

# Semi-annual Environmental Monitoring Report

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*Project Number: 43405-026*

*Reporting Period: July-December 2018*

**GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM  
(TRANCHE 4)  
(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

**Endorsed by:** Maka Goderdzishvili, Head, Department of Environmental Protection and Permits, “United Water Supply Company of Georgia”

January 29, 2019

**Abbreviations**

**ABBREVIATIONS**

<b>ADB</b>	Asian Development Bank
<b>DC</b>	Design Consultant
<b>DEPP</b>	Department of Environmental protection and Permit
<b>PMD</b>	Projects Management Department
<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/ EMS</b>	Environmental Specialist/ Environmental Monitoring 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>MoEPA</b>	Ministry of Environment 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 & Sanitation

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## **1 INTRODUCTION**

### **1.1 Preamble**

1. This report represents the Semi - Annual Environmental Monitoring Review (SAEMR) for “Urban Services Improvement Investment Program” (USIIP), Tranche 3 and describes the period of July-December 2018.
2. This report is the 6<sup>th</sup> Semi-Annual EMR for the T4 of “Urban Services Improvement Investment Program”.

### **1.2 Headline Information**

3. Contractors under USIIP/T4 follow the verbal instructions given by the Supervision Consultant and the UWSCG / USIIP during the environmental monitoring of construction sites, as well as non-conformances issued after the site visits, if necessary, and in most cases improve the situation and sent improved photos of sites. 28% of the non-conformances have not yet been resolved during the current reporting period, it is basically the final disposal of sludge under POT-01 sub-project and proper organization and cleaning of sites on a regular basis under JVA-01 sub-project.
4. During the reporting period no construction activities were carried out under the Pot-02 project. There is a delay of more than 5 month in the submission of Contractor’s Report on Soil investigations. Without the conclusions about the soil investigations the design of the foundations cannot be finalized.
5. All improvements under JVA-01, POT-01 and POT-02 projects will be recorded in the next EMR January-June 2019.

## 2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

### 2.1 Project Description

6. 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.
7. 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; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
8. Tranche 4 of the Investment Program includes:
  - Construction of Water Supply System in Zugdidi (Zug 01 - Contract No: P43405-ICB-Zug-01)
  - Construction of Sewerage System in Poti (Pot 01 - Contract No: P43405-ICB-Pot-01)
  - Construction of Wastewater Treatment Plant in Poti (Pot 02 - Contract No: P43405-ICB-Pot-02)
  - Construction of Water Supply System in Jvari (Jvari 02 - Contract No: P43405-DC-Jvari-01)
9. **Construction of Water Supply System in Zugdidi (ZUG 01).** The project comprises of the construction of 1 water supply pumping station – 1,170 m<sup>3</sup>, construction of new reservoirs (3,300 m<sup>3</sup>x3); distribution network - laying of approximately 220 km water supply pipelines; approximately 15 km transmission main; wells - drilling of 10 drinking water wells.
10. The contract ZUG-01 was signed on October 26, 2015 with AS Inshaat–N, LLC (Azerbaijan), the construction works were completed in September 2018. Finish of Defects Notification is 10 January 2019.
11. **Construction of Sewerage System in Poti (POT-01).** Pot-01 project includes the construction of 112.4 km of new sewerage pipes, and construction of 28 sewage pumping stations. United Water Supply Company of Georgia signed a contract with TAHAL Group BV on 20 December 2017. The final date of completion of the contract is July 31, 2020.
12. **Construction of Wastewater Treatment Plant in Poti (POT-02).** The project comprises of the construction of new Wastewater Treatment Plant with the capacity of 11,663 m<sup>3</sup>/day for Poti. The contract for construction of WWTP in Poti was signed on December 21, 2017 with JV "Pfeiffer - EMIT" comprised by "Ludwig Pfeiffer Hoch – and Tiefbau GmbH7Co. KG (Germany)"

and “EMIT Group – Ercole Marelli Impianti Tecnologici S.r.l. (Italy). The final date of completion of the contract is February 1, 2020.

- 13. Construction of Water Supply System in Jvari (JVA-01).** The major works to be implemented for rehabilitation and improvement of Jvari water supply system are following: construction of wells on the well field near the village Lia; installation of about 4 km long transmission pipeline; replacement of distribution pipes in the town; rehabilitation of existing reservoir or construction of new one depending on results of detailed investigation; construction of new pump station.
- 14.** The contract for implementation of JVA-01 was signed on January 17, 2017 with AS Inshaat-N, LLC (Azerbaijan). The date of completion of the contract is July 11, 2019.
- 15. Supervision Consultant for T4 of USIIP.** Supervision Consultant for Tranche 4 of USIIP is “SAFEGE France with Engineering Solution LLC Georgia”.

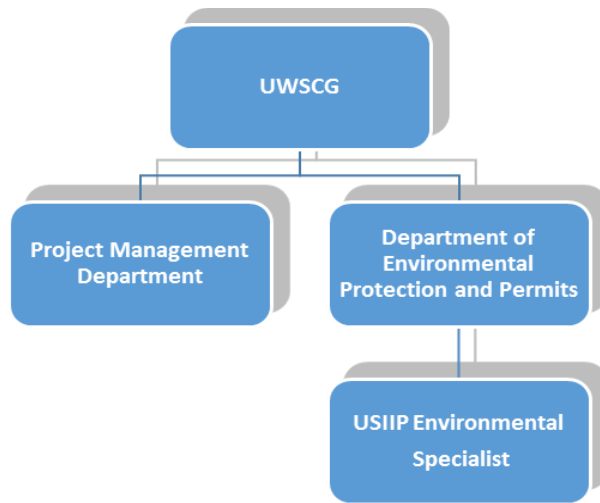
## 2.2 Project Contracts and Management

- 16.** 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.
- 17.** 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
- 18.** 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 Archaia. 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.
- 19.** UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) – Safege under T4. 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.

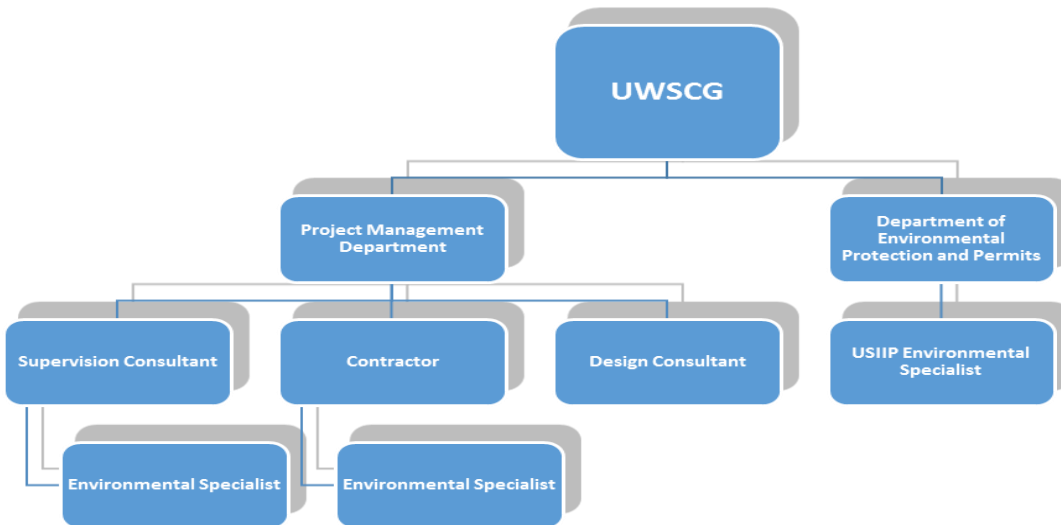
- 20.** All mitigation measures during construction are implemented respectively by the contractor companies: TAHAL, Pfeiffer, As Inshaan-N. Each contractor company have Environmental and safety officers responsible for HSE issues during construction process. Construction companies are monitored by the supervision consultant (Safege) environmental specialist – Shalva Bosikashvili and Environmental Specialist of UWSCG/USIIP Ms. Ketevan Chomakhidze. Environmental Specialists of SC and UWSCG/USIIP conducted routine observations and surveys of project sites, issues non-compliance notes. ES of Safege prepares quarterly environmental reports and submits to UWSCG.
- 21.** 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.
- 22.** 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.
- 23.** 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.
- 24.** 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’s 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.
- 25.** 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.
- 26.** 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



27. A list of main organizations involved in the USIIP/T4 and relating to environmental safeguards is presented in Table 1 below.

