

# Semi-annual Environmental Monitoring Report

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*Project Number: 43405-026*

*Reporting Period: January-June 2019*

**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”

July 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 4 and describes the period of January-June 2019.
2. This report is the 7<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. 14% of non-conformances have not yet been resolved in the current reporting period compared to 28% of the previous reporting period July-December 2018.
4. All improvements under JVA-01, POT-01 and POT-02 projects will be recorded in the next EMR July-December 2019.

## 2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

### 2.1 Project Description

5. 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.
6. 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.
7. 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)
8. **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.
9. 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 period is till 10 January 2019.
10. **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.
11. **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 Pfeifer Hoch – and Tiefbau GmbH Co. 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.

- 12. 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.
- 13.** 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.
- 14. 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**

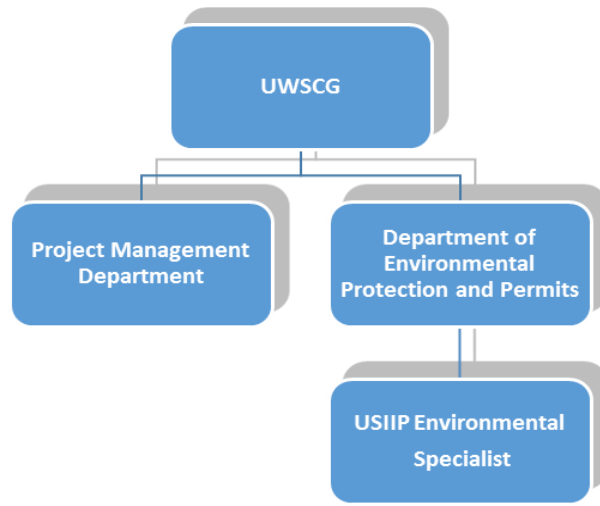
- 15.** The following agencies are involved in implementing the Investment program: Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for management, coordination and execution of all activities funded under the loan. MoRDI has overall responsibility for compliance with loan covenants.
- 16.** 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
- 17.** 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.
- 18.** 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.

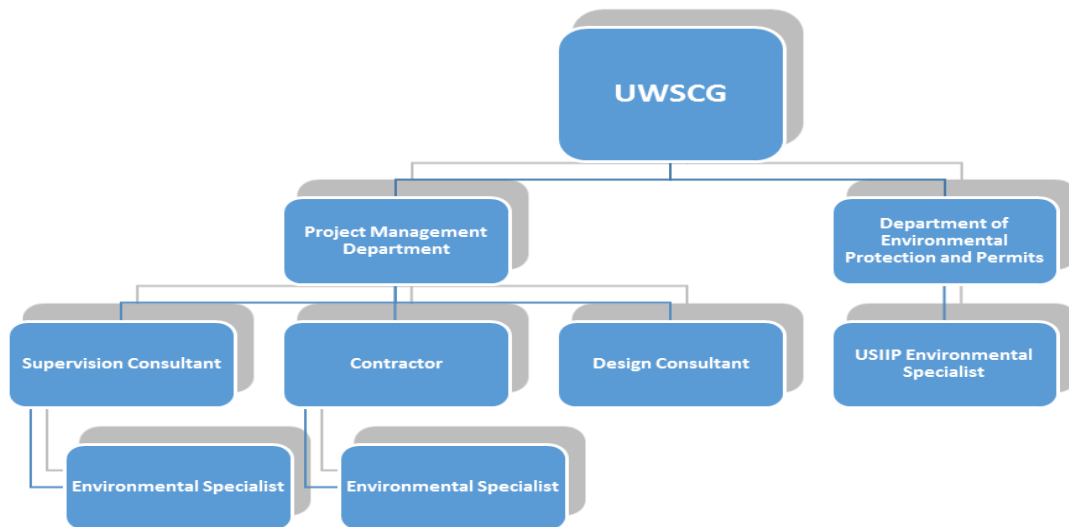
- 19.** All mitigation measures during construction are implemented respectively by the contractor companies: TAHAL, Pfeiffer, Aslnshaan-N. Each contractor company have Environmental and safety officers responsible for HSE issues during construction process. Construction companies are monitored by the supervision consultant (Safege) environmental specialist – ShalvaBosikashvili 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 Safegeprepares quarterly environmental reports and submits to UWSCG.
- 20.** 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.
- 21.** 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.
- 22.** 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.
- 23.** 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.
- 24.** 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.
- 25.** 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



26. 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. ShalvaBosikashvili Tel:+995 595116041 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. NodarUsupishvili 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.RevazKalandadze 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 Pfeifer Hoch – and Tiefbau GmbH7Co. KG (Germany)" and "EMIT  Group – ErcoleMarelliImpiantiTecnologiciS.r.l. (Italy)	Environmental Specialist H&S Specialist	Mr.NikolozNeparishvili Tel: +995 599 346 821 E-mail: <a href="mailto:niko@telenet.ge">niko@telenet.ge</a> <a href="mailto:nikoloz.nepharidze@ludwigpfeiffer.com">nikoloz.nepharidze@ludwigpfeiffer.com</a>
JVA-01	AS Inshaat-N LLC (Azerbaijan)	Environmental H&S Specialist	Mr. NodarUsupishvili 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

27. During the reported period construction activities were implemented only under Pot-01 and JVA-01 Project, therefore only these 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 during the Reporting Period under ZUG-01 sub-project is as follows:

**Table 2: ZUG-01, project progress during January-June 2019**

<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 January 2019- June 2019		Bashi existing reservoir demolished, 3 new reservoirs constructed. Ingiri Pump station, Reservoir, Chlorination building, Transformer Building and Operational building concrete work construction finished 100%. Backfilling of Reservoirs completed 98%.	
<b>Zug-01</b>		<b>Zugdidi Transmission Pipelines</b>	
Works undertaken during January 2019- June 2019		Executed January-June 2019. 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 %

Zug-01	Zugdidi Water Supply System Construction
	House Connections: (all house connections excluding water meters)
	Private houses: 15 300 unit 96%%
	Apartment blocks: 6000 unit 98 %
	Hydrants and Valves: 685 unit 97%
	Valves: 620 unit 100 %

Zug-01	Zugdidi Reservoirs & Pump Stations
Site	Bashi Reservoir
Works undertaken during January 2019-June 2019	Concrete works for 3 reservoir including chlorination station and distribution chamber are completed 100%. Backfilling of Reservoirs completed 98%.
Site	Ingiri Pumping Station
Works undertaken during January 2019-June 2019	Ingiri Pump station, Reservoir, Chlorination building, transformer building and Operational building concrete work construction finished 100%.
Works undertaken during January 2019-June 2019	Ingiri Well Field: Mobilization – 100% All 9 wells 100% Finished (Excluding pump installation)

## POT-02

28. During the reporting period no construction activities were carried out under the Pot-02 project. Only soil investigation for WWTP foundation was conducted. This situation will have influence on all further progress of the works.
29. The main activities under POT-02 during the reporting period of January-June 2019 is presented in the table 3 below:

**Table 3:** Project Progress during the January 2019,– June 2019  
**POT-02**

POTI	CONSTRUCTION of POTI WWTP
POTI 02	POTI 02

POTI	CONSTRUCTION of POTI WWTP
Works undertaken during January 2019-June 2019	For POT-02 Project was executed Soil Improvement with stone Columns, from 1884 Columns was executed 100%.

