

# Bi-annual Environmental Monitoring Report

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*Project Number: 43405-023*

*July-December 2017*

*Loan Number 3238-GEO (SF)*

## **GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 4) (FINANCED BY THE ASIAN DEVELOPMENT BANK)**

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## ABBREVIATIONS

<b>ADB</b>	Asian Development Bank
<b>DC</b>	Design Consultant
<b>DEPRP</b>	Department of Environmental protection, Resettlement and Construction Permit
<b>DIPDR</b>	Department of International Procurement and Donors Relations
<b>EA</b>	Executing Agency
<b>EARF</b>	Environmental Assessment and Review Framework
<b>EHS</b>	Environmental Health & Safety
<b>EIA</b>	Environmental Impact Assessment
<b>EIP</b>	Environmental Impact Permit
<b>EMP/ SSEMP</b>	Environmental Management Plan/ Site-Specific Environmental Management Plan
<b>ES/ SES</b>	Environmental Specialist/ Senior Environmental Specialist
<b>GoG</b>	Government of Georgia
<b>GRC</b>	Grievance Redress Committee
<b>GRM</b>	Grievance Redress Mechanism
<b>IPMO</b>	Investment Program Management Office
<b>USIIP</b>	Urban Sector Improvement Investment Program
<b>IA</b>	Implementing Agency
<b>IEE</b>	Initial Environmental Examination
<b>MTF</b>	Multi-tranche Financing Facility
<b>MoENRP</b>	Ministry of Environment and Natural Resources Protection
<b>MoRDI</b>	Ministry of Regional Development & Infrastructure
<b>NEA</b>	National Environmental Agency
<b>SC</b>	Supervision Consultant
<b>UWSCG</b>	United Water Supply Company of Georgia
<b>WSS</b>	Water Supply & Sewerage

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## PART I – INTRODUCTION

### 1.1 Construction activities and project progress during the previous 6 months

#### A. General information about the program/Subprojects

1. The present Bi-annual Environmental Monitoring Report covers July-December 2017 time period.
1. 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.
2. 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.
3. The Investment Program will improve the health of residents in the urban centers of Mestia, Anaklia, Kutaisi, Poti, Ureki, Zugdidi and Marneuli. The outcome of the Investment Program is improved WSS services in these urban centers.
4. Tranche 4 of the Investment Program includes: 1. Construction of Water Supply System in Zugdidi (Zug 01); 2. Construction of Sewerage System in Poti (Pot-01) and 3. Construction of Wastewater Treatment Plant in Poti (Pot-02). 4. Construction of Water Supply System in Jvari (Jvari-01).

#### The Following Projects are Financed under Tranche 4:

##### **Construction of Water Supply System in Zugdidi (Zug 01)**

5. 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.

##### **Construction of Sewerage System in Poti (Pot-01)**

6. Pot-01 project includes the construction of 112.4 km of new sewerage pipes, and construction of 28 sewage pumping stations.

##### **Construction of Wastewater Treatment Plant in Poti (Pot-02)**

7. The project comprises of the construction of new Wastewater Treatment Plant with the capacity of 11,663 m<sup>3</sup>/day for Poti.

##### **Construction of Water Supply System in Jvari (Jvari-02)**

8. 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.

**Supervision Consultant for T4 of USIIP**

9. Supervision Consultant for Tranche 4 of USIIP is “SAFEGE France with Engineering Solution LLC Georgia”.

**Construction activities and project progress during the previous 6 months**

10. During the reporting period, project scheduled construction activities were carried out under Zug-01 project. Construction progress of Zug-01 and Jvari-01 projects, during the period of July-December 2017 is presented in Table 1 below. There were no construction activities under Pot-01 and Pot-02 projects as yet.

**Construction progress during the previous 6 months under Zug-01 project (July-December 2017)**

**Table 1: Project Progress during the Previous 6 Months Zug-01 (July-December 2017)**

<b>Zug-01</b>		<b>Zugdidi Water Supply System Construction</b>	
Sites	Zugdidi Water Pipeline Network; Bashi Reservoir, Ingiri Pump Station & Water well Field		
Works undertaken during July-December 2017	Bashi existing reservoir demolished, 3 new reservoirs constructed. Ingiri Pump station, Reservoir, Chlorination building and Operational building concrete work construction finished 100%.		
<b>Zug-01</b>		<b>Zugdidi Transmission Pipelines</b>	
Works undertaken during July-December 2017	Executed Jan-June 2017.	Total Completed %:	
	OD 63 PE – 7650m	100%	
	OD 75 PE – 25700m	92.7%	
	OD 90 PE – 15870m	100%%	
	OD 110 PE – 118810m	87.8%	
	OD 125 PE – 6642m	84.5%	
	OD 140 PE – 3358m	71.7%	
	OD 160 PE - 1070m	72.3%	
	OD 180 PE – 9015m	81.2%	
	OD 200 PE – 1412m	88.2%	
	OD 225 PE – 3873m	76.8%	
	OD 250 PE - 4570m	100%	
	OD 280 PE – 803m	84.5%	
	OD 315 PE – 2013m	82.5%	
	OD 355 PE - 3427m	81.8%	
	OD 400 PE – 860m	85.1%	
	OD 450 PE – 2600m	82%	
	OD 500 PE – 1483m	59.7%	
	DN 700 DCI – 4500m	34.5%	
	Total: 213656 m		

<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-December 2017	Concrete works for 3 reservoir including chlorination station and distribution chamber are completed 100%.
Site	Ingiri Pumping Station
Works undertaken during July-December 2017	Ingiri Pump station, Reservoir, Chlorination building and Operational building concrete work construction finished 100%.
Works undertaken during July-December 2017	Ingiri Well Field: Mobilization – 100% Drilling Well all 9 wells 100% Finished

### **Jvari-01 (October - December 2017)**

<b>Jvari</b>	<b>Jvari Water Supply System Construction</b>	
Sites	Zugdidi Water Pipeline Network	
<b>Jvari</b>	<b>Jvari Transmission Pipelines</b>	
Works undertaken during October-December 2017	OD 90 PE – 900m	21.5%
	OD 110 PE – 3400m	18.4%