**Table 1:** List of Main Organizations under USIIP/T4

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 dlang@adb.org
		Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili Tel: +995 595 070442 <a href="mailto:nnadashvili@adb.org">nnadashvili@adb.org</a>
		ADB RETA International-Regional Environmental Consultant	Keti Dgebuadze Tel: +995 577232937 <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>
		UWSCG/IPMO Department of Projects Management, Head	Mr. Giorgi Archaia Tel: +995 577 380213 E-mail: <a href="mailto:G.Archaia@water.gov.ge">G.Archaia@water.gov.ge</a>
Borrower	UWSCG/USIIP/T4	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: <a href="mailto:Chomakhidzek@yahoo.com">Chomakhidzek@yahoo.com</a>

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Supervision Consultant	SAFEGE (France) with Engineering Solution LLC (Georgia)	Environmental Specialist:	Mr. Shalva Bosikashvili Tel: +995 595 116041 E-mail: <a href="mailto:sbosikashvili@yahoo.com">sbosikashvili@yahoo.com</a>
Contractor ZUG-01	AS Inshaat-N LLC (Azerbaijan)	Environmental H&S Specialist	Mr. Nodar Usupishvili Tel: +995 577 68 16 71  E-mail: <a href="mailto:n.usupashvili@gmail.com">n.usupashvili@gmail.com</a>
Contractor POT-01	TAHAL Group BV	Environmental H&S Specialist	Mr. Revaz Kalandadze Tel: +995 599 346 821 E-mail: <a href="mailto:r.kalandadze@yahoo.com">r.kalandadze@yahoo.com</a>
Contractor POT-02	JV "Pfeiffer - EMIT" comprised by "Ludwig Pfeiffer Hoch – and Tiefbau GmbH Co. KG (Germany)" and "EMIT Group – Ercole Marelli Impianti Tecnologici S.r.l. (Italy)	Environmental Specialist H&S Specialist	Mr. Nikoloz Neparishvili Tel: +995 599 346 821 E-mail: <a href="mailto:niko@telenet.ge">niko@telenet.ge</a> <a href="mailto:nikoloz.neparidze@ludwigpfeiffer.com">nikoloz.neparidze@ludwigpfeiffer.com</a>
JVA-01	AS Inshaat-N LLC (Azerbaijan)	Environmental H&S Specialist	Mr. Nodar Usupishvili Tel: +995 577 68 16 71  E-mail: <a href="mailto:n.usupashvili@gmail.com">n.usupashvili@gmail.com</a>

## 2.3 Project Activities during Current Reporting Period

28. During the reported period construction activities were implemented only under Pot-01 and JVA-01 Project, therefore only these sub-project 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 during the Reporting Period

#### ZUG-01:

29. The main activities on the site of the Zugdidi Water Supply Contract by the end of December 2018 are presented below:

##### Well Fields:

- All 9 wells are completely drilled. Testing has been completed for all wells.
- Water quality analyses for 5 wells have been completed.
- Material Approval sheets for well pumps are under review.
- Electrical design for wells has been approved with comments.
- Well Houses and access roads are incomplete and require remedial repairs.

##### Ingiri Pumping Station

- Civil works are completed, but leakage test for the twin compartment reservoir(s) has not performed.
- Electrical design is approved with comments on the design drawings
- SCADA design was approved.
- Material Approval sheets for high voltage cables is under review
- Design of chlorination station is under review with UWSCG
- Core drilling has been completed for the overflow and installation for the new overflow is ongoing.

##### Transmission line DCI DN 700 from INGIRI Pumping station to BASHI reservoir

- The Second Pressure testing has been performed on Section 06b (INGHIRI Road) of approximately 1.1Km of pipeline, which passed successfully. However, the Contractor has failed to submit the associated paperwork and therefore the Engineer cannot approve the pipeline as satisfactory.
- The Contractor is requesting to carry out a 6Km of DCI pipe testing. The Engineer has rejected this proposal as it exceeds the standards for pipeline testing.

BASHI Service Reservoir(s)

- Civil works completed
- Crack repairs have been completed
- The overflow and associated drainage works have been completed.
- Backfilling to the reservoirs has been completed.
- Roof membrane to all three reservoirs has been completed.
- After tests have passed reservoirs have to be cleaned and disinfected
- Mechanical works and electrical works have not yet started
- Installation of the overflow has been completed.
- Roof membrane has been completed.
- Design of chlorination station is under review with UWSCG
- Electrical design is approved with comments on the design drawings
- SCADA design was approved.

Distribution network

- Approximately 100 % of the original design of network pipes are installed. Additional lengths requested by UWSCG are ongoing due to new developments and re-design.
- A number of 714 valves from the original B of Q total of 620 have been installed
- A number of 595 hydrants from a total of 700 have been installed
- A number of 11,448 water meter boxes from a total of 15300 have been installed.
- No water meters from a total of 15,300 have been installed
- A number of 4102 Apartment connections from a total of 6000 have been completed.
- After all these works are completed the entire networks has to be tested, cleaned and disinfected.

**30.** Construction progress during the previous 6 months under Zug-01 project (July-December 2018) is provided in the table 2 below.

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

<b>Zug-01</b>		<b>Zugdidi Water Supply System Construction</b>	
Sites	Zugdidi Water Pipeline Network; Bashi Reservoir, Ingiri Pump Station, Transformer Building & Water well Field		
Works undertaken during July 2018-December 2018	Bashi 3 new reservoirs constructed. Ingiri Pump station, Reservoir, Chlorination building, Transformer Building and Operational building concrete work construction finished 100%.		
<b>Zug-01</b>		<b>Zugdidi Transmission Pipelines</b>	
Works undertaken during July 2018 – December 2018	Executed July-December 2018. Total Completed %:		
	OD 63 PE – 7650m	100%	
	OD 75 PE – 27730m	100%	
	OD 90 PE – 15870m	100%	
	OD 110 PE – 132353m	100%	
	OD 125 PE – 7365m	100%	
	OD 140 PE – 3511m	100%	
	OD 160 PE - 1102m	100%	
	OD 180 PE – 9465m	100%	
	OD 200 PE – 1438m	100%	
	OD 225 PE – 4844m	100%	
	OD 250 PE - 4570m	100%	
	OD 280 PE – 803m	100%	
	OD 315 PE – 2025m	100%	
	OD 355 PE - 4190m	100%	
	OD 400 PE – 860m	100%	
	OD 450 PE – 2833m	100%	
	OD 500 PE – 2480m	100%	
	OD 710 PE - 42 m	100 %	
	OD 400 PE – 1242m	100 % (Over flow)	
	DN 700 DCI – 10430m	100%	
	Total: 252018 m 100 %		
	House Connections:		
	Private houses:	15 300 unit	75%
	Apartment blocks:	6000 unit	69 %
	Hydrants and Valves:	685 unit	87%
	Valves:	620 unit	100 %

<b>Zug-01</b>		<b>Zugdidi Reservoirs &amp; Pump Stations</b>	
Site	Bashi Reservoir		