### POT-01

30. The main activities under POT-01 project, carried out by contractor during the reporting period is provided in the table 4 below:

**Table 4:** POT-01, project progress during January-June 2019

POTI	CONSTRUCTION of POTI SEWAGE SYSTEM
POTI	<b>POTI Pressure Pipe</b>
Works undertaken during January 2019-June 2019	Executed July 2018 – December 2018. Total Completed %:
	OD 110 PE - 3603m 86.3%
	OD 140 PE - 2708m 81.4%
	OD 315 PE- 935m 58%
	OD 355 PE- 4272m 61.7%
	OD 400 PE - 6580m 56.6%
	OD 630 PE - 694m 75.2%
	 <b>POTI GRAVITY PIPE</b>
	DN 150 – 37500m 0%
	DN 200 – 57000m 1.5%
	DN 300 – 38000m 4%
	DN 400 – 1643m 1.9%
	 <b>Total Contract Quantity 182000m - 7.5%</b>
	 <b>Manholes:</b>
	Concrete DN 1000 – 1440 pcs - 3%
	HDPE DN 600 - 1300 pcs - 2%

31. Construction progress during the reporting period under JVA-01 project (January-June 2019) is provided in the table 5 below.

**Table 5:** JVA-01 Project Progress during the January-June 2019

Jvari	Jvari Water Supply System Construction																																																			
Sites	Jvari Water Pipeline Network																																																			
Jvari	Jvari Transmission Pipelines																																																			
Works undertaken during January 2019-June 2019	<p>Executed July 2018 – December 2018. Total Completed %:</p> <table> <tr> <td>OD 63 PE SDR 11 -</td> <td>1175m</td> <td>100 %</td> </tr> <tr> <td>OD 90 PE SDR 11 –</td> <td>2131m</td> <td>100 %</td> </tr> <tr> <td>OD 110 PE SDR 11 –</td> <td>8592m</td> <td>100 %</td> </tr> <tr> <td>OD 140 PE SDR 11-</td> <td>4808m</td> <td>100%</td> </tr> <tr> <td>OD 160 PE SDR 11 -</td> <td>186 m</td> <td>0 %</td> </tr> <tr> <td>OD 200 PE SDR 11-</td> <td>168m</td> <td>0 %</td> </tr> <tr> <td>OD 40 PE SDR 17 -</td> <td>34m</td> <td>0%</td> </tr> <tr> <td>OD 50 PE SDR 17 -</td> <td>9m</td> <td>0%</td> </tr> <tr> <td>OD 63 PE SDR 17 -</td> <td>2395m</td> <td>100%</td> </tr> <tr> <td>OD 75 PE SDR 17 -</td> <td>578m</td> <td>100 %</td> </tr> <tr> <td>OD 90 PE SDR 17 -</td> <td>2022m</td> <td>100%</td> </tr> <tr> <td>OD 110 PE SDR 17 -</td> <td>18514m</td> <td>100%</td> </tr> <tr> <td>OD 140 PE SDR 17 -</td> <td>211m</td> <td>100%</td> </tr> <tr> <td>OD 160 PE SDR 17 -</td> <td>5904m</td> <td>100%</td> </tr> <tr> <td>OD 200 PE SDR 17 -</td> <td>2194m</td> <td>100%</td> </tr> </table> <p>Total Contract Quantity – 48 918m - 98 %</p> <p><b>House Connections:</b></p> <table> <tr> <td>Private houses:</td> <td>821 unit</td> <td>97 %</td> </tr> <tr> <td>Apartment blocks:</td> <td>1300 unit</td> <td>95 %</td> </tr> </table> <p><b>Lia Well Field:</b>  Mobilization – 100%  All 8 wells 100% Finished Drilling (7 wells are equipped with Screens and Filters).</p>	OD 63 PE SDR 11 -	1175m	100 %	OD 90 PE SDR 11 –	2131m	100 %	OD 110 PE SDR 11 –	8592m	100 %	OD 140 PE SDR 11-	4808m	100%	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	100%	OD 75 PE SDR 17 -	578m	100 %	OD 90 PE SDR 17 -	2022m	100%	OD 110 PE SDR 17 -	18514m	100%	OD 140 PE SDR 17 -	211m	100%	OD 160 PE SDR 17 -	5904m	100%	OD 200 PE SDR 17 -	2194m	100%	Private houses:	821 unit	97 %	Apartment blocks:	1300 unit	95 %
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#### 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

32. 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.
33. 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.
34. Environmental Monitoring Specialist hired under the ZUG-01 and JVA-01 sub-projects Mr. Nodar Usupishvili conducted the day-to-day monitoring of the construction sites, developed monthly monitoring reports and submitted to SC/Safege.
35. 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.
36. Environmental Monitoring Specialist of Safege, Mr. Shalva Bosikashvili conducted monthly monitoring of project sites under T4 and developed Non-Conformance Notices where required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
37. 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. 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.
38. 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 6:** 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 Mg/m <sup>3</sup> ; NO <sub>2</sub> Mg/m <sup>3</sup> ; SO <sub>2</sub> Mg/m <sup>3</sup>



Parameters	Frequency & Location	Remarks
Noise	Every 6 months Lia Well Fields, Networks, Transmission Main	<p>Ensure that all equipment &amp; vehicles used for construction activity are in good condition</p> <p>Limiting working hours to 8 am – 6 pm</p>
Impact on Flora and Fauna	Monthly during the site Inspection and audit	<p>Avoid tree cutting</p> <p>In unavoidable cases, plant four trees of same species for each tree that is cut for construction</p>
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	<p>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.</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>
<b>POT-01</b>		
Air Quality	Every 6 months across the sewerage network	<p>Watering site during excavation works to avoid dust spreading</p> <p>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></p>
Noise	Every 6 months Reservoir #1, Sewerage Network	<p>Ensure that all equipment &amp; vehicles used for construction activity are in good condition</p> <p>Limiting working hours to 8 am – 6 pm</p>

Parameters	Frequency & Location	Remarks
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	<p>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.</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>
<b>POT-02</b>		
Air Quality	Every 6 months Waste Water Treatment Plant construction site	<p>Watering site during excavation works to avoid dust spreading</p> <p>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></p>
Noise	Every 6 months Waste Water Treatment Plant construction site	<p>Ensure that all equipment &amp; vehicles used for construction activity are in good condition</p> <p>Limiting working hours to 8 am – 6 pm</p>
Impact on Flora and Fauna	Monthly during the site monitoring.	<p>Avoid tree cutting</p> <p>In unavoidable cases, plant four trees of same species for each tree that is cut for construction</p>
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	<p>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</p>

Parameters	Frequency & Location	Remarks
		<p>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

39. Regular inspection and monitoring of construction sites were conducted only under POT-01 and JVA-01 sub-projects by ESs of UWSCG/USIIP and Safege. Quarterly monitoring were carried out under POT-02 and ZUG-01 sub-projects. 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 7 below.