## **1.2 Changes in Project Organization and Environmental Management Team**

### **Agencies Involved in Investment Program Implementation**

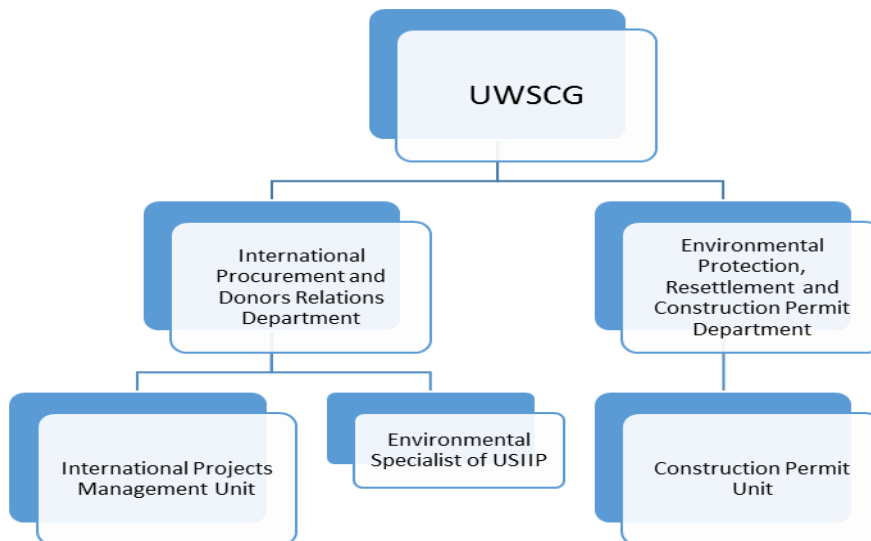
11. The following agencies are involved in implementing the Investment program: Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for management, coordination and execution of all activities funded under the loan. MoRDI has overall responsibility for compliance with loan covenants.
12. 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. Investment Program Management Office (IPMO) under UWSCG is an International Procurement and Donors Relations Department. A new Department of Environmental Protection, Resettlement and Construction Permit (DEPRP) was established under UWSCG as well. DEPRP replaced the existing Unit of Resettlement and Environmental Protection (UREP). DEPRP include Unit of Construction Permission and consist of six staff members.
13. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) - Eptisa. 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



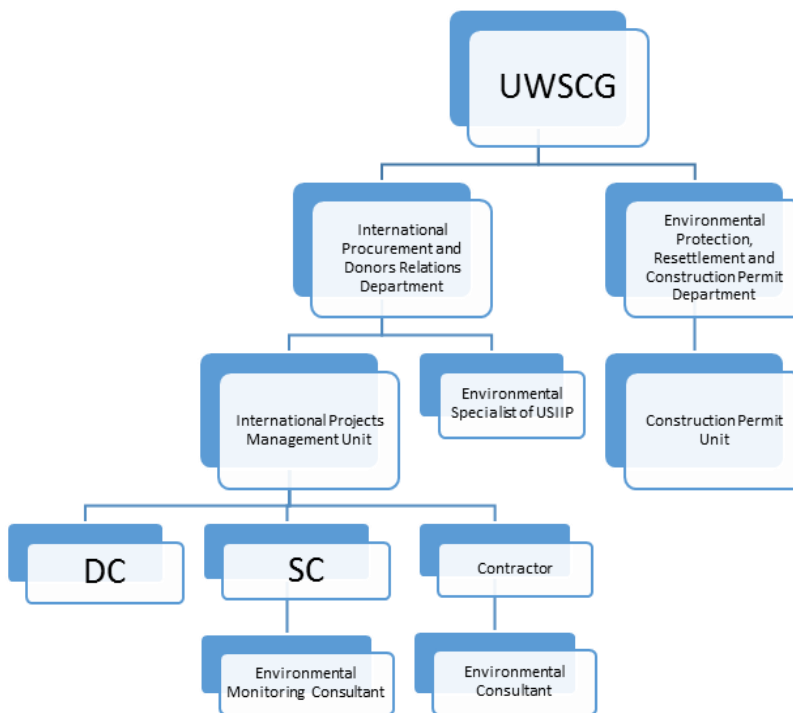
contractor staff in the management and operation and maintenance of the subprojects. The SC assists UWSCG in ensuring that the subprojects are implemented according to the specified standards. SC assignment also includes the supervising of the implementation of the environmental management plans.

14. All mitigation measures during construction have to be implemented by the contractor and these are monitored by the supervision consultant (SC). To ensure the smooth implementation of EMPs and SEMP of subprojects, an Environmental Management Specialist (EMS) is employed by the SC/Eptisa. SC/EMS conducts routine observations and surveys, prepares quarterly environmental reports and submits these to UWSCG.
15. The Contractor has the following obligations:
  - to prepare SSEMPs;
  - to employ Environmental Consultant responsible for developing and implementing the construction phase SSEMPs and for providing the corresponding information to UWSCG and SC;
  - to develop Solid Waste Disposal Plan and agreed the MoENRP and Local Government
16. DC is responsible for developing and incorporation of mitigation measures in design and construction.
17. The environmental specialist (ES) is hired by UWSCG under the USIIP to assist and advise the DEPRP in USIIP program implementation 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 DEPRP in EARF implementation, in particular, reviewing IEE/EIA Reports and overseeing implementation of EMP/SSEMPs and in training and capacity-building activities. The ES prepares bi-annual and annual environmental monitoring reports and submits to ADB.
18. DEPRP is responsible for the implementation of mitigation and monitoring measures during construction and operation of subprojects under USIIP. Currently DEPRP is staffed with a Head of Department. Head of Construction Permission Unit and 3 specialists, those are responsible for resettlement, environmental protection and construction permission issues.
19. 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



**1.3 Relationships with Contractors, Owner, Lender, etc**

- 20. Relationships with Contractors, Owner and Lender are considered as normal working relationships. At the working level, coordination of environmental issues has been satisfactory, the government agencies, UWSCG, consultants and contractors are in frequent communication and consultation.
- 21. Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for oversee progress and provide guidance on the Investment Program

implementation; convene regular meetings in consultation with the SC and UWSCG; ensure compliance with Investment Program covenants.