<b>Zug-01</b>	<b>Zugdidi Reservoirs &amp; Pump Stations</b>
Works undertaken during July 2018-December 2018	Concrete works for 3 reservoir including chlorination station and distribution chamber are completed 100%. Backfilling of Reservoirs completed 90%.
<b>Site</b>	<b>Ingiri Pumping Station</b>
Works undertaken during July 2018-December 2018	Ingiri Pump station, Reservoir, Chlorination building, transformer building and Operational building concrete work construction finished 100%.
Works undertaken during July 2018-December 2018	Ingiri Well Field: Mobilization – 100% All 9 wells 100% Finished

## **POT-02**

31. During the reporting period no construction activities were carried out under the Pot-02 project. There is a delay of more than 5 month in the submission of Contractor's Report on Soil investigations. Without the conclusions about the soil investigations the design of the foundations cannot be finalized. This situation will have influence on all further progress of the works as well.
32. Due to the fact that, almost the entire construction area is covered with vegetation/trees the botanical study was conducted prior to removal of trees by an independent expert. Only two red book listed trees - Walnut tree *Juglans regia* revealed during the study. Both trees are located at the entrance to the construction site and are properly fenced and marked to protect and preserve them during construction. Photos of Construction site is presented in Annex B. Cutting of all other trees on the territory of construction area is finalized.
33. Transportation of remote trees to UWSCG Service Centers for heating purposes was primarily coordinated with the local municipality and will be carried out in accordance with the relevant SSEMP / EMP requirements
34. The main activities under POT-02 project by the end of December 2018 are presented below:
  - Mobilization works are completed
  - Soil investigation is under finalization
  - Re-submitted Basic Design Report is approved
  - Approval sheets for equipment are under revision by Engineer.

## POT-01

35. The main activities under POT-01 project, carried out by contractor during the reporting period included:
- Cleaning and wash out of existing sewer system/network
  - Laboratory analysis of sludge
  - Management of sludge disposal on final dumping area
36. The Contractor commenced construction works in September 2018 with the cleaning and washing of existing sewage pipes in Poti and temporary storage of sludge in plastic tanks located in the Contractor's construction camp.
37. The UWSCG, together with SC, began management of the final disposal of sludge in order to comply with the requirements of national regulations. To date, even the temporary disposal of sludge cannot be carried out without laboratory analysis of the sediment, therefore the contractor was also asked to analyze the sediment in an independent laboratory to confirm that the sludge is not chemically contaminated. The necessary analysis was carried out in September 2018, and according to this analysis, there are no chemical elements in the sediment. After laboratory analysis, UWSCG appealed to the MoEPA in January 2018 to allow sludge disposal in a landfill for non-hazardous waste.
38. The final decision on sludge disposal will be reflected in the Semi-annual EMR for January-June 2019.
39. Construction progress during the previous 6 months under POT-01 project (July-December 2018) is provided in the table 3 below.

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

POTI	CONSTRUCTION of POTI SEWARAGE SISTEM
POTI	POTI Pressure Pipe
Works undertaken during July 2018-December 2018	Executed July 2018 – December 2018. Total Completed %: OD 140 PE - 2708m 6.9% OD 355 PE- 4272m 3.8% OD 400 PE - 6580m 1.4% OD 630 PE - 694m 18.9%  Total Contract Quantity – 182000m - 0.3%  <b>POTI GRAVITY PIPE</b>  <b>NOT STARTED 0%</b>



POTI	CONSTRUCTION of POTI SEWARAGE SISTEM

### JVA-01

40. The main activities on the site of the Jvari Water Supply Contract by the month of December 2018 are presented below:

- Total pipeline installed from the commencement date: 39.04km or a progress of 81,39% Hydrostatic Pressure Tests: 28.04km pipelines' test (58,46%) successfully completed.
- Compaction tests are continuing in the completed trenches as 2 layers. However as sometimes ballast brought to Site is not as quality as expected, the Contractor failed to perform the compaction tests.
- Total PE-100 pipes in the detailed design of AS Inshaat (OD 100-SDR 11 to OD 40-SDR 17) = 47,967 m.
- In well field, performance testing is continuing.

41. Construction progress during the previous 6 months under JVA-01 project (July-December 2018) is provided in the table 4 below.

**Table 4:** JVA-01 Project Progress during the July – December 2018

Jvari	Jvari Water Supply System Construction
Sites	Jvari Water Pipeline Network
Jvari	Jvari Transmission Pipelines
Works undertaken during July 2018-December 2018	Executed July 2018 – December 2018. Total Completed %:
	OD 63 PE SDR 11 - 1175m 90 %
	OD 90 PE SDR 11 – 2131m 83.2 %
	OD 110 PE SDR 11 – 8592m 40.7 %
	OD 140 PE SDR 11- 4808m 73%
	OD 160 PE SDR 11 - 186 m 0 %
	OD 200 PE SDR 11- 168m 0 %
	OD 40 PE SDR 17 - 34m 0%
	OD 50 PE SDR 17 - 9m 0%
	OD 63 PE SDR 17 - 2395m 90%
	OD 75 PE SDR 17 - 578m 94.1%
	OD 90 PE SDR 17 - 2022m 100%
	OD 110 PE SDR 17 - 18514m 91.2%
	OD 140 PE SDR 17 - 211m 98.1%

Jvari	Jvari Water Supply System Construction
	OD 160 PE SDR 17 - 5904m 85.8%
	OD 200 PE SDR 17 - 2194m 92.5%
	Total Contract Quantity – 48 918m - 79.4%
	<b>House Connections:</b>
	Private houses: 821 unit 80.5%
	Apartment blocks: 1300 unit 61.5 %
	<b>Lia Well Field:</b>
	Mobilization – 100%
	All 6 wells 100% Finished Drilling

#### 2.4 Description of Any Changes to Project Design

N/A

#### 2.4 Description of Any Changes to Agreed Construction methods

N/A

### 3 ENVIRONMENTAL SAFEGUARD ACTIVITIES

#### 3.1 General Description of Environmental Safeguard Activities

42. 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.
43. The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under ZUG-01, POT-01, POT-02 and JVA-01 sub-projects.
44. Environmental Monitoring Specialist hired under the ZUG-01 and JVA-01 sub-projects Ms. Nodar Usupishvili conducted the day-to-day monitoring of the construction sites, developed monthly monitoring reports and submitted to SC/Safege.
45. Environmental Monitoring Specialist hired under the POT-01 project by contractor Mr. Rezo Kalandadze conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Safege.
46. Environmental Monitoring Specialist of Safege, Mr. Shalva Bosikashvili conducted monthly monitoring of project sites under T4 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.
47. 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. Prepare Non-conformance Notice were required developed Semi-Annual Environmental Monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
48. 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 5 below for JVA-01, POT-01 and POT-02 sub-projects.