**Table 7.** 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 HSE requirements	1. Poor housekeeping  2. Safety issues on construction sites	Monthly Monitoring Reports
10 February		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of CC Mr. Nodar Usupishvili  Environmental Specialist of USIIP	Monthly Monitoring Reports	Jvari Network  Walls of the deep trenches (>1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage) All transmission line construction	Verbal Instruction were given to Contractor and Non-Compliance Notice was issued by USIIP Environmental Consultant

Date of Visit	Name of Company  Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report
		Ms. Ketevan Chomakhidze		<p>segments should be cleaned/well organized on regular bases</p> <p>Trench construction shall be taken up in small segments, so that work (excavation, pipe laying and refilling) in each segment is completed in a day.</p> <p>No trenches shall be kept open in the night/after workhours</p> <p>Providing wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required</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/water contamination</p> <p>Jvari Camp</p> <p>All construction materials should be properly segregated, stored adequately (far from the water course).</p> <p>Containers with fuel/lubricant should</p>	(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>be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground/water contamination.</p> <p>Jvari Reservoir</p> <p>Waste containers should be placed on a concrete base with proper roofing.</p>	
20 February 2019		<p>Environmental Specialist of SC Mr.Shalva Bosikashvili,</p> <p>Environmental Specialist of CC Mr.Nodar Usupishvili</p> <p>Environmental Specialist of USIIP Ms.Ketevan Chomakhidze</p> <p>RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketu Dgebuadze</p>	Compliance with EH&S requirements	<p>SC to employ national H&amp;S officer to provide the supervision of the Contractor and their safety team – Q2, 2019. Not completed</p> <p>CC to sign agreement with licensed company for disposal of hazardous waste. Completed</p> <p>CC to perform the next parametric measurements of air, noise, vibration, water on a quarterly basis according to IEE/EMP and ADB</p>	Mission's Note prepared and send to UWSCG by Ms. Ketu Dgebuadze, RETA Regional Environmental Consultant of ADB under RETA 8663

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>requirements - in Mar 2019. Completed</p> <p>CC H&amp;S Officer to prepare log book for fixing accidents and near misses and kept at camp site. Completed</p> <p>Grievance box to be placed at camp site and GRM log book to be prepared and kept at camp site by CC – Q1 2019. Completed</p> <p>CC to improve arrangement of hazardous waste storage area – Q2 2019. Completed</p> <p>CC to install safety barriers around the opened reservoirs perimeter – Q1-Q2 2019. Completed</p> <p>CC to install temporary gate at the entrance of the reservoir rehabilitation area and information signs - Q1-Q2 2019. Completed</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
18 April 2019		Environmental Specialist of SC Mr. Shalva Bosikashvili,  Environmental Specialist of CC Mr. Nodar Usupishvili	Compliance with EH&S requirements	Poor housekeeping  All construction materials should be properly segregated, stored adequately (far from the water course)	EH&S Monitoring Reports Prepared by SC
23-24 May 2019		Environmental Specialist of SC Mr. Shalva Bosikashvili,	Monthly monitoring of sites	All transmission line construction segments should be cleaned/well organized on regular bases	Verbal instruction was given to consultant to improve the situation
Continuously during reporting period (July-December 2018)  11 February 2019	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  Site internally should be clean and organized	Monthly Monitoring Reports
		Environmental specialists of USIIP Ms. Ketevan Chomakhidze	Quarterly monitoring of sites	Site internally should be clean and organized	Quarterly Monitoring Reports of 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 monitoring specialists of SC/Safege Mr.ShalvaBosikashvili			SAEMRs prepared by ES of USIIP
Continuously during reporting period (July-December 2018)	AS Inshaat-N LLC (Azerbaijan) <b>ZUG-01</b>	Environmental, H&S Specialist of Contractor Mr.NodarUsupishvili	Monitoring the proper fencing and lighting of open trenches at night in terms of their compliance with the community	Construction territory during the testing of water supply pipes on the main roads should be lighted adequately during the night time	Verbal Instruction was given to contractor
8 February 2019		Environmental Specialist of USIIP, Ms.Kate Chomakhidze  Environmental monitoring specialists of SC/SafegeMr.ShalvaBosikashvili	H&S requirements.  Visual monitoring of reinstatement activities	Proper information signs and protection equipment should be arranged at the entrance and perimeter of the site	
11 February 2019		Environmental specialists of USIIP Ms.Ketevan Chomakhidze  Environmental monitoring specialists of SC/Safege - Mr.Shalva Bosikashvili	Visual audit of reinstatement activities	Proper reinstatement works should be carried out to restore the road surface in the center of the city of Zugdidi.	Verbal instructions were given to SC and the contractor to immediately start reinstatement activities.
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	Poor housekeeping	Monthly Monitoring Reports



Date of Visit	Name of Company  Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report
11 February 2019		Environmental Specialist of SC Mr.ShalvaBosikashvili,  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
19 April 2019		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
23-24 May 2019		Environmental Specialist of SC Mr.Shalva Bosikashvili,  Environmental Specialist of CC Mr.Nodar Usupishvili  Environmental Specialist of USIIP  Ms.Ketevan Chomakhidze	Monthly Monitoring report	Walls of the deep trenches (>1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage) Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident	Non-Compliance Notice was issued to contractor (Please see Annex C)  Explanatory Note was prepared and send to SC to immediately

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>Surplus waste soil should be removed and disposed in a proper place</p> <p>All transmission line construction segments should be cleaned/well organized on regular bases</p> <p>Construction activities information signs should be installed at each construction segment</p> <p>Trees of nearby construction zone should be protected to avoid its damage</p> <p>Provide adequate lighting to avoid accidents</p> <p>Trench construction shall be taken up in small segments, so that work (excavation, pipe laying and refilling) in each segment is completed in a day.</p> <p>No trenches shall be kept open in the night/after workhours</p> <p>Informing all residents and businesses about the nature and duration of any work well in advance so that they can make necessary</p>	<p>improve the situation</p> <p>Completed</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>preparations if needed</p> <p>Providing wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required</p> <p>Increasing workforce to complete the work in minimum time</p> <p>Schedule construction activities on the narrow streets of Poti with local Municipality and locate entry and exit points in construction areas</p> <p>Asbestos Pipes Mitigation Measures</p> <p>Construction company staff should be trained properly;</p> <p>The company environmental specialist has to work out special procedure and later it should be provided to Water Company and it will be implemented during excavation works of trenches - in case of existence of asbestos pipes.</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>In case of asbestos pipes excavator should stop works and excavation should be continued manually.</p> <p>In case of damage of asbestos pipes construction works should be stopped. Environmental specialist should fix the fact and should make official record on it.</p> <p>Only after issuance of special permit construction works can be continued.</p> <p>Flagman is also required to control the movement of the Excavator on site to help vehicles move safely in their work areas, and help the drivers &amp; operators avoid hazards and the potential of hitting people and other equipment.</p> <p>Safe distance from rotating equipment &amp; excavation edges, giving Signals.</p> <p>Provide H&amp;S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and</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
				preventing injuring to fellow workers; Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure no worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day. Ensure hearing protection provided.	

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

40. Non-Conformances have been observed during the site visits under JVA-01 and POT-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.
41. A summary of the identified environmental issues under ZUG-01, POT-01 and JVA-01 sub-projects for January-June 2019 is presented in table 7,8 and 9 below.