22. Oversight of the USIIP with regards to environmental management is the responsibility of the environmental safeguards team, in particular UWSCG/DEPRP and the Environmental Specialist of USIIP.
23. The team has constant communication with the Supervision Consultant, Contractor, reviews/comments all environmental reports submitted by DC, SC and contractors.
24. SSEMPs were prepared by contractor, endorsed by SC/Eptisa and approved by UWSCG/DEPRP.
25. SC is responsible for environmental capacity building, monitoring of implementation of SSEMPs and for developing quarterly reports. The Contractor has a full time Environmental Specialist who carries out day to day monitoring and submits monthly progress reports.
26. ADB oversees project sites regularly and gives clear instructions for the project sites improvements with regard to environmental safeguards.
27. To resolve the observed environmental safeguard issues, the regular Environmental Meetings are organized with participation of UWSCG/IPMO/DEPRP, Safege and Contractors. During the meetings environmental issues and implementation of the mitigation measures are discussed.
28. A Grievance Redress Committee, which was established under the REG-01 project in Zugdidi, for Anaklia water supply component, will consider complaints within the framework of Zug-01 project as well.
29. Contractor of Zug-01 project during the reporting period signed agreements with the following sub-contractor:
  - Agreement between Az Inshaat-N LTD and Laboratory Research Center LTD on drinking water and sewage full bacteriological and chemical analyze.
  - Agreement between Az Inshaat-N LTD and Zugdidi Municipal Service on domestic waste removal and disposal.
  - Agreement between Az Inshaat-N LTD and Zugdidi Municipality on territory allocation for construction material (gravel and sand) temporary stockpiling.
  - Az Inshaat-N LTD - Borrow pit License for 184 500 m3 gravel extraction from Enguri riverbed.
30. Monthly site meetings have taken place with all Contractors during the reporting period, with a focus on progress and technical problems as well as environmental safeguard issues.
31. Under the Zug-01 projects contractors signed agreements with the Ltd "Eco-Spectri" for the monitoring measurements (dust, CO, NO<sub>2</sub>, SO<sub>2</sub>, noise) of all construction sites.
32. Project organization for the awarded contracts listed above is given in the table 2 below.

**Table 2:** List of Contracts under T4 – ZUG-01, Pot-01, Pot-02, Jvari-01 and Selection of Supervision Consultants under T4

Contract #	Sub-project titles	Employer	Contractor	Contract Signature date	Contract Final Date
Contract No: P43405-ICB-Zug-01	Zug-01	UWSCG	AS Inshaat-N LLC (Azerbaijan)	26-Oct-15	25-Oct-17
Contract No: UWSCG/USIIP/QCBS/ 02-2014	QCBS-02-2014	UWSCG	SAFEGE (France) with Engineering Solution LLC (Georgia)	2-Jul-15	8-Jun-18
Contract No: P43405-DC-Jvari-01	Jvari-01	UWSCG	AS Inshaat-N LLC (Azerbaijan)	17-Jan-17	11-July-19
Contract No: P43405-ICB-Pot-01	Pot-01	UWSCG	TAHAL Group BV	20-Dec.-17	06-Jun-20
Contract No: P43405-ICB-Pot-02	Pot-02	UWSCG	JV “Pfeiffer - EMIT” comprised by “Ludwig Pfeifer Hoch – and Tiefbau Gmbh7Co. KG (Germany)” and “EMIT  Group – Ercole Marelli Impianti Tecnologici S.r.l. (Italy)	21-Dec.-17	01-Feb.-20

## PART II - ENVIRONMENTAL MONITORING

33. 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 period July-December 2017. Also unscheduled monitoring visits were carried out and on-site verbal instructions have been given to the contractor and its environmental team non-compliance notes has been issued to the contractor as needed. Mitigation measures to reduce major environmental impacts have been instructed to contractors during the monitoring visits.
34. The monitoring activities included:
- The monitoring of compliance of construction activities under Zug-01 project sites to the EMP/SSEMP requirements;

- The monitoring of compliance of construction activities under Pot-01 project sites to the overall project EMP/SSEMP requirements.
35. Environmental Monitoring Specialist hired under the ZUG-01 subproject conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Safege.
  36. Environmental Monitoring Specialist hired under the Jvari-01 subproject conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Safege.
  37. Environmental Monitoring Specialist of SC/Safege developed quarterly monitoring reports for UWSCG/USIIP based on the monthly reports submitted by Contractor, and based on environmental site inspection.
  38. ES of USIIP performed monitoring of contractor's performance with the approved EMPs and SSEMPs, environmental standards and other environmental commitments of the contractor. ES developed bi-annual and annual environmental monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
  39. The construction activities affecting the environment during the reporting period are as follows:
    - Excavation works
    - Removal of Top Soil
    - Removal of Surplus Soil
    - Backfilling of Trenches
    - Reinstatement Activities
  40. In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality, noise and socio-cultural resources. Locations for the measurements were initially identified in the IEE. Accordingly, the monitoring guidelines were set as shown in the table 3 below. Only Zug-01 and Jvari-01 is reported in this EMR.

**Table 3: Parametric Measurement Guidelines**

Parameters	Frequency & Location	Remarks
<b>Zug-01</b>		
Air Quality	Air Quality Every 3 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>
Noise	Noise, Every 3 months Mukhnari Reservoir, Networks, Transmission Main	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
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
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>Jvari-01</b>		
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
Impact on Flora and Fauna	Monthly during the site Inspection and audit	Avoid tree cutting In unavoidable cases, plant four trees of same

Parameters	Frequency & Location	Remarks
		species for each tree that is cut for construction
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>

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

### C. Monitoring Measurement Data

#### Zugdidi Water Supply Infrastructures (Contract ZUG-01):

42. Environmental monitoring of dust, air condition, noise and vibration is performed as indicated in the relevant EMPs/SSEMPs (on the bi-annual basis).
43. The Environmental Measurements were carried out by the contractor at various locations of construction sites. The National Environmental Standard (Maximum Permissible Level) for Dust is 0,5 Mg/m<sup>3</sup>, for CO is 5,0 Mg/m<sup>3</sup>, for SO<sub>2</sub> – 0,5 Mg/m<sup>3</sup>., Noise level – 55dB (day time), 45dB (night time) is regulated by the Decree No. 297/N “On Approval of Environmental Quality Norms” (August 16, 2001 of the Ministry of Labor, Health and Social Affairs).
44. Noise impacts should not exceed the levels presented in Table 4, in accordance with Georgian regulations - Decree No. 297/N “On Approval of Environmental Quality Norms” (August 16, 2001 of the Ministry of Labor, Health and Social Affairs) and World Health Organization (WHO) 1999, or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

**Table 4: 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

45. The monitoring measurements within the framework of the Zug-01 project in various construction sites, including nearest sensitive receptors were carried out by contractor in November 2017 (See Table 5 and Annex 1). Locations are included in the table below. The next monitoring measurements will be conducted in March 2018 and results will be reflected in the next January-June 2018 EMRs. According to data received in December 2017 noise exceed the standards required by National Regulations and World Health Organization (WHO),1999, in village Odishi, at Mestia road turn and Sokhadze street and additional measures are required and presented in table 11: Recommendations to Address Environmental Issues under Zug-01 project. It should be noted also that all measurements carried out at construction sites, were temporary and conducted during the daytime from 10:00pm to 15:00pm and no complaints were received from the local population about the noise during the reporting period.

46. The next monitoring measurements will be carried out in March 2018 in project sites and nearest receptors and if the noise level will exceed the noise standards provided in Table 4 and works will be carried out for a long period, additional mitigation measures will be provided.