**Table 5:** Parametric Measurement Guidelines

Parameters	Frequency & Location	Remarks
<b>JVA-01</b>		
Air Quality	Every 6 months Mukhnari Reservoir, Networks, Transmission Main	Watering site during excavation works to avoid dust spreading  Conduct measurements of Dusts Mg/m <sup>3</sup> ; CO

Parameters	Frequency & Location	Remarks
		Mg/m <sup>3</sup> ; NO <sub>2</sub> Mg/m <sup>3</sup> ; SO <sub>2</sub> Mg/m <sup>3</sup>
Noise	Every 6 months Lia Well Fields, Networks, Transmission Main	Ensure that all equipment & vehicles used for construction activity are in good condition  Limiting working hours to 8 am – 6 pm
Impact on Flora and Fauna	Monthly during the site Inspection and audit	Avoid tree cutting In unavoidable cases, plant four trees of same species for each tree that is cut for construction
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	Contractor shall put in place a protocol for conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.  Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.
<b>POT-01</b>		
Air Quality	Every 6 months across the sewerage network	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	Every 6 months Reservoir #1, Sewerage Network	Ensure that all equipment & vehicles used for construction activity are in good condition

Parameters	Frequency & Location	Remarks
		Limiting working hours to 8 am – 6 pm
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	Contractor shall put in place a protocol for conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.  Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.
<b>POT-02</b>		
Air Quality	Every 6 months Waste Water Treatment Plant 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	Every 6 months Waste Water Treatment Plant construction site	Ensure that all equipment & vehicles used for construction activity are in good condition  Limiting working hours to 8 am – 6 pm
Impact on Flora and Fauna	Monthly during the site monitoring.	Avoid tree cutting In unavoidable cases, plant four trees of same species for each tree that is cut for construction
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	Contractor shall put in place a protocol for conducting any excavation work, to ensure that any chance

Parameters	Frequency & Location	Remarks
		<p>finds are recognized and measures are taken to ensure they are protected and conserved.</p> <p>Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.</p>

### 3.2 Site Audits

49. Regular inspection and monitoring of construction sites under ZUG-01, POT-01, POT-02 and JVA-01 sub-projects were conducted by ESs of USIIP and Safege. The schedule of Joint inspection and summary of audits carried out under ZUG-01, POT-01, POT-02 and JVA-01 sub-projects are provided in the Table 6 below.

**Table 6.** Summary of site audits

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 period (July-December 2018)	AS Inshaat-N LLC (Azerbaijan)  <b>JVA-01</b>	Environmental, H&S Specialist of Contractor  Mr. Nodar Usupishvili	Day to day monitoring of sites  Compliance with Environmental and HES requirements	1. Poor housekeeping  2. Safety issues on construction sites	Monthly Monitoring Reports
16.08.2018		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of	Compliance with EH&S requirements	1. Poor housekeeping  2. Power generator without secondary containment	Monitoring Reports Prepared by SC

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report
		CC Mr.Nodar Usupishvili  Environmental Specialist of USIIP  Ms. Ketevan Chomakhidze		3. Construction materials improper storage  4. Lubricant drums outdoor storage	
14.11.2018		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of CC Mr.Nodar Usupishvili  Environmental Specialist of USIIP  Ms. Ketevan Chomakhidze	Compliance with EH&S requirements	1. Poor housekeeping  2. Safety issues on construction sites (gas cylinder improper usage, electrical equipment safe usage norms violation)	EH&S Monitoring Reports Prepared by SC
25 December 2018		Environmental Specialist of SC Mr. Shalva Bosikashvili,	Monthly monitoring of sites	1. Despite all our warnings, site instructions and numerous letters, the Contractor's staff still avoid wearing PPE especially safety shoes.  2. Single row of plastic security tape acting as a fence which is inadequate and ineffective. In addition, no night	Non-Conformance Notes issued by SC to Contractor, including Environmental, H&S Issues  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>warning lamps are being used for the open trenches.</p> <p>3. There are not enough signage relating to the Work.</p> <p>4. The Contractor should erect secure robust safety barriers around all open excavations.</p> <p>5. Such a situation is absolutely unacceptable and the Contractor should remedy the above deficiencies as soon as possible.</p> <p>6. CC stated that they know the problems and they were trying to rehabilitate the conditions and increase the necessary signboards/warning lamps. In addition, CC advised that their H&amp;S Manager would continue giving necessary training on H&amp;S issues.</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
Continuously during reporting period (July-December 2018)	JV "Pfeiffer - EMIT"  <b>POT-02</b>	Environmental, H&S Specialist of Contractor  Mr. Nikoloz Neparidze	Day to day monitoring of sites  Compliance with Environmental and HES requirements	Minimize tree cutting on construction site, due to construction purposes  Ensure proper protection of Red Book trees on site	Monthly Monitoring Reports
22-25 August, 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/Safege  Mr.Shalva Bosikashvili	Monthly monitoring of construction sites	Trees nearby/at the construction zone should be protected/fenced to avoid its damage	Contractor is given verbal instructions to improve the situation
05-06 September 2018		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/Safege  Mr.Shalva Bosikashvili	Monthly monitoring of construction sites	Removal and transportation of cut trees on site  Equipment & vehicles used for construction activities should be in good condition (no leakage) to avoid leakage and ground/water contamination  Proper fuel/oil spill response items (sand, sawdust, special containers)	Contractor is given verbal instructions to improve the situation

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 available at the construction site	
18-20 October 2018		<p>RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.</p> <p>Environmental specialists of USIIP Ms.Ketevan Chomakhidze</p> <p>Environmental monitoring specialists of SC/Safege Mr.Shalva Bosikashvili</p>	Annual Monitoring of sites	<p>CC to improve track record system and add IEE, Accident Record Log (with recorded near misses), measurement data and records of all trainings.</p> <p>CC to finalize disposal of cut trees from the camp site, certain part of cut trees have to be disposed by UWSCG service center till 30<sup>th</sup> of October 2018.</p> <p><b>Partially Completed</b></p> <p>CC to add one more sign to the topsoil stockpiled area and in case of dust generation (especially in hot weather condition) to perform watering of topsoil.</p> <p><b>Completed</b></p> <p>CC to place all waste containers on concrete base and provide roofing. In</p>	<p>Missions of Note issued by RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.</p> <p>Partially completed.</p> <p>During the reporting period, no accident and near misses were recorded, since no construction work was carried out.</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
				<p>addition, for hazardous waste containers secondary drip tray have to be used. Agreement have to be signed with licensed company for disposal of hazardous waste till 15<sup>th</sup> of November 2018.</p> <p><b>Completed</b></p> <p>CC have to establish overall Accident Record Log with recorded accidents and near misses.</p> <p><b>Not Completed</b></p>	
Continuously during reporting period (July-December 2018)	AS Inshaat-N LLC (Azerbaijan)  <b>ZUG-01</b>	Environmental, H&S Specialist of Contractor  Mr. Nodar Usupishvili	Day to day monitoring of sites  Compliance with Environmental and HES requirements	1. Safety issues on construction sites	Monthly Monitoring Report.
05-07. September 2018		Environmental Specialist of USIIP, Ms.Kate Chomakhidze	Monthly Monitoring of Sites	Construction site (open trenches) should be properly fenced from all sides and equipped with proper warning signs  Construction territory should be lighted adequately during the night time	Major Non-Conformance Notice issued by ES of USIIP 07.09.2018  (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
				Proper information signs and protection equipment should be arranged at the entrance and perimeter of the site	Contractor improved the situation on site after receiving the Non-conformance Notice
18-19 October 2018		<p>RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.</p> <p>Environmental specialists of USIIP Ms.Ketevan Chomakhidze</p> <p>Environmental monitoring specialists of SC/Safege Mr.Shalva Bosikashvili</p>	Annual monitoring of sites	<p>Visual assessment of reinstatement of sites.</p> <p>No major issues recorded.</p>	Missions of Note issued by RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.
14.12.2018		<p>Environmental specialists of USIIP Ms.Ketevan Chomakhidze</p> <p>Environmental monitoring</p>	Compliance with HES requirements	Visual assessment of reinstatement of sites.	Monthly Monitoring Reports and Semi-Annual EMR

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report
		specialists of SC/Safege Mr. Shalva Bosikashvili			
Continuously during reporting period (July-December 2018)	TAHAL Group BV <b>POT-01</b>	Environmental, H&S Specialist of Contractor Mr. Nodar Usupishvili	Day to day monitoring of sites  Compliance with Environmental and HES requirements	1. Poor housekeeping	Monthly Monitoring Reports
22-25 August		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of CC Mr. Nodar Usupishvili  Environmental Specialist of USIIP  Ms. Ketevan Chomakhidze	Monthly Monitoring report	Visual assessment of site.	Semi-annual EMR prepared by ES of USIIP  Quarterly reports prepared by SC
05-06 September 2018		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of CC Mr. Nodar Usupishvili	Monthly Monitoring report	Visual assessment of site.	Semi-annual EMR prepared by ES of USIIP  Quarterly reports prepared by SC

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report
		Environmental Specialist of USIIP  Ms. Ketevan Chomakhidze			
6-5 December 2018		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of CC Mr. Nodar Usupishvili  Environmental Specialist of USIIP  Ms. Ketevan Chomakhidze	Monthly Monitoring report	Visual assessment of site.	Semi-annual EMR prepared by ES of USIIP  Quarterly reports prepared by SC

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

50. Non-Conformances have been observed during the site visits under JVA-01 and ZUG-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. Environmental team of SAFEGE 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.
51. A summary of the identified environmental issues for July-December 2018 is presented in table 7 below.