**Table 7:** Summary of Issues Tracking Activity for Current Period – ZUG-01

<b>Total Number of Issues for Project</b>	<b>3</b>
<b>Issues Opened This Reporting Period</b>	<b>1</b>
<b>Issues Closed This Reporting Period</b>	<b>2</b>
<b>Percentage Closed</b>	<b>67%</b>

**Table 8:** Summary of Issues Tracking Activity for Current Period – JVA-01

<b>Total Number of Issues for Project</b>	<b>21</b>
<b>Issues Opened This Reporting Period</b>	<b>4</b>
<b>Issues Closed This Reporting Period</b>	<b>17</b>
<b>Percentage Closed</b>	<b>81%</b>

**Table 9:** Summary of Issues Tracking Activity for Current Period – POT-01

**Summary Table POT-01**

<b>Total Number of Issues for Project</b>	<b>26</b>
<b>Issues Opened This Reporting Period</b>	<b>5</b>
<b>Issues Closed This Reporting Period</b>	<b>21</b>
<b>Percentage Closed</b>	<b>81%</b>

### 3.4 Trends

42. To identify trends in environmental issues, information from previous Semi-Annual EMR (July-December 2018) is used. The summary of the issues is provided in the table 8 below.

**Table 10:** 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>2 July-December 2018</b>	20	72%	28%
<b>1 January-June 2019</b>	50	76%	14%

43. 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

44. 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.
45. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 11 and 12 below.

**Table 11:** 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

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

**Table 12:** 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



47. Monitoring measurements of noise level and ambient air quality under POT-01 project was conducted by “Gergili” LLC in May 2019 (See Annex A). Location and data are included in the Table 13 and 14 below. The next monitoring measurements will be conducted in September 2019 and results will be reflected in the next July-December EMR 2019.
48. According to data received in May 2019 under POT-01 project Noise level exceeds the standards required by National Regulations and World Health Organization (IFC/WHO),1999, and therefore additional measures required is provided in Table 18 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 11 and 12 above. It should be noted also that measurements carried out at construction sites (at source), were temporary and conducted during the daytime from 12:30 pm to 14:30 pm.

**Table 13:** Environmental Quality Measurement Data (Noise, Vibration), POT-01

Measurement Point	Vibration Acceleration m/s <sup>2</sup>	Vibration Speed mm/s	Sound levels/Equivalent sound levels, dBA	
			Min	Max
#2 Queen Tamar Street	0.7	1.9	54.5	87.1
Ilia Chavchavadze Street	0.1	0.5	74.9	103.0
Paliashvili Street	0.3	0.7	47.8	78.4

**Table 14:** Environmental Quality Measurement Data (Air pollution), POT-01

Measurement Point	NO <sub>2</sub>	SO <sub>2</sub>	CO	Dust
#2 Queen Tamar Street	0.09	0.03	0.9	0.15
Ilia Chavchavadze Street	0.104	0.015	0.6	0.1
Paliashvili Street	0.06	0.011	0.7	0.1

49. Monitoring measurements of noise level and ambient air quality under POT-02 project was conducted by the National Environmental Agency under the MEPA in the WWTP construction area in 11 February 2019 (See Table 11 and Annex A). Location and data are included in the table below. The next monitoring measurements will be conducted in September 2019 and results will be reflected in the next July-December EMR 2019.

50. According to data received in February 2019 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 Table 11 and 12 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:00pm to 13:00pm and no complaints were received from the local population about the noise during the reporting period

**Table 15:** Monitoring Measurement of Noise and Air Quality, POT-02

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
1	Poti WWTP 0719295 4675729		0.074	0.14	0.002	<0.247	54.3

51. During the reporting period, no environmental quality measurements were carried out within the framework of the ZUG-01 project, since all major construction work was completed.

52. Monitoring measurement under JVA-01 project for noise level and ambient air quality was conducted by contractor in January 2019 (See Table 16 and Annex A). Location and data are included in these tables below. The next monitoring measurements will be conducted in September 2019 and results will be reflected in the next July-December EMR 2019.

53. According to data received in January 2019 noise level exceed the standards of the National Regulations and World Health Organization (IFC/WHO),1999 and therefore additional mitigation measures are required (Please see Table18: Recommendations to Address Environmental Issues under POT-01, Zug-01 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 13:00pm to 16:30pm and no complaints were received from the local population about the noise during the reporting period.

**Table 16:** 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-acclelation m/sek	
	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result	standard	result
JVA-01														
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
Kostavastreet 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

54. 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

55. 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

56. Despite the request from UWSCG to contractors under JVA-01 and POT-01 sub-projects to provide information about the material resources utilization, only TAHAL Group BV submitted requested information under POT-01 sub-project. The company's consumption of electricity from 1 January to 30 June 2019 is 19430 kW, Water - 860 M<sup>3</sup>.
57. UWSCG will hold additional discussions with contractors and SC under POT-01 and POT-02 sub-projects to obtain the requested information and reflect this improvements in the next semi-annual EMR in July-December 2019.

### 4.4.2 Cumulative Resource Utilisation

N/A

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

58. At the construction sites there are mainly produced household, construction (inert, surplus soil) and hazardous waste. 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. The amount of generated household waste under POT-01 sub-project during the reporting period is 900kg
59. 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".
60. Photo materials related to the waste management under T4 sub-projects are presented below. More photos of construction sites are presented in Annex B of this report as well.

Photo: Location of Waste Bins under JVA-01 Sub-project, Reservoir and CAMP Sites



#### 4.6 Health and Safety

##### 4.6.1 Community Health and Safety

61. 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

62. 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.
63. Health & safety and environment issues which were covered during the reporting period are as follows:
- PPE;
  - Groundworks;
  - Manual works;
  - Upgrade Safety Hard and Warning Barricade
64. 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.
65. 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.
66. During the reporting period, within the framework of the Pot-01 subproject, no incidents with workers were registered. Notwithstanding the above, SC and UWSCG / USIIP reported that their H&S manager would continue to carry out the necessary H&S training.
67. No near-misses were reported under ZUG-01 and POT-02 as well, as there were no construction works carried out during the reporting period.

## 4.7 Training

68. 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

69. 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. Ketil Dgebuadze.
70. Location Specific Environmental Management Plan under JVA-01 project was prepared for Lia well fields within the reporting period (July 2018).
71. 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 17 below.