**Table 5: Monitoring Measurements under ZUG-01 Project ZUG-01**

N	Place of measurement	Results					
		Dusts Mg/m3	CO Mg/m3	NO2 Mg/m3	SO2 Mg/m3	Noise Db - Daytime 07:00 - 22:00	Vibration m/sek
1	National Environmental Standard (Maximum Permissible Level)	0,5	5,0	0,2	0,5	<b>Residential; institutional; educational - 55  Industrial commercial 70</b>	4.0



N	Place of measurement	Results					
		Dusts Mg/m3	CO Mg/m3	NO2 Mg/m3	SO2 Mg/m3	Noise Db - Daytime 07:00 - 22:00	Vibration m/sek
2	At Reservoir 42°14'06.07"N 42°42'25.89"E	0.055	1.1	0.02	≥ 0,1	47.6	2.3
3	Near village Odishi 42°52'30.63"N 41°87'03.12"E	0,056	2.1	0.05	≥ 0,1	61.2	2.0
4	At Mestia road turn 42°32'41.36"N 42°40'34.14"E	0,125	1.3	0.02	≥ 0,1	70.1	0.1
5	Sokhadze Street 42°18'40.35"N 42°41'54.31"E	0,055	2.2	0.12	≥ 0,1	64.4	2.1

### PART III - ENVIRONMENTAL MANAGEMENT

#### 3.1 The Environmental Management System, Site-Specific Environmental Management Plan (SSEMP) and work plans

##### SSEMPs prepared under Zug-01, Poti-01, Poti-02 and Jvari-01 projects (July-December 2017)

47. No SSEMPs have been prepared during the reporting period under the Zug-01, Poti-01, Poti-02 and Jvari-01 projects. All SSEMPs under Zug-01 project, including Bashi Reservoir, Ingiri Water Well Field and Pumping Station have been prepared by Contractor, endorsed by SC/Safege, approved by UWSCG and reviewed/commented by the RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketii Dgebuadze during the previous reporting periods.
48. The following SSEMPs will be prepared by contractor during the next reporting period in January-June 2018 within the framework of Poti-01, Poti-02 and Jvari-01 projects: one SSEMP for 28 small size pumping stations in city center under Poti-01 project, SSEMP for WWTP under the Poti-02 project and SSEMP for Reservoir under Jvari-01 project.
49. Status of Environmental Management Plans developed by contractor within the reporting period, under the Zug-01 project are provided in the Table 6 below.

**Table 6: Status of Environmental Management Plans under Zug-01 project**

Management Plan	Status	Date of Submission

Company Waste Management Plan (according to Georgian legislation) to be agreed with MoENRP	Submitted	Submitted in July 2017
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### 3.2 Site Inspections and Audit

50. Regular inspection and monitoring of Zugdidi construction sites have been conducted by the Environmental Specialist of Supervision Consultant/Safege. Joint inspection and audit has been carried out by the environmental SC and UWSCG on the regular basis as well. The schedule of joint audit during the reporting period is presented in the Table 7 below.
51. Site inspection monitoring and audit during the reporting period have been carried out on: 12-13 July 2017; 16 August 2017; 31 August 2017; 16 September 2017; 29 September 2017; 16-17 October 2017; 30-31 October 2017, 14-15 November 2017 and 14-15 December 2017. The schedule of conducted monitoring and audit during the reporting period is presented in the Table 7 below.

**Table 7:** The schedule of conducted audits and monitoring during the reporting period (Zug-01)

#	Zug-01, Jvari-01	Organization	Date
1	Day-to-Day Site Inspection	Environmental Specialists of Contractors under Ure-01 and Reg-02 projects	1 July – 30 December 2017
2	Site Monitoring and Inspection	Environmental specialist of USIIP and Environmental specialist of Safege	12-13 July 2017
3	Site Monitoring	Environmental specialist of Safege	16 August 2017
4	Site Monitoring	Environmental specialist of USIIP and Environmental specialist of Safege	16 September 2017
5	Site Monitoring	Environmental specialist of Safege	29 September 2017
6	Site Monitoring	Environmental specialist of Safege	16-17 October 2017
7	Site Audit	Environmental specialist of USIIP environmental specialists of Eptisa and International-Regional Environmental Safeguards Consultant Ms. Ketu Dgebuadze	29 September 2017
8	Site Audit	Environmental specialist of Safege	16-17 October 2017
9	Site Monitoring	Environmental specialist of USIIP and Environmental specialist of Safege	30-31 October 2017
10	Site Monitoring	Environmental specialist of Safege	14-15 November 2017
11	Site Monitoring	Environmental specialist of Safege	14-15 December 2017

52. Several non-compliances have been observed during the site visits under Zug-01 project and verbal instructions have been given to contractor's relevant staff.

- 53. The contractors were always informed on the detected non-compliances and were demanded to improve on the deadline set and send photos of improvements made together with the corrective action plans. Environmental team of Safege and UWSCG monitored the improvements during the next monitoring visits.
- 54. A summary of the identified issues during the site monitoring by EMS/SC and USIIP ES, recommended mitigations and the status of implementation is presented in Annex D.

### 3.3 Non-Compliance Notices

#### Zug-01

- 55. Non-compliance Notice has been issued by Environmental Consultant of USIIP to the Contractor under Zug-01 project and instructed to improve the environmental safeguard requirements, especial on camp sites. Contractor improved the situation and sent improved photos of sites (see Annex G).
- 56. All permits, licenses and agreements are on place under Zug-01 project and available at camp site.

### 3.3 Corrective Action Plans under Zug-01

- 57. Corrective action plans to keep the construction camp site clean and organized have been developed by contractor during the reporting period per request of SC and Environmental Specialist of USIIP. The results of implemented actions within the proposed EMR of July-December 2017 are presented in table 8 below.

**Table 8:** Actions taken for Implementation of Mitigation Measures under Zug-01 Project by the end of December 2017

#### ZUG-01

Construction Site	Environmental Issues	Action taken
Camp Site	Hazardous waste containers should be placed with labels on secondary drip tray	All improvements were done by Contractor after the instruction given by the RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketu Dgebuadze and Environmental Specialist of USIIP during the ADB Mission in 28-30 September 2017 (see Annex G - CAP).
	Household Waste should be placed at the proper container, at special designated area, labeled and discharged timely	
	Used tyres should be removed and utilized by the licensed company on contractual base	

Construction Site	Environmental Issues	Action taken
		(Additional recommendations to contractor are provided in Table 11 below)
Ingiri pumping station	Waste management on site should be improved,  Site Should be cleaned regularly, waste should be placed at the proper place in proper containers and discharged timely	Completed
	Territory should be covered with gravel to avoid mud and puddles during the rainy weather and keep the site clean.	Not-Completed

58. Annual Environmental Compliance Safeguard Review Mission was carried out by ADB on 19-21 April 2017 to review environmental safeguards compliance of USIIP projects.