**Table 7:** Summary of Issues Tracking Activity for Current Period

**Summary Table Zug-01**

<b>Total Number of Issues for Project</b>	<b>3</b>
<b>Issues Opened This Reporting Period</b>	0
<b>Issues Closed This Reporting Period</b>	3
<b>Percentage Closed</b>	100%

**Summary Table JVA-01**

<b>Total Number of Issues for Project</b>	<b>8</b>
<b>Issues Opened This Reporting Period</b>	4
<b>Issues Closed This Reporting Period</b>	4
<b>Percentage Closed</b>	50%

**Summary Table POT-01**

<b>Total Number of Issues for Project</b>	<b>4</b>
<b>Issues Opened This Reporting Period</b>	1
<b>Issues Closed This Reporting Period</b>	3
<b>Percentage Closed</b>	75%

**Summary Table POT-02**

<b>Total Number of Issues for Project</b>	<b>5</b>
<b>Issues Opened This Reporting Period</b>	2
<b>Issues Closed This Reporting Period</b>	3
<b>Percentage Closed</b>	60%

### 3.4 Trends

52. 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 8 below.

**Table 8:** Summary of identified trends in environmental issues

<b>Semi-Annual EMR No</b>	<b>Total No of Issues</b>	<b>% issues Closed</b>	<b>% issues closed late</b>
<b>1</b> January-June 2018	15	80%	10%
<b>2</b> July-December 2018	20	72%	28%

- 53.** All major Non-Conformances under USIIP/T4 during the reporting period are provided in an Annex C of this report.

### **3.5 Unanticipated Environmental Impacts or Risks**

N/A



## 4 RESULTS OF ENVIRONMENTAL MONITORING

### 4.1 Overview of Monitoring Conducted during Current Period

54. During the reporting period Environmental measurements of Noise level and Ambient air Quality were carried out by contractor under Zug-01, Pot-02 and JVA-01 projects.
55. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 9 and 10 below.

**Table 9:** 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

56. Air pollution standards by IFC/WHO 1999, are presented in the Table 10 below

**Table 10:** 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 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

57. Monitoring measurements of noise level and ambient air quality under POT-01 project was conducted by National Environmental Agency in 27 September 2018 (See Annex A). Location and data are included in the Table 11 below. The next monitoring measurements will be conducted in May 2019 and results will be reflected in the next January-June EMR 2019.
58. According to data received in September 2018 under POT-02 project Noise level slightly exceeds the standards required by National Regulations and World Health Organization (IFC/WHO),1999, and therefore additional measures required is provided in Table 15 below (Please see table Recommendations to Address Environmental Issues under POT-01, POT-02 and JVA-01 sub-projects). IFC/WHO standards for Noise and Air pollution are presented in Tables 9 and 10 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:30 pm to 14:30 pm.

**Table 11: Environmental Quality Measurement Data, POT-01**

Sampling Place coordinates	Noise dB	Dust mg/m <sup>3</sup>	Sulfur Dioxide SO <sub>2</sub> mg/m <sup>3</sup>	Nitrogen Dioxide NO <sub>2</sub> mg/m <sup>3</sup>	Carbon Oxide CO mg/m <sup>3</sup>
Poti X 42.232930* Y 41.637544*	55.2	0.052	<0.1	0.003	0.55

59. Monitoring measurements under ZUG-01 and JVA-01 project for noise level and ambient air quality was conducted by contractor in December 2018 (See Table 12 and table 13 below and Annex A). Location and data are included in these tables below. The next monitoring measurements will be conducted in March 2019 and results will be reflected in the next January-June EMR 2019.
60. According to data received in December 2018 noise level exceed the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Zugdidi and Jvari (Kostava street in Zugdidi and Tsereteli, Kostava and Dgebuadze Streets in Jvari) and therefore additional mitigation measures are required (Please see Table15: Recommendations to Address Environmental Issues under POT-01, POT-02 and JVA-01 sub-projects). IFC/WHO standards for Noise and Air pollution are presented in Tables 9 and 10 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 13:30pm to 17:30pm and no complaints were received from the local population about the noise during the reporting period.

**Table 12:** Environmental Quality Measurements Data, ZUG-01

Plaice of measurement	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>		<sup>1</sup> Noise db		Radiation mR/h		Vibro-acceleration m/sek	
	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result
Zug-01														
Rustaveli Street 42°30'23.52" N 41°51'16.18" E	0.5	PM10-0.21 PM25-0.33	5.0	1.3	0.2	0.02	0.5	≥ 0.1	70	56.6	30	12	4.0	2.4
Kostava street 42°30'22.36" N 41°52'8.93" E		PM10-0.07 PM25-0.17		1.7		0.03		≥ 0.1		60.3		10		2.1

**Table 13:** Environmental Quality Measurements Data, JVA-01

Plaice of measurement	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 db		Radiation mR/h		Vibro-acceleration m/sek	
	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result
JVA-01														

<sup>1</sup> Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 9 and 10 above.

Plaice of measurement	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 db		Radiation mR/h		Vibro-acceleration m/sek	
Tsereteli Street 42°43'26.89" N 42°2'21.84" E	0.5	PM10-0.21 PM25-0.30	5.0	1.1	0.2		0.5	≥ 0.1	55	57.6	30	<b>9</b>	4.0	3.1
Kostava street 42°43'22.89" N 42°2'27.78" E		PM10-0.09 PM25-0.12		1.2		0.03		≥ 0.1		61.3		<b>12</b>		2.4
Dgebuadze Street 42°43'24.55" N 42°2'14.14" E		PM10-0.13 PM25-0.24		1.2		0.04		≥ 0.1		59.3		<b>10</b>		2.4

## **4.2 Trends**

- 61.** All mitigation measures identified within the ZUG-01, POT-01, POT-02 and JVA-01 projects are effective and no additional measures are required.

## **4.3 Summary of Monitoring Outcomes**

- 62.** Noise level during the construction period under JVA-01, POT-01 and ZUG-01 sub-project exceed the existing standards of IFC/WHO and therefore additional mitigations are required by contractor only for JVA-01 and POT-01 project, as all construction activities under ZUG-01 is completed. These mitigations are provided in table 15 below. SC and UWSCG/USIIP will monitor the improvements under JVA-01 and POT-01 sub-project and reflect findings in the next Semi-annual EMR in January-June 2019.

## **4.4 Material Resources Utilisation**

### **4.4.1 Current Period**

- 63.** Despite the request from UWSCG to contractors and the supervision consultant to provide information in accordance with the requirements of the new Semi-annual EMR format, the contractor did not provide any information on the cumulative use of water resources, electricity, etc. The UWSCG will hold additional meetings with the contractors and SC to provide the necessary information, and this information will be presented in the next Semi-annual EMR in January-June 2019.