**Table 17:** 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

72. 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**

**73.** N/A

**6.2 Opportunities for Improvement**

**74.** N/A



## **7 SUMMARY AND RECOMMENDATIONS**

### **7.1 Summary**

- 75.** 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.
- 76.** 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.
- 77.** 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.
- 78.** 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.
- 79.** 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.
- 80.** 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.
- 81.** 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.
- 82.** 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**

- 83.** 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.
- 84.** More detailed recommendations for the implementation of T4 during the next reporting period July-December 2019 are provided in the table 18 below:

**Table 18:** Recommendations to Address Environmental Issues under POT-01, POT-02 and JVA-01 sub-projects

Recommendations POT-01, JVA-01 and ZUG-01 sub-projects	
Recommendations POT-01	Implementation status and date
<b>Poti Network</b>	
<p>Walls of the deep trenches (&gt;1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage)</p> <p>Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident</p> <p>Providing wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required</p> <p>Surplus waste soil should be removed and disposed in a proper place</p> <p>Provide adequate lighting to avoid accidents, No trenches shall be kept open in the night/after work hours</p>	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the July 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 July 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, JVA-01 and ZUG-01 sub-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>
JVA-01	
<p>SC to employ national H&amp;S officer to provide the supervision of the Contractor and their safety team – Q2, 2019.</p>	<p>Additional consultations will be carried out with SC to hire H&amp;S officer</p> <p>August 2019</p>
<p>Walls of the deep trenches (&gt;1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage)</p> <p>Trench construction shall be taken up in small segments, so that work (excavation, pipe laying and refilling) in each segment is completed in a day, No trenches shall be kept open in the night/after workhours</p> <p>Providing wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required</p> <p>Containers with fuel/lubricant should be managed properly (stored at the proper organized place with</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 July 2019.</p>

**Recommendations POT-01, JVA-01 and ZUG-01 sub-projects**

<p>concrete floor and roofing) to avoid leakage and ground/water contamination</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 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</p>

Recommendations POT-01, JVA-01 and ZUG-01 sub-projects	
	schedule of construction activities and noise caused by the project activities.
ZUG-01	
Rehabilitation works of the road should be implemented in the center of Zugdidi	Rehabilitation work has already started, the results will be reflected in the next EMR July-December 2019

85. Conduct Post-Construction Environmental Audit by the September 2019 for ZUG-01 project and reflect findings of the audit in the next Semi-Annual EMR of July-December 2019.
86. Conduct monitoring of Ambient Noise and Air quality under POT-01 project at the nearest sensitive receptors in September 2019.

**Table 19:** The Specific Plan for Environmental Measurement under POT-01 Project

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

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

**Table 20:** The Specific Plan for Environmental Measurement under POT-01 Project

Parameters	Quarterly measurement
Dust	September 2019

Vibration	September 2019
Carbon monoxide	September 2019
Nitrogen dioxide	September 2019
Sulfur dioxide	September 2019
Noise	September 2019

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

**Table 21:** The Specific Plan for Environmental Measurement under JVA-01 Project

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

**ANNEX A: Environmental Monitoring Data of Noise and Ambient Air Quality Pot-02**

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



სსიპ გარემოს ეროვნული სააგენტო  
LEPL NATIONAL ENVIRONMENTAL AGENCY

N 12/1-183

05 03 2019

შპს "ლუდვიგ ჰვაიფერ ჰოხ უნდ ტიფბაუ და  
კო.კგ-ის წარმომადგენლობა საქართველოში"-ს  
დირექტორს ქ-ნ ჰელენ სპრინგერს

ქალბატონო ჰელენ,

საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროს სსიპ „გარემოს ეროვნულ სააგენტო“-სა და შპს "ლუდვიგ ჰვაიფერ ჰოხ უნდ ტიფბაუ და კო.კგ-ის წარმომადგენლობა საქართველოში"-ს შორის 2019 წლის 11 თებერვალს გაფორმებული ფასიანი მომსახურების შესახებ ფშ-3/107 ხელშეკრულების თანახმად, გაწვდით ქ. ზუგდიდსა და ქ. ფოთში, თქვენს მიერ მითითებულ ატმოსფერული ჰაერის ორ წერტილში - ხმაურის, ნახშირის დიოქსიდის, აზოტის დიოქსიდის, მტკვრისა და გოგირდის დიოქსიდის შემცველობის გაზომვის შედეგებს, ქართულ და ინგლისურ ენაზე.

დანართი: 2 გვ.

პატივისცემით,

სააგენტოს უფროსი



ანდრო ასლანიშვილი




შპს „ლუდვიგ პფაიფერ ჰობ უნდ ტიფბაუ და კოვგის წარმომადგენლობა საქართველოში“.

ატმოსფერული ჰაერის დაბინძურების და ხმაურის დონის გაზომვის შედეგები.

ხელშეკრულება ფმ-3/107 პასუხის დანართი

N	გაზო მვის ადგილი	კოორდინატები	დამაბინძურებელი ინგრედიენტების კონცენტრაცია მგ/მ <sup>3</sup>				ხმაურის ზეგონის დონე დბ
			მტვერი	ნახშირბადის მონოქსიდი	აზოტის დიოქსიდი	გოგირდის დიოქსიდი	
1	ქ. ფოთი	7519295 4675729	0.074	0.14	0.002	<0.247	54.3
2	ქ. ზუგდიდი	0734030 4708169	0.092	0.98	0.005	<0.247	51.4
მაქსიმალური ერთჯერადი კონცენტრაცია			0.5	5.0	0.2	0.5	

სამმართველოს უფროსი:

 გ. კარგარეთელი

მთ. სპეციალისტი:

 ს. ხაცავა

შეთანხმებულია:

დეპარტამენტის უფროსი



მ. არაბიძე



Ltd „Ludwig Pfeiffer Hoch and Tiefbau and Co. Representative in Georgia“.

Results of atmospheric air pollution and noise levels.

attachment

N	Measurement area	Measurement coordinates	Concentration of pollutant ingredients mg / m <sup>3</sup>				Noise sound level db
			Dust	Carbon monoxide	Nitrogen dioxide	Sulfur dioxide	
1	City Poti	0719295 4675729	0.074	0.14	0.002	<0.247	54.3
2	City Zugdidi	0734030 4708169	0.092	0.98	0.005	<0.247	51.4
Maximum allowable concentration			0.5	5.0	0.2	0.5	

Head of Division:

  
G. Kargareli

Chief Specialist:

  
S. Khatsava


Agreed:

Head of the Department

  
M. Arabidze



Environmental Monitoring Data of Noise and Ambient Air Quality Pot-01

		<b>Gergili LLC</b>			
<p>Project:</p> <p><b>Improvement of Poti Wastewater System Sub-project</b></p> <p><b>Air, Noise &amp; Vibration monitoring under project</b></p> <p><b>May 2019</b></p> <p>Prepared for:</p> <p><b>Tahal Group</b></p> <p>Prepared by:</p> <p><b>Gergili LLC</b></p> <p>Vajha-Pshavela Ave., III Block, Building 7, Apt.13., Tbilisi Georgia</p> <p>Mobile: +995 599 164469</p> <p>E-mail: <a href="mailto:info@gergili.ge">info@gergili.ge</a></p> <p>Website: <a href="http://www.gergili.ge">www.gergili.ge</a></p>					
A01	10-05-2019	Client Review & Approval	Gergili	Tahal	Tahal
<b>Rev</b>	<b>Date</b>	<b>Reason for Issue</b>	<b>Prepared by</b>	<b>Checked by</b>	<b>Approved by</b>
<b>Project Area</b>		Poti, Georgia	<b>Document Description</b>		
<b>Transfer Date</b>		10 May 2019	Improvement of Poti Wastewater System Sub-project Air, Noise & Vibration monitoring under project		
Project Code			Revision		
<b>GERG001</b>			<b>A01</b>		

## 1. Introduction

It is proposed to improve the wastewater system in Poti under the Asian Development Bank (ADB) funded Urban Services Improvement Investment Program, which is under preparation stage. 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. Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) and United Water Supply Company of Georgia (UWSCG) is the Implementing Agency (IA) of this Program.

