიერების და გამაფრთხილებელი ნიშნების განთავსება Installation of safety signs/tapes and trench side barriers around of open trenches	✓				საიტზე ლიად დატოვებულ თხრილებზე არ არის
3.5	1,5 მეტრზე მეტი სიღრმის ტრანშეებში კედლების გამაგრება Strengthening of walls of the deep trenches (>1.5m) by boards	✓				1,5 მეტრზე მეტი სიღრმის ტრანშეები ითხრება შესაბამისი წესების დაცვით
3.6	დასახლებულ ადგილებში ლიად დატოვებულ თხრილებზე დროებითი გადასასვლელების მოწყობა Installation of proper temporary wooden/metal walkways/planks across open trenches in settlement areas				✓	დასახლებულ ადგილებში ლიად დატოვებული თხრილები არ არის
3.7	სამშენებლო ტერიტორიაზე, სამუშაოების ზონაში არსებული ხეების შემორაგვა (დაზიანების თავიდან აცილების მიზნით) Protect all trees nearby construction zone to avoid its damage	✓				თხილქის ტერიტორიაზე ხეები დაცულია შემორაგვლით დაზიანებისგან და აღნიშნულია შესაბამისი გამაფრთხილებელი ნიშნებით.
3.8	ექსკავაციის დროს, ნიადაგის ნაყოფიერი (დაახლოებით 20-30 სმ სისქის) ფენის მოხსნა და განეალკვებულად გროვებად შენახვა Removal of top soil (about 30 cm depth) and separately storing in appropriate place				✓	ამ დროისთვის ექსკავაცია არ არის საიტზე.
3.9	სამშენებლო ნარჩენების და ჭარბი ნარჩენი გროვების დროული გატანა/განთავსება Timely removal/disposal of construction waste and surplus waste soil	✓				საიტის მწვანე ზოლიდან სადაც იყო განთავსებული ჭარბი ნარჩენი გროვები, მოხდა მისი უკუწყობა.
3.10	სამშენებლო ტერიტორიის ღამის საათებში განათება Provide adequate lighting of construction territory	✓				სამშენებლო ტერიტორია განათებულია მთელ პერიმეტრზე
3.11	სამშენებლო ტერიტორიის შესაბამისად მოწყობა მასალების და მოწყობილობების და დანადგარების ორგანიზებულიად განთავსება (საკუთრებიდან გამომდინარე) Proper arrangement of construction site and segregation/storing of construction materials/equipment (bring the material when required)			✓		ტერიტორიაზე არსებობს მასალებისა და მოწყობილობების განთავსებული ადგილები
3.12	სამშენებლო ტერიტორიაზე საწვავის და საპოხი მასალების დაღვრის შედეგების სალიკვიდაციო ნაკრების (ქვიშა, ნახევრი, მკირე ზომის ავზი და სხვა) ხელმისაწვდომობა Availability of proper fuel/oil spill response items (sand, sawdust, special containers) at the construction site	✓				ტერიტორიაზე ხელმისაწვდომია ქვიშა ნახევრი ავზი და სხვა.
3.13	საწვავის და საპოხი მასალების კონტეინერების განთავსება მხოლოდ სპეციალურ გადამხურულ ადგილებში Allocation of fuel and lubricants containers at the special dedicated place (with roofing and concrete flooring)	✓				ინახება სპეციალურ გამოყოფილ გადამხურულ შემორაგულ ბეტონის მოწყობილ ფილაზე, სად განთავსებულია ცეცხლმაქრები (ABCE კატეგორიის)



3.14	სამშენებლო ტერიტორიაზე საყოფაცხოვრებო ნარჩენებისთვის თავსახურიანი კონტეინერის განთავსება და შესაბამისი წარწერებით აღჭურვა (მაგ. "HOUSEHOLD WASTE") Placement of proper Household Waste container at the special dedicated place with relevant indication signs (for example "Household Waste")	✓				თავსახურიანი კონტეინერები განთავსებულია ობიექტის გამოყოფილ პერიმეტრზე, შესაბამისი წარწერებით და მარკირებით.
3.15	სამშენებლო ტერიტორიაზე სახიფათო ნარჩენებისთვის თავსახურიანი კონტეინერის განთავსება და შესაბამისი წარწერებით აღჭურვა (მაგ. "HAZARDOUS WASTE") Placement of proper Hazardous Waste container at the special dedicated places with relevant indication signs (for example "Hazardous Waste")	✓				ობიექტის ტერიტორიაზე არის სამიზი ნარჩენების კონტეინერი, და შესაბამისი წარწერით.
3.16	სამშენებლო ტერიტორიაზე ან მის გარეთ ტრანსპორტისთვის პარკირების ადგილის მოწყობა და ნიშნით აღჭურვა (მაგ. P) Arrangement of proper Parking area at the adequate place inside/outside of construction territory with relevant sign (for example P)	✓				ობიექტის ტერიტორიაზე მოწყობილია პარკინგის ადგილი
3.17	სამშენებლო მასალების და ნარჩენების ტრანსპორტირების დროს ავტოტრანსპორტის სპეციალური საფარი (ბრეზენტით, ტენტითდასხვა)	✓				სატვირთო მანქანები იხურება ბრეზენტით