### **4.4.2 Cumulative Resource Utilisation**

N/A

## **4.5 Waste Management (POT-01, POT-02, JVA-01, ZUG-01)**

- 64.** Despite numerous requests from UWSCG / USIIP to contractors and SC / Safege to provide information on the amount of waste generated during the reporting period, the contractor did not provide any information on this issue. UWSCG will hold additional meetings / trainings with contractors and SC to obtain the requested information in accordance with the new manual developed by ADB. The improvement will be described in the next semi-annual EMR in January-June 2019.
- 65.** At the construction sites there are mainly produced household, construction (inert, surplus soil) and hazardous waste. Despite the request from UWSCG to contractors and SC to provide quantity of produced waste during the construction in accordance with the requirements of the new Semi-annual EMR format, the contractor did not provide any information on this issue.
- 66.** Mainly household waste is collected in municipal containers which are served by the local cleaning service. There is need of routine organization and cleaning of sites. Contractors

always have separate containers for household and hazardous waste with proper labelling at the construction site.

67. 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.
68. 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".
69. Hazardous waste (lubricant residues and etc) are stored according to all the safety norms. In the case of formation such kind of waste, contractor has to write to the management of the municipality or the company who is licensed to recycle/decontaminate such kind of waste. Also contractors have special container with proper labelling at the construction site.

## 4.6 Health and Safety

### 4.6.1 Community Health and Safety

70. No community incidents have been reported to SC during reporting period under ZUG-01, POT-01, POT-02 and JVA-01 sub-projects.

### 4.6.2 Worker Safety and Health

#### JVA-01

71. Environmental H&S Manager of JVA-01 project Mr. Nodar Usupishvili was performing every day monitoring, induction and supervision of ongoing works according to HSE standards and by requirements of ADB/UWSCG/SAFEGE and providing relevant reports on a regular basis taking into account any recommendations given by SC/UWSCG engineers.
72. Health & safety and environment issues which were covered during the reporting period are as follows:
  - PPE;
  - Ground works;
  - Manual works;
  - Upgrade Safety Hard and Warning Barricade
73. Contractor under JVA-01 project was working on compilation of statistics information (incidents, near misses, trainings) during reporting period. No workers incidents have been reported during reporting period under JVA-01 project.
74. The following Near Misses were reported by SC under JVA-01 project, which may be resulted in Workers' Health and Safety problems:
  - Despite all warnings, site instructions and numerous letters, the Contractor's staff still avoid wearing PPE especially safety shoes.

- Single row of plastic security tape acting as a fence which is inadequate and ineffective. In addition, no night warning lamps are being used for the open trenches.
  - There are not enough signage relating to the Work.
  - The Contractor should erect secure robust safety barriers around all open excavations.
- 75.** During the reporting period, within the framework of the Pot-01 subproject, no incidents with workers were registered, since the main construction work included only the washing of sewage pipes. Notwithstanding the above, SC and UWSCG / USIIP reported that their H&S manager would continue to carry out the necessary H&S training.
- 76.** No near-misses were reported under ZUG-01 and POT-02 as well, as there were no construction work carried out during the reporting period.

#### **4.7 Training**

- 77.** Routine personnel trainings and toolbox talks happen by the construction companies almost on daily basis under JVA-01 sub-projects. The recording of such toolbox talks are available at the sites. SC also provides routine instructions and verbal trainings for Construction Company environmental and H&S officers. Statistics of routine toolbox talks will be communicated by the construction companies during next reporting period.

## 5 FUNCTIONING OF THE SEMP

### 5.1 SEMP Review

78. All SSEMPs under ZUG-01, POT-01, POT-02 and JVA-01 projects were prepared by Contractor, endorsed by SC and approved by UWSCG and reviewed/commented by the RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketu Dgebuadze.
79. Location Specific Environmental Management Plan under JVA-01 project was prepared for Lia well fields within the reporting period (July 2018). The Location Specific EMP was prepared by Contractor, endorsed by SC, reviewed/commented by the RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketu Dgebuadze and reviewed/ approved by UWSCG in July 2018.
80. SSEMPs prepared by contractors, within the framework of ZUG-01, POT-01, POT-02 and JVA-01 sub-projects during the current and previous reporting periods are presented in table 14 below.

**Table 14:** SSEMPs Prepared under ZUG-01, POT-01, POT-02 and JVA-01 Sub-projects

No	Project/Site	Date of Approval
1	ZUG-01 – Ingiri Well fields and Pumping Station	March 2016
2	ZUG-01 – Bashi Reservoir	January 2016
3	Pot-02/Poti WWTP	31 May 2018
4	Jvari-01/Lia Well Fields	July 2018

81. All of the SSEMPs listed above are effective, mitigation measures are still relevant, no changes are required.



**6 GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT**

**6.1 Good Practice**

**82.** N/A

**6.2 Opportunities for Improvement**

**83.** N/A

## **7 SUMMARY AND RECOMMENDATIONS**

### **7.1 Summary**

- 84.** During the reported period construction activities were implemented only under Pot-01 and JVA-01 sub-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 Safège and UWSCG/USIIP on a regular basis.
- 85.** Day-to-day monitoring of the construction sites were carried out by the environmental Specialists of Contractor, monthly monitoring reports were developed and sent to Supervision Consultant.
- 86.** Environmental Monitoring Specialist of Safège, Mr. Shalva Bosikashvili conducted monthly monitoring of project sites under T4 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.
- 87.** The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under ZUG-01, POT-01, POT-02 and JVA-01 sub-projects.
- 88.** Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMPs, 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.
- 89.** Also unscheduled monitoring visits were carried out and Non-Conformance Notice has been issued to the contractor by the environmental specialist of UWSCG/USIIP if needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.
- 90.** 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.
- 91.** Necessary instructions have been given to the Contractor by UWSCG and SC to follow the EMP's and SSEMP's requirements for ZUG-01, POT-01, POT-02 and JVA-01 sub-projects.

### **7.2 Recommendations**

- 92.** During the reporting period, from July to December 2018, the T4 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.
- 93.** More detailed recommendations for the implementation of T4 during the next reporting period January-June 2019 are provided in the table 15 below:

**Table 15:** Recommendations to Address Environmental Issues under POT-01, POT-02 and JVA-01 sub-projects

Recommendations POT-01, POT-02 and JVA-01 projects	
Recommendations POT-01	Implementation status and date
<b>Poti Network</b>	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the January 2019:</p> <p>Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance;</p> <p>Noisy construction activities will be avoided during night time;</p> <p>All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions;</p> <p>Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)</p> <p>Install noise barriers (e.g., panels, curtains, or partitions)</p>

Recommendations POT-01, POT-02 and JVA-01 projects	
	<p>to reduce the emission of engine noise.</p> <p>Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.</p>
JVA-01	
<p>All workers should wear PPE especially safety shoes.</p> <p>There are not enough signage relating to the Work.</p> <p>The Contractor should erect secure robust safety barriers around all open excavations.</p> <p>Safety signs/tapes around of all open trenches should be installed to avoid accident of population</p>	<p>Contractor is given strong instruction to improve the situation, develop CAP (if requested) and send improved photos of Site to SC and UWSCG by the end of January 2019.</p>
<p>Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).</p>	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the January 2019:</p> <p>Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance;</p> <p>Noisy construction activities will be avoided during night time;</p> <p>All construction equipment and vehicles shall be well maintained, regularly</p>