This sub-project is located in Poti. The City of Poti is the most developed part of the Samegrelo - Zemo Svaneti region of Georgia. It is located on the Black Sea and lies some 360 km to the west from the capital City of Tbilisi. To the west it borders the Black Sea; to the north the right tributary of the rivers Rioni and Khobi and to the southeast the river Kapartchina and Paliastomi Lake. Regional location of Poti is shown in below.

The project measures for the sewer network comprise the laying of 150 km new gravity pipes (DN 100 to DN 1200) and 25 km new pressure pipes (OD 110 to OD 630). The sewer network is divided into two zones. Poti South and Poti North. The southern part will serve an existing wastewater treatment plant in the South of Poti, the northern part - about 85% of the total network - will serve the new wastewater treatment plant to be constructed under the present project.

Project implementation body is UWSCG. Project will be implemented as according to the national as well as ADB's environmental legislative framework (SPS 2009) requirements.

## 2. Regulatory Requirements

The basic legal document is "The Constitution of Georgia", which was adopted in 1995. While the Constitution of Georgia does not directly address environmental matters, it does lay down the legal framework that guarantees environmental protection and public access to information with regard to environmental conditions.

The **Law of Georgia on Environmental Impact Permit (2007)** defines the full list of activities on the territory of Georgia subject to mandatory ecological expertise.

The **Law of Georgia on Environment Protection (1997)** regulates the legal relations between the state establishments and physical or legal entities in the field related to the use of territorial waters, air space, including continental shelf and special economic zones, environmental protection and natural resources on the territory of Georgia.

The **Law OF Georgia on Environmental Assessment Code (2018)** This Code regulates matters related to strategic documents and public or private activities which may have significant effects on the environment, human life and/or health.

The **Law of Georgia on Waste Management Code (2014)** The purpose of this Code is to establish a legal framework in the field of waste management to implement measures that will facilitate waste prevention and its increased re-use as well as environmentally safe treatment of waste (which includes recycling and separation of secondary raw materials, energy recovery from waste and safe disposal of waste).

The **Law of Georgia on Licenses and Permits (2005)** defines the list of activities needing licenses or permits, including so called "Environmental permit". It also defines the requirements for the license or permit issue.

The **Law of Georgia on State Ecological Expertise (2007)**. Under the given Law, the ecological expertise is a necessary measure for making decision on the issuance of environmental and/or construction permit(s).

The state ensures protection of the environment and, correspondingly, protection of water as its main component in **The Law of Georgia on Water (1997)**.

The **Law of Georgia on Cultural Heritage (2007)**. Article 14 of the Law specifies the requirements for 'large-scale' construction works.

The **Law of Georgia on Public Health (2007)**. Promotion of the introduction of a good health and healthy lifestyle of the population; Creation of the environment, which is safe for a human health; Promotion of the protection of the reproductive health of a family; Prevention of infectious and non-infectious diseases.

The **Law of Georgia "On the Red List and Red Book" (2003)** regulates the legal relations in the field of developing the Red List and Red Book, protecting and using the endangered species.

The **Law on Ambient Air Protection (2000)**. It stipulates Maximum Allowable Concentration (MAC) of various pollutants in Ambient Air.

The **Law on System of Protected Areas (1996)**. Depending on the activity and type of protected area, permission for any work will be granted or denied

**Technical Regulation of Drinking Water (2007) (Decree N 349/N)**. The Ministry of Labour, Health and Social Affairs of Georgia. Water supply and monitoring shall comply with the technical regulation.

**Rules of the Protection of the Surface Waters of Georgia from Pollution (1996)** (№130 order of the Minister of the Protection of the Environment and Natural Resources of Georgia). Source water quality shall comply with the provisions for domestic use.

**Technical Regulation of Environmental Protection (2008)**. (Decree N745), Minister of the Protection of the Environment and Natural Resources of Georgia. Treated effluent disposal from sewage treatment plants shall comply with the specified standards.

**\*Approval of Environmental Quality Standards\***, approved by Minister of Health, Labour and Social Affairs [Decree number - 297n of August 16, 2001]. Social Affairs (297n of August 16, 2001) upon the 'Approval of Environmental Quality Standards'; specifying the tolerable and maximum admissible levels of noise for different zones.

### 3. Description of the works to be accomplished

This is the Poti wastewater sub-project. It involves the rehabilitation and extension of the wastewater network and the construction of a wastewater treatment plant.

It is orientated towards the location of the existing wastewater treatment plant at the northern edge of Poti. The total length of gravity sewer is 22 km, the total length of pressure pipes is 10 km.

There are nine existing wastewater pumping stations. Most of these pumping stations are in a very bad condition. The mechanical and electrical equipment has long passed its design life time and also the civil works need complete replacement. The pumping stations are over-sized.

The wastewater project measures comprise the rehabilitation and extension of the sewer network with gravity sewers and pressure lines, the construction of wastewater pumping stations as well as the construction of a new wastewater treatment plant.

The project measures for the sewer network comprise the laying of 150 km new gravity pipes (DN 100 to DN 1200) and 25 km new pressure pipes (OD 110 to OD 630). The sewer network is divided into two zones. Poti South and Poti North. The southern part will serve an existing wastewater treatment plant in the South of Poti, the northern part - about 85% of the total network - will serve the new wastewater treatment plant to be constructed under the present project.

The present sub-project is designed to improve the service standards of the wastewater system in Poti. It is designed to collect and treat the wastewater expected in the year 2040.

#### 4. Accomplished measurements and results

##### 4.1 Noise and Vibration

Report Describes Air, Noise and Vibration Tests performed in May by Gergili LLC in Poti under the contract with TAHAL GROUP B.V.

Test were performed on 1<sup>st</sup> of May 2019 in Poti:

The Construction Contractor carried out the construction works at the following streets:

#2 Queen Tamar Street: X 720256 Y 4669982, asl 19,44

Iliia Chavchavadze Street: X 720138 Y 4672968, asl 4,82

Paliashvili Street: X 720368 Y 467350, asl 7,04

In all cases, the noise level in the immediate vicinity of the techniques varies within 78 - 103 dB. However, the noise level sharply reduced after 20-25 m and was within 47 - 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:  $\text{Noise level}_1 - \text{Noise level}_2 = 20 \log r_2/r_1$ , meaning that by doubling of distance noise is reduced by 6 dBA.

##### Noise and Vibration

Measurement point number	Vibration acceleration m/s <sup>2</sup>	Vibration speed mm/s	Sound levels / Equivalent sound levels, dBA	
			Min	Max
1. #2 Queen Tamar Street.	0.7	1.9	54.5	87.1
2. Iliia Chavchavadze Street.	0.1	0.5	74.9	103.0
3. Paliashvili Street.	0.3	0.7	47.8	78.4

##### Ambient Air Quality

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 the table below:

Measurement point number	NO <sub>2</sub>	SO <sub>2</sub>	CO	Dust
1. #2 Queen Tamar Street.	0.09	0.03	0.9	0.15
2. Ilia Chavchavadze Street.	0.104	0.015	0.6	0.1
3. Paliashvili Street.	0.06	0.011	0.7	0.1

During measurement tools used:

Sound Level Meter WT85;

Vibration Smart Sensor @ AR63B Vibration Meter:

Dust- Portable Dust Detector model LB-HD08 and Gasella Mikro Dust Pro (Self calibration zero and optical filter.).