### 3.5 Actions taken to reflect the findings of ADB mission carried out on 28 September – 2 October 2017

**Table 9: Status of Findings of ADB Mission Carried Out on 28 September – 2 October 2017**

Project	Specific Issues	Deadline for submission/Implementation	Implementation Status
Status of findings of ADB mission carried out on 28 September – 2 October 2017			
Construction of Water Supply System in Zugdidi – USIIP, T 4			
Zug-01			
	<u>Ingiri pumping station:</u> Waste management on site to be improved.	Q4 2017	Completed (see Annex G - CAP)
	Territory to be covered with gravel to avoid mud and puddles during the rainy weather and keep the site clean.	Q4 2017	Not Completed yet. Territory will be covered by gravel after completion of construction works in Q1 2018.

**Actions taken regarding the action plan of the EMR January-June 2017:**

**Table 10:** Status of implementation of action plan of January-June 2017

Specific issues: Recommendations Zug-01	Implementation Status
Conduct monitoring of environmental quality under Zug-01 project (Bashi Reservoir, Ingiri well fields and pumping stations and network) in September 2017.	Completed in December 2017 Measurement data are reflected in proposed EMR July-December 2017
Carry out noise measurement at the nearest sensitive receptors and at the construction site by the end of October 2017.	Completed in December 2017, Measurement data are reflected in proposed EMR July-December 2017
Contractor, SC, UWSCG/DEPRP, UWSCG/PR department to continue Public Awareness activities within the Zug-01.	<p>Partially Completed. Environmental Specialists of USIIP/UWSCG and representatives of the Public Awareness division of UWSCG had permanent meetings with local population during the site visits under Zug-01 project. More comprehensive Public Awareness activities, focused on dissemination of informational leaflets and Brochures with specific information on GRM/ GRC will be carried out after the selection of PA consultant by Safage.</p> <p>PA Consultant will be signed in January 2018 and Public Awareness activities carried out during the next reporting period will be reflected in EMR January-June 2018.</p>

Specific issues: Recommendations Zug-01	Implementation Status
<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>

### 3.4 Consultations and Complaints

#### Public Awareness Activities:

- 59. Consultation meeting with people living in close proximity to the construction site in Zugdidi/Bashi reservoir and well fields (Zug-01) were undertaken by Environmental Specialists of USIIP and Safege, during the reporting period.
- 60. The purpose of above mentioned consultation were: to ensure the local residents informed participation in project implementation and monitoring; to inform them of the possible impacts of the project on their health and the environment, and efforts to be undertaken by the contractor to minimize the impact and to mitigate impact when avoidance is not possible.
- 61. During the meeting local population showed a support for the Zugdidi water supply subproject. They stressed the importance and the need to improve the water supply system in Zugdidi.

#### Trainings

62. On site environmental safeguard training were organized for environmental team of Zug-01 project on a regular bases during the site visits. Environmental specialists of contractor was introduced with all necessary safeguard requirements of ADB/SPS 2009.
63. The main issues of discussion were the obligations of contractor in terms of environmental safeguards and issues that are to be managed during construction process.
64. The issues of discussion were as follows:
- Site-specific Environmental Management Plans and their implementation
  - Site management

**Grievance redresses mechanism (GRM)**

65. For the effective implementation of a GRM system under the USIIP, UWSCG issued special order (#122) on 30 April 2014. The “Establishment of GRM within the Framework of the Asian Development Bank Funded Projects” signed by the head of UWSCG gives clear instructions to every involved stakeholder how to act when affected people are impacted by the project. Detailed description of GRM procedures are provided in ANNEX E.
66. During the reporting period about five complaints have been received by the contractor. No written complaints were registered at the service center of Zugdidi. These complains were mainly related to the dropping of waste soil on the street and rehabilitation of damaged infrastructure mainly roads. All complains were resolved at the first level by involving representatives of the local service center of UWSCG, Contractor and SC/Safege under Zug-01 project.

**PART IV – CONCLUSIONS AND ACTION PLAN FOR THE NEXT PERIOD**

**4.1 Conclusions and recommendations**

67. As presented in this report, Tranche-IV of this Investment Program is being implemented in compliance with the ADB Safeguards Policy Statement, 2009, National Legislation and overall EARF.
68. Necessary instructions have been given to the Contractor by UWSCG and SC to follow the EMPs and SSEMPs under Zug-01 project.
69. More detailed recommendations with indication of the entities responsible for their implementation are provided in the table 11 below:

**Table 11: Recommendations to Address Environmental Issues under Zug-01 project**

Recommendations Zug-01 Zugdidi	Responsible party
<b>Camp Site</b>	

Recommendations Zug-01 Zugdidi	Responsible party
Accumulated waste soil should be removed from construction area and disposed in a proper place	Contractor is requested to keep the standard
Hazardous waste containers should be placed with labels on secondary drip tray	
Household Waste should be placed at the proper container, at special designated area, labeled and discharged timely	
Used tyres should be removed and utilized by the licensed company on contractual base	Contractor partially improved the site. Additional instructions are given to contractor to remove used tires from camp area and dispose in a proper place
<b>Ingiri Well Fields</b>	
Territory to be covered with gravel to avoid mud and puddles during the rainy weather and keep the site clean.	Contractor is requested to cover territory by gravel after completion of construction works in Q1 2018.

#### 4.2 Action Plan for the next period

70. Contractor, SC, UWSCG/DEPRP, UWSCG/PR department to continue Public Awareness activities within the Zug-01 and Jvari-01 projects (January-June 2018).
71. Conduct monitoring of environmental quality under Zug-01, Poti-01, Poti-02 and Jvari-01 project sites in March 2018.
72. Carry out noise measurement at the nearest sensitive receptors and at the construction site by the end of March 2018.
73. Contractor to develop, SC to endorse and UWSCG to approve the following SSEMPs within the framework of Poti-01, Poti-02 and Jvari-01 projects:
- one SSEMP for 28 small size Polyethylene (PE) pumping stations located in the city center under Poti-01 project;
  - SSEMP for WWTP under the Poti-02 project;
  - SSEMP for Reservoir under Jvari-01 project
74. The specific plan for measurement is as follows:



**Table 12:** Conduct Monitoring of Environmental Quality under Zug-01, Poti-01, Poti-02 and Jvari-01 Projects at Each Site

Parameters	Quarterly measurement
Dust	March 2018
Vibration	March 2018
Carbon monoxide	March 2018
Nitrogen dioxide	March 2018
Noise	March 2018

## **ANNEX A: MONITORING MEASUREMENT DATA**

### **Zug-01 monitoring measurements (November 2017)**

#### **Zugdidi Water Supply Project**

#### **Monitoring measurements under project: 43405-026**

**November 2017**

### **1. Introduction**

It is proposed to improve the water supply system in Zugdidi 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.