Recommendations POT-01, POT-02 and JVA-01 projects	
	<p>inspected for noise emissions;</p> <p>Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)</p> <p>Install noise barriers (e.g., panels, curtains, or partitions) to reduce the emission of engine noise.</p> <p>Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.</p>
POT-02/Network	
To ensure the final disposal of sludge formed during the cleaning and washing of old sewer pipes in Poti.	In January 2019, the UWSCG sent a letter and laboratory analysis of the composition of sludge to the MoEPA for final approval on sludge disposal at the non-hazardous waste landfill and waiting for final decision by mid-February 2019.
CC to improve track record system and add IEE, Accident Record Log (with recorded near misses), measurement data and records of all trainings. CC to finalize disposal of cut trees from the camp site, certain part of cut trees have to be disposed by UWSCG service center till 30 <sup>th</sup> of October 2018.	<p><b>Partially Completed</b></p> <p>Will be improved by the end of January 2019</p>

**Recommendations POT-01, POT-02 and JVA-01 projects**

<p>CC have to establish overall Accident Record Log with recorded accidents and near misses.</p>	<p><b>Not Completed</b></p> <p>Will be established by the end of January 2019</p>
<p>Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).</p>	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures:</p> <p>Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance;</p> <p>Noisy construction activities will be avoided during night time;</p> <p>All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions;</p> <p>Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)</p> <p>Install noise barriers (e.g., panels, curtains, or partitions)</p>

Recommendations POT-01, POT-02 and JVA-01 projects	
	<p>to reduce the emission of engine noise.</p> <p>Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.</p>

- 94. Conduct Post-Construction Environmental Audit by the March 2019 for ZUG-01 project and reflect findings of the audit in the next Semi-Annual EMR of January-June 2019.
- 95. Conduct monitoring of Ambient Noise and Air quality under POT-01 project at the nearest sensitive receptors in May 2019.

**Table 14:** The Specific Plan for Environmental Measurement under POT-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

- 96. Conduct monitoring of Noise and Ambient Air quality under POT-02 project near the sensitive receptors of Construction sites in May 2019.

**Table 15:** The Specific Plan for Environmental Measurement under POT-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

97. Conduct monitoring of Noise and Ambient Air quality under JVA-01 project at the nearest sensitive receptors of Construction sites in May 2019.

**Table 16:** The Specific Plan for Environmental Measurement under JVA-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



# ANNEX A: Environmental Monitoring Data of Noise and Ambient Air Quality Pot-01

საგარეო გარემოს დაცვის და ბუნებრივი რესურსების დაცვის სამსახური  
 MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES PROTECTION OF GEORGIA

 **საგარეო გარემოს დაცვის და ბუნებრივი რესურსების დაცვის სამსახური**  
 NATIONAL ENVIRONMENTAL AGENCY

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№ 12/1-642 27 09 2018

**მას "ლუდვიგ ბეილიერ პოტ უფე ტოიხენიუ და კო.ჯე"-ის წარმომადგენლებს სერტიფიკატი-ს დამატებითი ქ-მ შედეგის მიხედვით**

**კატეგორია შედეგი**

საგარეო ჰაერისა და მუდმივი რაუნების დაცვის სამსახურის სასაბაჟო-კარბონი პროექტზე "საგარეო" და მას "ლუდვიგ ბეილიერ პოტ უფე ტოიხენიუ და კო.ჯე"-ის წარმომადგენლებს სერტიფიკატი-ს მიხედვით 2017 წლის 25 მარტს გაფორმებული ფაქტობრივი მონაცემების შესახებ გე-3-416 ხელშეკრულების თანახმად. კატეგორია ქ-მ შედეგის და და ქ ფაქტობრივი მონაცემები აღნიშნული სერვის ხარისხით - ხსენების სამსახურის დოკუმენტის, ანგარიშის დოკუმენტის, მტკიცების და გარემოს დაცვის დოკუმენტის შესრულების კატეგორია შედეგის.

**პროცედურა**



საგარეო გარემოს დაცვის და ბუნებრივი რესურსების დაცვის სამსახური **თამარ ზაგარეია**

ს. გარემოს დაცვის და ბუნებრივი რესურსების დაცვის სამსახური  
 100 9, აკაკი ერისთავის ქ. 0100, თბილისი

**Concentration of harmful substances in atmospheric.**

Sample place Coordinates	Noise DB	Dust mg/m <sup>3</sup>	Sulfur dioxide SO <sub>2</sub> mg/m <sup>3</sup>	Nitrogen dioxide NO <sub>2</sub> mg/m <sup>3</sup>	Carbon oxide CO mg/m <sup>3</sup>
<b>Poti</b> X 42.232930° Y 41.637944°	56.2	0.052	<0.1	0.003	0.56
<b>Zugdidi</b> X 42.492082° Y 41.842830°	59.1	0.068	<0.1	0.003	0.56

**Executors:**  
 Main specialist  
 Main specialist  
 specialist

**Agreed:**  
 Head Environmental Pollution Monitoring Department /  **თამარ ზაგარეია**

O. Keria   
 G. Khachidze  
 G. Mognidze

M. Arabidze

## Environmental Monitoring Data of Noise and Ambient Air Quality Zug-01, Jva-01



# "AS Inshaat-N" LLC

24,300 Aragvold Str.0144, Tbilisi Georgia, SOCAR representative office in Georgia  
4<sup>th</sup> Floor Room516 E-mail : [engineering@asinshaat-n.az](mailto:engineering@asinshaat-n.az) Phone: +995 577 779905

**TO: SAFEGE Consulting Engineering/ Engineering Solution**  
Attn: Mr. Victor Hruska, Mr. Stephen BAYLEY

**COPY TO: UWSCG**  
Attn: Mrs. Tinatin Lebanidze

**Our Reference: ZUG-01- ASIN-LT-18-0488**

**Date: 09 / August / 2018**

Contact: Faiq Nazarov

Phone: +995 577 77 99 12

E-mail: [faiqnazar@asinshaat-n.az](mailto:faiqnazar@asinshaat-n.az)

**RE: ZUGDIDI WATER SUPPLY PROJECT;**

**Submission of Contractual Periodic Environmental Monitoring Measurements Report**

Dear Sirs,

Contractor kindly submits contractual periodic Environmental Monitoring Measurements Report for your information. The report prepared for Contractor's both Projects: ZUG-01 and JVA-01. Please consider only ZUG-01 Part of the report.

We are kindly informing for your attention and necessary action.

Sincerely Yours,

Faiq NAZAROV

Contractor's Representative  
Project Manager

*The Hard Copy of Letter and Its Attachments Is Going to Be Submitted to Engineer's ZUG-01 Site Office for Resident Engineer's Review and Evaluation, Based on Contractual Requirements.*

**Attachment:** Contractual Periodic Environmental Monitoring Measurements Report

**Zugdidi and Jvari Water Supply Project**  
**Environmental Monitoring Measurements under Projects:**  
**ZUG-01 & JVA-01**

**July-August 2018**

**1. Introduction**

It is proposed to improve the water supply system in Zugdidi and Jvari under the Asian Development Bank (ADB) funded Urban Services Improvement Investment Program. This Investment Program, implemented in seven towns, will develop the water and sanitation services, which will improve quality of life and optimize the social and economic development.

Zugdidi, situated 258 km west of Tbilisi, the capital of Georgia and 30 km of Black sea coast, is the administrative center of the Samegrelo-Zeda Svaneti Region. UWSCG's Zugdidi Service Centre operates the water supply system in Zugdidi City and a number of outlying small towns and villages including Jvari.

The Zugdidi water supply sub-project involves the development of a new well field in Inghiri, south of Zugdidi, the construction of transmission mains, of one pumping station, of one reservoir and of the distribution network.

**2. Regulatory Requirements**

The environmental quality standards on the territory of Georgia are regulated by Decree No 287N of August 16, 2001 of the Minister of Labor, Health and Social Affairs of Georgia "On the approval of the environmental quality standards" (State Registration Code 470.230.000.11.119.004.920).