August 16, 2001, the Ministry of Labor, Health and Social Affairs of Georgia N°297 / N, approval environmental quality of the norms:

Dust norm is 0.5 mg/ m<sup>3</sup>;

Nitrogen dioxide and carbon monoxide – Элан CO/N02

## Annex 2: Photos

Photo 1. Queen Tamar Str



Photo 2. Iliia Chavchavadze str



Photo 3. Paliashvili str

## Environmental Monitoring Data of Noise and Ambient Air Quality Pot-02

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



სსიპ გარემოს ეროვნული სააგენტო  
LEPL NATIONAL ENVIRONMENTAL AGENCY

N 12/1-183

05 03 2019

შპს "ლუდვიგ პფაიფერ ჰობ უნდ ტიფბაუ და  
კო.კგ-ის წამომადგენლობა საქართველოში"-ს  
დირექტორს ქ-ნ პელენ სპრინგერს

ქალბატონო პელენ,

საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროს სსიპ „გარემოს ეროვნული სააგენტო“-სა და შპს "ლუდვიგ პფაიფერ ჰობ უნდ ტიფბაუ და კო.კგ-ის წარმომადგენლობა საქართველოში"-ს შორის 2019 წლის 11 თებერვალს გაფორმებული ფასიანი მომსახურების შესახებ ფმ-3/107 ხელშეკრულების თანახმად, გაწეული ქ. ზუგდიდისა და ქ. ფოთში, თქვენს მიერ მითითებულ ატმოსფერული ჰაერის ორ წერტილში - ხმაურის, ნახშირის დიოქსიდის, აზოტის დიოქსიდის, მტკერისა და გოგირდის დიოქსიდის შემცველობის გაზომვის შედეგებს, ქართულ და ინგლისურ ენაზე.

დანართი: 2 გვ.

პატივისცემით,

სააგენტოს უფროსი



ანდრო ასლანიშვილი






შპს „ლუდვიგ პფაიფერ ჰობ უნდ ტიფზაუ და კოვგის წარმომადგენლობა საქართველოში“.

ატმოსფერული ჰაერის დაბინძურების და ხმაურის დონის გაზომვის შედეგები.

ხელშეკრულება ფმ-3/107 პასუხის დანართი

N	გაზო მვის ადგილი	კოორდინატები	დამაბინძურებელი ინგრედიენტების კონცენტრაცია მგ/მ <sup>3</sup>				ხმაურის ზგერის დონე დბ
			მტვერი	ნახშირბადის მონოქსიდი	აზოტის დიოქსიდი	გოგირდის დიოქსიდი	
1	ქ. ფოთი	7519295 4675729	0.074	0.14	0.002	<0.247	54.3
2	ქ. ზუგდიდი	0734030 4708169	0.092	0.98	0.005	<0.247	51.4
მაქსიმალური ერთჯერადი კონცენტრაცია			0.5	5.0	0.2	0.5	

სამმართველოს უფროსი:

 გ. კარგარეთელი

მთ. სპეციალისტი:

 ს. ხაცავა

შეთანხმებულია:

დეპარტამენტის უფროსი



მ. არაბიძე

Ltd „Ludwig Pfeiffer Hoch and Tifbau and Co. Representative in Georgia“.

Results of atmospheric air pollution and noise levels.

attachment

N	Measurement area	Measurement coordinates	Concentration of pollutant ingredients mg / m <sup>3</sup>				Noise sound level db
			Dust	Carbon monoxide	Nitrogen dioxide	Sulfur dioxide	
1	City Poti	0719295 4675729	0.074	0.14	0.002	<0.247	54.3
2	City Zugdidi	0734030 4708169	0.092	0.98	0.005	<0.247	51.4
Maximum allowable concentration			0.5	5.0	0.2	0.5	

Head of Division:

  
G. Kargareteli

Chief Specialist:

  
S. Khatsava

Agreed:

Head of the Department

  
M. Arabidze



## ANNEX B: Project Photos

### Photos - ZUG-01: Bashi reservoir



### Photos- POT-01, Network





Photos- JVA-01, CAMP





**JVA-01, Network**





**JVA-01 Reservoir**






**Photos POT-02, Construction of WWTP**





## ANNEX C: NON-COMPLIANCE NOTICE

### Non-Compliance Notice

<b>Project:</b> USIIP	<b>Non-Compliance Notice JVARI</b>
<b>Contract No:</b> JVA-01	
<b>Contractor:</b> AS Inshaat-N LLC (Azerbaijan)	
<b>Reference:</b> <b>Jvari – Network, CAMP, Reservoir</b>	
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> .	
<b>NETWORK JVARI</b>	
<ul style="list-style-type: none"><li>- Walls of the deep trenches (&gt;1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage)</li><li>- All transmission line construction segments should be cleaned/well organized on regular bases</li><li>- Trench construction shall be taken up in small segments, so that work (excavation, pipe laying and refilling) in each segment is completed in a day. No trenches shall be kept open in the night/after work hours</li><li>- Providing wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required</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/water contamination</li></ul>	
	

### RESERVOIR JVARI

- Waste containers should be placed on a concrete base with proper roofing.



### CAMP JVARI

- All construction materials should be properly segregated, stored adequately (far from the water course)
- Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground/water contamination



All these conditions have to be remedied within five days (by the 20 February 2019) by the prime Contractor - AS Inshaat-N LLC (Azerbaijan)

**Date of site visits: 10.02.2019**

Kate Chomakhidze, Environmental Consultant  
UWSCG/USIIP

# NON-COMPLIANCE NOTICE POT-01

## Non-Compliance Notice

Project: USIIP	<b>Non-Compliance Notice Poti</b>
Contract No: POT-01	
Contractor: TAHAL Group BV	
Reference: POTI – Network	
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> .	
<b><u>NON-COMPLIANCE IN</u></b>	
<b>NETWORK POTI</b>	
<ul style="list-style-type: none"> <li>- <b>Walls of the deep trenches (&gt;1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage)</b></li> <li>- <b>Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident</b></li> <li>- Surplus waste soil should be removed and disposed in a proper place</li> <li>- All transmission line construction segments should be cleaned/well organized on regular bases</li> <li>- Construction activities information signs should be installed at each construction segment</li> <li>- <b>Trees of nearby construction zone should be protected to avoid its damage</b></li> <li>- Provide adequate lighting to avoid accidents</li> <li>- <b>Trench construction shall be taken up in small segments, so that work (excavation, pipe laying and refilling) in each segment is completed in a day. No trenches shall be kept open in the night/after work hours</b></li> <li>- <b>Informing all residents and businesses about the nature and duration of any work well in advance so that they can make necessary preparations if needed</b></li> <li>- <b>Providing wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required</b></li> <li>- Increasing workforce to complete the work in minimum time</li> <li>- Schedule construction activities on the narrow streets of Poti with local Municipality and locate entry and exit points in construction areas</li> </ul>	
<b>Asbestos Pipes Mitigation Measures</b>	
<ul style="list-style-type: none"> <li>- Construction company staff should be trained properly;</li> <li>- The company environmental specialist has to work out special procedure and later it should be provided to Water Company and it will be implemented during excavation works of trenches - in case of existence of asbestos pipes.</li> <li>- In case of asbestos pipes excavator should stop works and excavation should be continued manually.</li> <li>- In case of damage of asbestos pipes construction works should be stopped. Environmental specialist should fix the fact and should make official record on it.</li> <li>- Only after issuance of special permit construction works can be continued.</li> </ul>	
Flagman is also required to control the movement of the Excavator on site	
<ul style="list-style-type: none"> <li>- Help vehicles move safely in their work areas, and help the drivers &amp; operators avoid hazards and the potential of hitting people and other equipment.</li> <li>- Safe distance from rotating equipment &amp; excavation edges, giving Signals.</li> </ul>	

- Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;
- Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present.
- Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection.