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 Bashi reservoir, near village Odishi, near Mestia road and Sokhudze street, 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 at Bashi reservoir, near village Odishi, near Mestia road and Sokhadze street. The trenches had been excavating at sites and the trenches were filled in some of them.

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:  $\text{Noise level}_1 - \text{Noise level}_2 = 20 \log r_2/r_1$ , 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	Calculation level of the noise
-------------------------------	--------------------------------	--------------------------------

	Average value - dBa	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.

## Annex 1: Results of quality measurements

Annex 1: Results of quality measurements

Place 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
At Reservoir 42°14'06.07" N 42°42'25.89" E	0.5	PM 10 - 0.055 PM 2.5 - 0.025	5.0	1.1	0.2	0.02	0.5	≥ 0.1	70	47.6	30	9	4.0	2.3
near village Odish 42°52'30.63" N 41°87'03.12" E		PM 10 - 0.029 PM 2.5 - 0.056		2.1		0.05		≥ 0.1		65.3		12		2.0
At Mestia road turn 42°32'41.36" N 42°40'34.14" E		PM 10 - 0.046 PM 2.5 - 0.125		1.3		0.02		≥ 0.1		70.1		10		0.1
Sokhadze street 42°18'40.35" N 42°41'54.31" E		PM 10 - 0.055 PM 2.5 - 0.022		2.2		0.12		≥ 0.1		64.4		8		2.1

Zurab Revazishvili  
Project coordinator

*Z. Revazishvili*



**Annex 2: Photos**

Photo 1: Noise near turn to Mestia (Zugdidi)



Photo 2; Radiation near turn to Mestia (Zugdidi)



Photo 3: Vibration near turn to Mestia (Zugdidi)

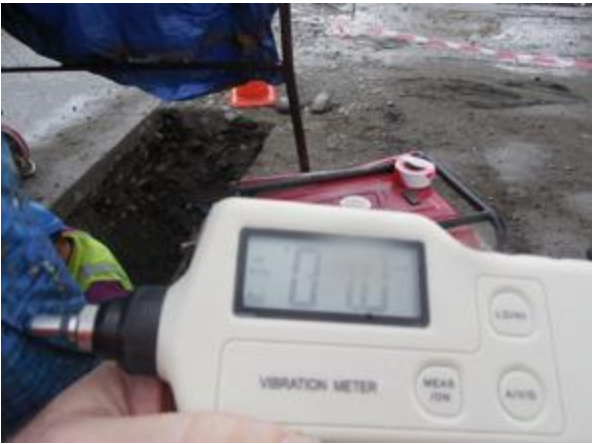


Photo 4: Dust near turn to Mestia (Zugdidi)



Photo 5: Dust – Sokhadze street

Photo 6: Noise village Odishi



**ANNEX B: PROJECT PHOTOS**

**Zug-01: Bashi Reservoir**



**Zug-01: Ingiri Weel Fileds**





## ANNEX C: NON-COMPLIANCE NOTICES

Zug-01 – 4 October 2017

### Non-Compliance Notice

<b>Project: USIIP</b>	<b>Non-compliance Notice</b> <b>Zugdidi</b>
<b>Contract No: Zug-01</b>	
<b>Contractor: Az Inshaat-N LTD</b>	
<b>Reference:</b> <b>Zugdidi – Camp site and Well fields</b>	

This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented **urgently**.

- Hazardous waste containers should be placed with labels on secondary drip tray High visible safety signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of population
- Household Waste should be placed at the proper container, at special designated area, labeled and discharged timely
- Used tires should be removed and utilized by the licensed company on contractual base
- Territory *should be covered with gravel to avoid mud and puddles during the rainy weather and keep the site clean.*
- Site Should be cleaned regularly, waste should be placed at the proper place in proper containers and discharged timely





## ANNEX D: IMPLEMENTATION REPORT ON THE ENVIRONMENTAL IMPACT ASSESSMENT

### (EIA) /INITIAL ENVIRONMENTAL EXAMINATION (IEE) MITIGATION REQUIREMENTS:

Reference	Requirement	Action to date	Action required/comment
Zug-01			
Camp Site	Hazardous waste containers should be placed with labels on secondary drip tray	Partially Completed	Contractor was requested to develop CAP. CAP was developed and is presented in proposed EMR, please see ANNEX G.  Despite the above mentioned Contractor only partially improved the situation, cleaned the site but could not ensure final disposal of tires, therefore additional improvements is required.  Final improvements will be presented in the next EMR – January-June 2018
	Household Waste should be placed at the proper container, at special designated area, labeled and discharged timely	Completed	
	Used tires should be removed and utilized by the licensed company on contractual base	Partially Completed	
Ingiri well field	<i>Territory should be covered with gravel to avoid mud and puddles during the rainy weather and keep the site clean.</i>	Not-Completed	Contractor is instructed to cover territory with gravel and send Improved photos of sites.  All improvements will be presented in EMR January-June 2018.
	Waste management on site should be improved,  Site Should be cleaned regularly, waste should be placed at the proper place in proper containers and discharged timely	Completed	

## ANNEX E:

### Grievance Redress Mechanism

The GRM allows affected people to appeal any disagreeable decision, practice or activity arising from project implementation.

Any affected person can apply at a UWSCG local service centre through different ways, either by going to the service centre, sending a letter to the service centre, or calling a hotline. The operators of the service centre can respond by going directly to the affected person if they are disabled to get the written grievance from them.

During the first stage, complaints are discussed within two weeks of being received by the local service centre of UWSCG (e.g. Zugdidi), based on the verbal or written complaint. In the first stage of grievance review and resolution, an authorized representative of the local service centre is responsible for ensuring the registration of the claim and its further processing. He/she engages in the grievance review and resolution process representatives (managers and environmental specialists) of Construction and Supervision Companies, and the representatives of UWSCG central office as required. At the local service centre, the affected person is provided with a queue number and then registers the grievance at the service desk.

The service centre operators, who are trained<sup>1</sup> in USIIP/Reg-01project, register all relevant grievances with support of an online task management system, which tracks information on the grievance review process and the responsible person. Moreover, the operators fill the ADB complaints log with the registered grievance that coincides with local internal forms. This electronic intranet system<sup>2</sup> allows the UWSCG Tbilisi Office to immediately see claims. Therefore, claims submitted to any regional service centre can be monitored by the Head of the Investment Projects Management Office (IPMO), as well as the Head of the Environmental and Resettlement Division, Maka Goderdzishvili.