The following amendments were made to the above-mentioned decree:

1. Decree No 38/N of February 24, 2003 of the Minister of Labor, Health and Social Affairs of Georgia, SSM III, №16, 06.03.2002, Article 150
2. Decree No.251/N of the Minister of Labor, Health and Social Affairs of Georgia of September 15, 2006– SSMIII, №129, 20.09.2006, Article 1716
3. Decree No.351/N of the Minister of Labor, Health and Social Affairs of Georgia of December 17, 2007– SSMIII, №179, 18.12.2007, Article 1974
4. Decree No.304/N of the Minister of Labor, Health and Social Affairs of Georgia of September 18, 2009– SSMIII, №115, 22.09.2009, Article 1312
5. Decree No.98/N of the Minister of Labor, Health and Social Affairs of Georgia of April 14, 2010– SSMIII, №39, 14.04.2010, Article 622
6. Decree No.350/N of the Minister of Labor, Health and Social Affairs of Georgia of October 25, 2010 - SSMIII, №138, 26.10.2010, Article 2000
7. Decree No.01-24/N of the Minister of Labor, Health and Social Affairs of Georgia of May 17, 2012 – web-site, 17.05.2012

## 2. Description of the works to be accomplished

Under the agreement concluded between the Construction Contractor AS Inshaat-N LLC, and "Eco-Spectri" Ltd., the environmental quality analysis was accomplished at different points, in particular on the territory of Zugdidi (at Rustaveli and Kostava streets) and Jvari (Tsereteli, Gogebashvili and Dgebuadze streets), where the project construction works are in progress, the environmental quality analysis of the adjacent area was done.

## 4. Accomplished measurements and results

### 4.1 Noise and Vibration

The Construction Contractor carried out the construction works in near Rustaveli and Kostava streets. The trenches had been excavating at sites and the trenches were filled in some of them in the city Zugdidi and near the streets Tsereteli, Gogebashvili and Dgebuadze in Jvari.

In all cases, the noise level in the immediate vicinity of the techniques varies within 60-80 dB. However, the noise level sharply reduced after 20-25 m and was within 55-70 dB in the vicinity of the nearest buildings and premises.

As a rule, noise caused by moving equipment's is reduced at some distance. Such reduction has logarithmic properties. In case of noise caused by construction activities, noise spread pattern from the noise point is used, that can be determined as:  $\text{Noise level}_2 - \text{Noise level}_1 = 20 \log r_2/r_1$ , meaning that by doubling of distance noise is reduced by 6 dBA.

**Table 26: Noise levels**

Distance from noise source, m	Calculation level of the noise Average value - dBa	Calculation level of the noise Maximum value - dBa
10	80	90
20	74	84
40	68	78
80	62	72
160	56	66
320	50	60

### 4.4 Air quality values

The quality indicators of the following components measured in the project area: dust, CO, NO<sub>2</sub> and SO<sub>2</sub>.

The results of the accomplished quality measurements given in Annex 1 and Annex 2.

**Annex 1: Results of quality measurements in Zugdidi**

**Annex 1: Results of quality measurements in Zugdidi**

Place of measurement	Dust Mg/m <sup>3</sup>		CO Mg/m <sup>3</sup>		NO <sub>x</sub> Mg/m <sup>3</sup>		SO <sub>x</sub> Mg/m <sup>3</sup>		Noise db		Radiation mR/h		Vibro-acceleration m/s <sup>2</sup>	
	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result
Rustaveli street 42°30'23.52"N 41°51'16.18"E	0.5	PM <sub>10</sub> -0.21 PM <sub>2.5</sub> -0.03	5.0	1.3	0.1	0.02	6.5	≥ 0.1	70	56.6	30	12	4.0	2.4
Kostava street 42°30'22.36"N 41°52'8.93"E		PM <sub>10</sub> -0.07 PM <sub>2.5</sub> -0.17		1.7		0.03		≥ 0.1		50.3		10		2.1

Zarah Revazishvili  
Project Coordinator  
Ltd "Eco-Spectr"

*Z. Revazishvili*



**Annex 2 Results of quality measurements in Jvari**

**Annex 2 Results of quality measurements in Jvari**

Place of measurement	Dust Mg/m <sup>3</sup>		CO Mg/m <sup>3</sup>		NO <sub>x</sub> Mg/m <sup>3</sup>		SO <sub>x</sub> Mg/m <sup>3</sup>		Noise db		Radiation mR/h		Vibro-acceleration m/s <sup>2</sup>	
	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result
Tsereteli street 42°45'26.89"N 42° 2'21.84"E	0.5	PM <sub>10</sub> -0.21 PM <sub>2.5</sub> -0.31	5.0	1.1	0.2	0.02	6.5	≥ 0.1	70	57.6	30	9	4.0	3.1
Kostava street 42°45'22.89"N 42° 2'27.08"E		PM <sub>10</sub> -0.09 PM <sub>2.5</sub> -0.12		1.2		0.03		≥ 0.1		61.3		12		2.4
Dzhaladze street 42°45'24.95"N 42° 2'14.14"E		PM <sub>10</sub> -0.13 PM <sub>2.5</sub> -0.24		1.2		0.04		≥ 0.1		59.3		10		2.4

Zarah Revazishvili  
Project Coordinator  
Ltd "Eco-Spectr"

*Z. Revazishvili*



**Annex 3: Photos**

Photo 1: Noise near turn Rustaveli street (Zugdidi)



Photo 2; Dust near the kostava street (Zugdidi)



Photo 3: Dust near turn to Dgebuadze street (Jvari)



Photo 4: Vibration near turn to Tcereteli street (Jvari)



**ANNEX B: Project Photos**

**Construction of the Water Supply System in Zugdidi (ZUG-01)**

**ZUG-01: INGIRI Pumping Station**



**ZUG-01: Bashi reservoir**





POT-01: Poti Network



**JVA-01, Network**




**POT-02: WWTP Construction Site**



## **ANNEX C: Non-Conformance Notices**

### Major Non-Conformance Notice

<b>Project:</b> USIIP <b>Contract No:</b> ZUG-01 <b>Contractor:</b> AS Inshaat-N LLC (Azerbaijan) <b>Reference:</b> <b>Zugdidi– NETWORK</b>	<b>Non-compliance Notice Zugdidi</b>
<p>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>.</p> <p><b><u>NON-COMPLIANCE IN UREKI</u></b></p> <p><b>RESERVOIR IN LAITURI</b></p> <ul style="list-style-type: none"> <li>- Construction site should be properly fenced from all sides and equipped with proper warning sites</li> <li>- Construction territory should be lighted adequately during the night time</li> <li>- Proper information signs and protection equipment should be arranged at the entrance and perimeter of the site</li> </ul>	
	
<p>All these conditions have to be remedied immediately within 2 days by contractor, improvements should be monitored by SC Safage.</p>	
<p><b>Date of site visits:</b> 7.09.2018</p> <p>Kate Chomakhidze Environment Specialist of UWSCG/USIIP</p>	

**MONTHLY PROGRESS REPORT №:21  
DECEMBER 2018**

   				
		<p>UG stated that:</p> <ul style="list-style-type: none"> <li>• Despite all our warnings, site instructions and numerous letters, the Contractor's staff still avoid wearing PPE especially safety shoes.</li> <li>• Single row of plastic security tape acting as a fence which is inadequate and ineffective. In addition, no night warning lamps are being used for the open trenches.</li> <li>• There are not enough signage relating to the Work.</li> <li>• The Contractor should erect secure robust safety barriers around all open excavations.</li> <li>• Such a situation is absolutely unacceptable and the Contractor should remedy the above deficiencies as soon as possible.</li> </ul> <p>CC stated that they know the problems and they were trying to rehabilitate the conditions and increase the necessary signboards/warning lamps. In addition, CC advised that their H&amp;S Manager would continue giving necessary training on H&amp;S issues.</p>		