**Photos of Poti Network (Gamsakhurdia Street)**







All these conditions have to be remedied within five days (by the 29 May 2019) by the prime Contractor (TAHAL Group BV).

**Date of site visits: 24.05.2019**

Maka Goderdzishvili, Head, Department of  
Environmental Protection and Permits, UWSCG  
Kate Chomakhidze, Environmental Consultant  
UWSCG/USIIP

# ANNEX D: EXPLANATORY NOTE, POT-01



საქართველოს გაერთიანებული  
წყალმომარაგების კომპანია  
UNITED WATER SUPPLY COMPANY OF GEORGIA

N 6919/1  
03/06/2019

6919-1-2-201906031127



## საზედამხედველო კომპანია "SAFEGE"-ს აგვისტოს ლიდერს, ბატონ ვიქტორ პრუსკას

### ბატონო ვიქტორ,

განთავსებით, რომ მიმდინარე წლის 24 მაისს შპს „საქართველოს გაერთიანებული წყალმომარაგების კომპანიის“ გარემოს დაცვისა და ნებართვების დეპარტამენტის თანამშრომლებმა №P43405-ICB-POT-01 კონტრაქტის ფარგლებში, ქ. ფოთში სამშენებლო სამუშაოების გეგმიური მონიტორინგი განახორციელეს. აღნიშნული მონიტორინგის შედეგად გამოვლინდა სხვადასხვა სახის გარემოსდაცვითი და შრომითი უსაფრთხოების დარღვევა, კერძოდ:

- დაახლოებით ორი მეტრის სიღრმის ტრანშეების გვერდები არ არის გამაგრებული და არ არის შემოსაზღვრული ამრეცი ლენტით, რაც საფრთხეს უქმნის პერსონალისა და მოსახლეობის უსაფრთხოებას;
- სამშენებლო არეალში არ არის განთავსებული გამაფრთხილებელი ნიშნები მიმდინარე სამუშაოების შესახებ;
- ტრანშეებზე არ არის მოწყობილი დროებითი გადასასვლელები ფეხით მოსიარულეთა შეუფერხებლად და უსაფრთხოდ გადაადგილებისთვის;
- საექსკავაციო სამუშაოები განხორციელებულია დიდ მონაკვეთებზე, შესაბამისად, მიწების მოწყობა და ტრანშეების დახურვა ვერ მიმდინარეობს ერთ დღეში, რაც თავის მხრივ, საფრთხეს უქმნის ადგილობრივი მოსახლეობის უსაფრთხოებას.

ზემოაღნიშნული დარღვევები არ შეესაბამება აზიის განვითარების ბანკისა და საქართველოს გარემოსდაცვითი კონსტრუქციებით განსაზღვრულ მოთხოვნებს, სერიოზულ საფრთხეს უქმნის როგორც მშენებლობაზე დასაქმებული პერსონალის შრომით, ასევე ადგილობრივი მოსახლეობის უსაფრთხოებასა და ჯანმრთელობას. დარღვევების აღმოფხვრის მიზნით, დაუყოვნებლივ უნდა განხორციელდეს ქვემოთ ჩამოთვლილი შემდეგი სახის შემარბილებელი ღონისძიებები:

- მუშახელისა და ადგილობრივი მოსახლეობის უსაფრთხოების მიზნით, დრმა თხრილების (>2მ) გვერდების გამაგრების უზრუნველყოფა;
- ადგილობრივი მოსახლეობის ინფორმირების მიზნით, სამშენებლო სამუშაოების დაწყებამდე ქუჩის შესასვლელთან გამაფრთხილებელი და საინფორმაციო ნიშნების დადგმა;

336

L.L.C.

სადავო/საპროცესო კომპლექსი 0155  
ბასი-მესა/საპროცესო, ნაბ. 765  
ტ. 52 128132 2919059  
ტ. 42270297

e-mail: info@water.ge  
www.water.ge

76b, Vazha Pshavla Ave,  
Tbilisi 0106, Georgia  
Tel: 055 52 2 91 50 50

- მუშახელისა და ფხვით მოხიარულების ღია თხრილებში ჩავარდნის და უცხო პირების სამშენებლო უბნებზე შესვლის თავიდან აცილების მიზნით, ამრეკლი ლენტების გაბმა და შესაბამისი დამცავი საშუალებების მოწყობა;
- ღია თხრილების გასწვრივ დროებითი გადასახველი ხიდების მოწყობა;
- სამშენებლო ტექნიკისა და ტრანსპორტის უსაფრთხოდ გადაადგილების უზრუნველსაყოფად, შედრომის ზედამხედველობის ქვეშ საცესკადიო სამუშაოების განხორციელება;
- სამუშაო ადგილზე აზრესტის მენეჯერების თვითდაზიანების თავიდან აცილების მიზნით, შესაბამისი უსაფრთხოების ღონისძიებების გატარება.

აქვე აღვნიშნავთ, რომ კომპანიის მიერ ე.წ. შეუსაბამობის შეტყობინება (Non-Compliance Notice) საზედამხედველო კომპანიისა და კონტრაქტორი სამშენებლო კომპანიის წარმომადგენლებთან უკვე გაიგზავნა, ხოლო კონტრაქტორს ადგილზე მიეცა მითითება დაუყოვნებლივ გამოსწორის მდგომარეობა. წინასწარი ეკოლოგიური კვლევის (IEE), გარემოს მონიტორინგის გეგმის (EMP) და საქართველოს კანონმდებლობით გათვალისწინებული მოთხოვნების შესაბამისად. დარღვევების დროულად აღმოუჩენებლობის შემთხვევაში, გაიცემა შესაბამისი რეკომენდაცია სამუშაო პროექტის დროებითი (დარღვევითა გამოსწორებამდე) შეჩერების შესახებ.

გთხოვთ, გაითვალისწინოთ ზემოაღნიშნული და დროულად მოახდინოთ შემდგომი რეაგირება.

- დანართი:**
1. სამშენებლო პროექტის ამსახველი ფოტომასალა;
  2. შეუსაბამობის შეტყობინება (Non-Compliance Notice).

პატივისცემით,  
ეკატერინე გალდავა



დირექტორი  
ხელმძღვანელობა