When a grievance is solved positively in the first stage, the grievance is closed through an Agreement Protocol, which is reflected in the eDocument – Task Management System.

The grievance enters a second stage if it is not solved. In that case, the authorized representative of the local service centre will help the claimant prepare a package of grievance application documents for official submission to the Grievance Redress Committee (GRC). The package contains the following information:

- Name, ID, address and contact details of the claimant
- Description of the essence of the complaint
- Supporting documents and evidences (photos, maps, drawings/sketches, conclusion of experts or any other documents confirming the claim)
- Brief description of the actions proposed for the grievance resolution at the first

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<sup>1</sup> UWSCG and Supervision Consultant (Eptisa) conducted trainings for service center operators covering general procedures of GRM functioning in order to ensure proper coordination of different departments.

<sup>2</sup>The **eDocument - Task Management System** was developed by LEPL Financial-Analytical Service of the Ministry of Finance of Georgia. It is an innovative electronic document and task management mechanism for electronically processing of documents. Used by almost all the major budgetary organizations in Georgia, the eDocumentservice offers an opportunity to manage, find, and track documents for information-intensive organizations.

- stage and the reasons why these actions were denied
- Minutes of meetings conducted at the first stage

The GRC should make a decision within two weeks after the registration of the grievance. The GRC is staffed as follows: (i) Representative of self-government – the head of committee; (ii) Director/ Manager of UWSCG service centre; (iii) Investments Project Management Division representative of the company; (iv) Representative of local authoritative NGO (according to the claim reference); (v) Stakeholders' female representative;(vi) Stakeholders' informal representative; and (vii) Heads of local municipalities.

The GRC will review the package of grievance documents, set a date for a meeting with the claimant, discuss the claim at the meeting, and set up a plan for further actions (actions, responsible persons, schedule etc.). Upon the resolution of the case, the GRC will prepare a brief resume and protocol and the protocol signed by complainant and all parties will be registered in a grievance log.

There is a third stage in case there is a failure to resolve the grievance. In this case, GRC will help the claimant to prepare the documents for submission to the Rayon (municipal) court. They can also apply to ADB at the address below:

- Complaints Receiving Officer, Accountability Mechanism
- Asian Development Bank Headquarters
- 6 ADB Avenue, Mandaluyong City 1550, Philippines
- Email: amcro@adb.org, Fax +63-2-636-2086

## Environmental Monitoring Checklist/გარემოსდაცვითი მონიტორინგის ჩეკლისტი

<p><b>Name of the Contractor and project number/lot</b> მშენებელი კონტრაქტორის სახელი და პროექტის/ლოტის ნომერი</p>	<p>AS Inshaat-N LLC, Construction of Water Supply System in Zugdidi (Zug 01)</p> <p>Contract No:P43405-ICB-Zug-01</p>
<p><b>Description and Location of the Site</b> სამშენებლო საიტის ადგილმდებარეობის აღწერა</p>	<p>This sub-project is located in Zugdidi, the administrative center of the strategically important Samegrelo-ZemoSvaneti Region, and is located at 318 km west of Tbilisi. Geographically, it is situated at 41°52'14.75" East latitude and 42°30'29.65" North longitude, 100m above the MSL. Regional location of Zugdidi is shown in below.</p> <p>Bashi Reservoir: Bashi reservoir is located north of Zugdidi at an elevation that allows the supply from this reservoir by gravity. It serves as balancing reservoir. The storage volume will be 3 x 3,300 m³. The old reservoir (2 x 10,000 m³) will be demolished and a new reservoir will be constructed at the same site.</p> <p>Ingiri Well Fields: The new well field will comprise 10 wells in Inghiri and construction of the compressor station, located south of Zugdidi. Construction site area is approximately 111 848m². The distance between the wells will be minimum 330 m.</p> <p style="text-align: center;">Zugdidi Site</p>
<p><b>Implementing Agency/განმახორციელებელი სააგენტო</b></p>	<p>შპს „საქართველოს გაერთიანებული წყალმომარაგების კომპანია“ “United Water Supply Company of Georgia”, LLC</p>
<p><b>Date of Visit (Year/Month/Day)/ვიზიტის დრო და თარიღი</b></p>	<p>05.11.2017</p>
<p><b>Supervisor's Identity (name, last name, contact information and signature)/საზედამხედველო კომპანიის წარმომდგენლის სახელი, გვარი, საკონტაქტო ინფორმაცია და ხელმოწერა</b>  შალვა ბოსიკაშვილი  საკონტაქტო ინფორმაცია: 595116041</p>	<p><b>კონტრაქტორი/Contractor: Signature and stamp/ხელმოწერა და ბეჭედი</b>  “As Inshaat - N” LLC Gergia  nodari usufaSvili</p>

<b>Current Stage of Civil Works/სამსენებლო სამუშაოების მიმდინარე სტატუსი</b>		<i>მიმდინარე</i> <i>On-going</i>				
<b>Weather Conditions/ამინდის პირობები</b>		<i>wvima</i>				
<b>Documents and Facts to be Examined/შესამოწმებელი დოკუმენტები და ფაქტები</b>		<b>Status/სტატუსი</b>				<b>Comment/კომენტარი</b>  (Indicate document name, number, date and submit copy of the document, in case of non-existence of the document indicate deadline for preparation and submission of the document) (ჩაწერეთ დოკუმენტის დასახელება, ნომერი, თარიღი და წარმოადგინეთ დოკუმენტის ასლი, დოკუმენტის არ არსებობის შემთხვევაში მიუთითეთ რა ვადა მიეცა კონტარქტორებს დოკუმენტის მომზადებისა და მიღებისათვის)
		<b>Yes/დიახ</b>	<b>Partially/ნაწილობრივ</b>	<b>No/არა</b>	<b>N/A</b>	
<b>EMPs/SSEMPs, Protocols and Reports</b>	Contractor's Site-specific Environmental Management Plan (SSEMP) is prepared, reviewed and approved by PIU prior to contractor commencing the works. შემუშავებული და დამტკიცებულია საიტ-სპეციფიკური გარემოსდაცვითი მართვის გეგმა.	დიახ Yes				SSEMP for Construction of Bashi Reservoir, January 2016  SSEMP for Construction of Pumping Station and Well Fields, March 2016  SSEMP for