	აღჭურვა Use tarpaulins cover during materials transportation					
3.18	საქონლებიდან გამომდინარე მტერის წარმოქმნის პრევენცია Dust generation prevention activities (when needed)	✓				საიტი მოხრეშლია ქვის ლორღით მიმდინარეობს მორწყვა მშალ ამინდში.
3.19	მუშების და ინჟინერ-ტექნიკური პერსონალის მიერ ინდივიდუალური დაცვის საშუალებების (ჩაფხუტი, ფილტვი, ხელთათმანი, ჩექმები, დამცავი სათვალე, და სხვა) სრულად გამოყენება Ensure that all workers are provided with and use appropriate Personal Protective Equipment - helmets, hand gloves, boots, masks, safety belts	✓	და			მუშები ინჟინერ-ტექნიკური პერსონალი და ვიზიტორები სრულად გამოიყენებენ ინდივიდუალური დაცვის საშუალებებს
3.20	სიმაღლეზე მუშაობის დროს სპეციალური დამცავი აღჭურვილობის გამოყენება Use of special safety equipment during working at heights	✓				გამოიყენება სპეციალური დამცავი უსაფრთხოების ქამარი
3.21	სამშენებლო ტერიტორიის მუდმივად დალაგება და დასუფთავება Regularly cleaning of construction territory	✓				მიმდინარეობს სატის მუდმივი მეთვალყურეობა ინჟინერტექნიკური პერსონალის მიერ დალაგება და დასუფთავებაზე.
<b>4 Monitoring Measurements</b>						

4.1	Monitoring measurement data (air, water, soil, erosion, noise, dust, vibration, etc). წყლის, ჰაერის, ვიბრაციის, ეროზიის, მტერის და ნიადაგის მონაცემების გაზომვების მონიტორინგი.	✓				მონიტორინგის განხორციელება ხდება სსემა-ის მონიტორინგის გეგმის შესაბამისად (კვარტალური, სამ თვეში ერთხელ) მონიტორინგი ჩატარდა 12 ივლისს 3:34 PM
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#### 5 Top Soil Protection

5.1	Topsoil is stripped and stored according to standard procedures and used further for landscaping and reinstatement. ნიადაგის ბიოკუმულოვანი ფენის დაცვა				✓	ნიადაგის ბიოკუმულოვანი ფენის მოჭრა, ექსპოზაცია არ მიმდინარეობს საიტზე
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#### 6 Safety Measures

6.1	The workers use all personal safety equipment required for individual technological processes (hard hats, gloves, respirators, glasses, etc.). მუშახელი იყენებს ცალკეული ტექნოლოგიური პროცესებისათვის აუცილებელ პირად დამცავ საშუალებებს (ჩაფხუტები, ხელთათმანები, რესპირატორები, სათვალეები და ა.შ).	✓				გამოიყენება მტერის დამცავი რესპირატორი, ფურის დამცავი საშუალებები, უსაფრთხოების დამცავი სათვალე.
6.2	The sites are provided with the fire fighting and emergency medical aid kits, site is fenced, site lightning, signs are installed, etc . სამშენებლო ობიექტზე განთავსებულია ხანძარსაწინააღმდეგო და სასწრაფო სამედიცინო დახმარების საბაზისო ნაკრები. საიტი შემოღობილია, განათება დამონტაჟებულია, საინფორმაციო დაფები/პრები გაკრულია და სხვ...	✓				საიტი შემოღობილია, განათება დამონტაჟებულია, ხანძარსაწინააღმდეგო და სასწრაფო სამედიცინო დახმარების საბაზისო ნაკრები მოწყობილია.

#### 7 Works Completion







7.1	After completion of main works, the site undergoes final cleanup, harmonization with outward landscape and landscaping. ძირითად სამუშაოთა დასრულებისას წარმოებს ობიექტის საბოლოო დასუფთავება, გარე ლანდშაფტთან ჰარმონიზება და გაშენება.				✓	შესრულდება სამშენებლო სამუშაოების დასრულების შემდეგ.
7.2	After completion of the operations in the quarry or its certain section, the idle material is backfilled, compacted, terraced and harmonized with the landscape. კარიერის ან მისი ცალკეული უბნის ექსპლუატაციის დასრულებისას წარმოებს ფუჭი მასალის უკუაყრა, კომპაქტირება, ტერასირება, და ლანდშაფტთან ჰარმონიზება.				✓	შესრულდება სამშენებლო სამუშაოების დასრულების შემდეგ.
7.3	Final Post Construction Environmental Audit/monitoring is conducted and Final Environmental Audit Report is prepared //საბოლოო გარემოს დაცვის მონიტორინგი/აუდიტი ჩატარებულია და საბოლოო გარემოსდაცვის აუდიტის ანგარიში მომზადებულია.				✓	შესრულდება სამშენებლო სამუშაოების დასრულების შემდეგ.

შენიშვნა/Comment: მიმდინარეობს საიტზე სასმელი წყლის შემოვლითი სამუშაოები.

შეჯამების ფოტომასალა/Photo materials:





# ANNEX F: NEAR MISS REPORTS PREPARED BY DAGI, UNDER TBI-01 PROJECT

 		Construction of New Office Building for United Water Supply Company of Georgia Tbilisi, Georgia		 	
<b>Near Miss Report</b>					
Nature of Near Miss (tick all applicable) <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Personal Injury  <input type="checkbox"/> Other         </div> <div> <input type="checkbox"/> Disease / Illness  <input type="checkbox"/> Environment spill / release         </div> <div> <input type="checkbox"/> Property Damage  <input type="checkbox"/> Dangerous occurrence X         </div> </div>					
Day of Near Miss	15.07.18.		Time of Near Miss	09:30:00 AM	
Exact location of Near Miss	Tbilisi street university №006/003 Construction of New Office United Water Supply Company of Georgia (NOBUWSCG)				
Description of Near Miss ( Include details of operations & activities)	dangerous falling,not correctly installing for safety works all personals stair and staircase.				
Description of first aid / medical treatment					
Corrective / Preventive action taken or recommendation	need installing hand railing and correct safety staircase.				
Do we have a safety manager on site	YES			ALEXANDER CHUMBURIDZE	
Where any of the above boxes are ticked as "Other" please describe below:					
Other:					
Reported By: ALEXANDER CHUMBURIDZE					
Name: ALEXANDER CHUMBURIDZE		Position: HSE MANAGER		Date:	
<b>Circulation (on the day of the event)</b>					
Original Project File:					
<input checked="" type="checkbox"/> X Project Manager <input checked="" type="checkbox"/> X Country Manager <input checked="" type="checkbox"/> X HS&E Manager					
			 		

 		Construction of New Office Building for United Water Supply Company of Georgia Tbilisi, Georgia		 	
<b>Near Miss Report</b>					
Nature of Near Miss (tick all applicable) <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Personal Injury  <input type="checkbox"/> Other         </div> <div> <input type="checkbox"/> Disease / illness  <input type="checkbox"/> Environment spill / release         </div> <div> <input type="checkbox"/> Property Damage  <input type="checkbox"/> Dangerous occurrence X         </div> </div>					
Day of Near Miss		10.08.18.		Time of Near Miss	
				10.00.00 AM	
Exact location of Near Miss					
Tbilisi street university №006/003 Construction of New Office United Water Supply Company of Georgia (NOUNSCG)					
Description of Near Miss ( Include details of operations & activities)					
Worker are not in complete standard PPE					
Description of first aid / medical treatment					
Corrective / Preventive action taken or recommendation					
All workers should be equipped with complete PPE					
Do we have a safety manager on site				YES	
				ALEXANDER CHUMBURIDZE	
Where any of the above boxes are ticked as "Other" please describe below:					
Other:					
Reported By: ALEXANDER CHUMBURIDZE					
Name: ALEXANDER CHUMBURIDZE		Position		HSE MANAGER	
				Date: 10.08.18	
Circulation (on the day of the event)					
Original Project File:					
<div style="display: flex;"> <div style="flex: 1;"> <input checked="" type="checkbox"/> X Project Manager  <input type="checkbox"/> X Country Manager  <input type="checkbox"/> X HSE Manager         </div> <div style="flex: 2;">  </div> </div>					



		Construction of New Office Building for United Water Supply Company of Georgia Tbilisi, Georgia	
<b>Near Miss Report</b>			
Nature of Near Miss (tick all applicable) <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input checked="" type="checkbox"/> Personal Injury  <input type="checkbox"/> Other         </div> <div> <input type="checkbox"/> Disease / Illness  <input type="checkbox"/> Environment spill / release         </div> <div> <input type="checkbox"/> Property Damage  <input type="checkbox"/> Dangerous occurrence X         </div> </div>			
Day of Near Miss	19.03.18.	Time of Near Miss	10:00:00 AM
Exact location of Near Miss	Tbilisi street university №006/003 Construction of New Office United Water Supply Company of Georgia (NOUWSCG)		
Description of Near Miss (include details of operations & activities)	Electrical cables are not properly used. Electrical plug missing, no insulation.		
Description of first aid / medical treatment			
Corrective / Preventive action taken or recommendation	In the warehouse, all electrical cables must be checked before work. Red arrow is wrong, Green is correct.		
Do we have a safety manager on site	YES	ALEXANDER CHUMBURIDZE	
Where any of the above boxes are ticked as "Other" please describe below:			
Other:			
<b>Reported By: ALEXANDER CHUMBURIDZE</b>			
Name: ALEXANDER CHUMBURIDZE	Position: HSE MANAGER	Date: 19.03.18.	
<b>Circulation (on the day of the event)</b>			
Original Project File:			
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <input checked="" type="checkbox"/> X Project Manager  <input checked="" type="checkbox"/> X Country Manager  <input checked="" type="checkbox"/> X HS&amp;E Manager         </div> <div style="flex: 1; text-align: center;">  </div> </div>			