					Construction of Jvari Reservoir, January 2017
Supervision Consultant has National environmental specialist in staff საზედამხედველო კონსულტანტ კომპანიას დადებული აქვს ხელშეკრულება ადგილობრივ გარემოსდაცვითი საკითხების მართვის სპეციალისტთან	დიახ Yes				
Supervision Consultant has International environmental specialist in staff საზედამხედველო კონსულტანტ კომპანიას დადებული აქვს ხელშეკრულება საერთაშორისო გარემოსდაცვითი საკითხების მართვის სპეციალისტთან			არა No		
Construction contractor has National Environmental Specialist in staff. მშენებელ კონტრაქტორს დადებული აქვს ხელშეკრულება ადგილობრივ გარემოსდაცვითი საკითხების მართვის სპეციალისტთან.	დიახ Yes				
Construction contractor has International Environmental Specialist in staff. მშენებელ კონტრაქტორს დადებული აქვს ხელშეკრულება საერთაშორისო გარემოსდაცვითი საკითხების მართვის სპეციალისტთან.			არა No		
The Construction Contractor engages 1 archeologist for daily supervision (during soil excavation activities). მშენებელ კონტრაქტორს დადებული აქვს ხელშეკრულება არქელოგთან ყოველდღიური ზედამხედველობისთვის მიწის სამუშაოების განხორციელების ეტაპზე.			არა No		
Monthly environmental monitoring reports are prepared by the Contractor and submitted to the Supervision Consultant მომზადებულია გარემოსდაცვითი მართვის გეგმის განხორციელების ყოველთვიური ანგარიშები	დიახ Yes				

კონტრაქტორის მიერ და წარდგენილია კონსულტანტისათვის					
Monthly and/or quarterly environmental monitoring reports are prepared by the Supervision Consultant and submitted to the PIU.  მომზადებულია გარემოსდაცვითი მართვის გეგმის განხორციელების ყოველთვიური ანგარიშები კონსულტანტის მიერ და წარდგენილია PIU-სათვის.	დიახ Yes				
Bi-annual EMR(s) submitted to ADB and posted on ADB and PIU websites.  ნახევარწლიური გარემოსდაცვითი მონიტორინგის ანგარიში მომზადებულია და გაგზავნილია აგბ-ში და გამოქვეყნებულია აგბ-ს და PIU -ს ვებსაიტზე.	დიახ Yes				
Monitoring reports disclosed to local communities and relevant government agencies.  მონიტორინგის ანგარიშები გამოქვეყნებულია ადგილობრივი მაცხოვრებლებისთვის და ადგილობრივი თვითმმართველობებისათვის გასაცნობად.			არა No		
Emergency Response Plan is prepared and approved.  შემუშავებული და მიღებულია ავარიულ სიტუაციებზე რეაგირების გეგმა.		დიახ Yes			
Health and Safety Management Plan is prepared and approved.  შემუშავებული და მიღებულია ჯანდაცვისა და უსაფრთხოების მართვის გეგმა და ჯანდაცვისა და უსაფრთხოების მართვის სისტემა მშენებლობის ფაზისათვის.	დიახ Yes				ZUG-01-ASIN-HSEP-16-001
Complaints log exists on construction site. საჩივრების ჟურნალი/რეესტრი არსებობს სამშენებლო საიტზე.	დიახ Yes				
Site inspection non-compliance notices issued and corrective action requests implemented. შეუსაბამობების შეტყობინებების მომზადება და წარდგენა კონტრაქტორისთვის და მაკორექტირებელი ქმედებების განხორციელება.	დიახ Yes				

	<p>Training/Capacity building activities undertaken as per EMP requirements and records kept of trainings.</p> <p>გაფორმებული და ხელმოწერილია მუშახელის ტრენინგის ოქმი ჯანდაცვისა და უსაფრთხოების საკითხებზე. ტრენინგის ანგარიშები მომზადებულია და ინახება საიტის კემპზე.</p>	<p>დიახ</p> <p>Yes</p>				
<b>Permits, Licenses, Contracts</b>	<p>The Contractor has a License for extraction of natural resources.</p> <p>კონტრაქტორს გააჩნია სასარგებლო წიაღისეულის მოპოვების ლიცენზია.</p>	<p>დიახ</p> <p>Yes</p>				
	<p>The Contractor has an environmental permit for production of construction materials (cement, asphalt, brick, etc.)</p> <p>კონტრაქტორს გააჩნია სამშენებლო მასალების (ცემენტის, ასფალტის, აგურის და სხვ) წარმოების გარემოზე ზემოქმედების ნებართვა.</p>				N/A	
	<p>The Contractor has a permit or relevant contract from the Municipality for final disposal of construction waste/კონტრაქტორს მიღებული აქვს სამშენებლო ნარჩენების საბოლოო განთავსების ნებართვა ან შესაბამისი კონტრაქტი ადგილობრივ ორგანოებთან.</p>	<p>დიახ</p> <p>Yes</p>				
	<p>The Contractor has a permit for final disposal of municipal waste.</p> <p>კონტრაქტორს მიღებული აქვს საყოფაცხოვრებო ნარჩენების საბოლოო განთავსების ნებართვა.</p>	<p>დიახ</p> <p>Yes</p>				
	<p>The Contractor has executed the contract with the licensed organization on the hand-over and disposal of hazardous waste.</p> <p>კონტრაქტორს გაფორმებული აქვს სახიფათო ნარჩენების გადაცემისა და გატანის ხელშეკრულება ლიცენზირებულ ორგანიზაციასთან.</p>		<p>Partia</p> <p>lly/ნა</p> <p>წილო</p> <p>ბრივ</p>			<p>xelSkruleba</p> <p>SeTanxmehis</p> <p>procesSia da uaxloes</p> <p>droSi mzad iqneba.</p>
	<p>The Contractor has a license for tree felling</p> <p>კონტრაქტორს გააჩნია ლიცენზია ხის ჭრისთვის.</p>		<p>Partia</p> <p>lly/ნა</p> <p>წილო</p> <p>ბრივ</p>			<p>saWIro dikumentacia</p> <p>mzadebis procesSia,</p> <p>romlebic</p> <p>gadaegzavneba</p> <p>garemos ad bunebrivi</p> <p>resursebis dacvis</p>

					saministros.
<b>Performance of Civil Works</b>	<p>The site is fenced and warning signs are arranged. სამშენებლო ობიექტი შემოსაზღვრულია და გამაფრთხილებელი ნიშნები მოწყობილია</p>	<p>დიახ Yes</p>			
	<p>The construction works do not impede pedestrian and motor traffic, or the temporary detour routs are organized. მშენებლობა არ აფერხებს ფეხმავალთა და ტრანსპორტის გადაადგილებას, ან მოვლობილია დროებითი შემოღობვები.</p>	<p>დიახ Yes</p>			
	<p>The working hours are observed in the human settlements and their vicinity. სამუშაო საათები დაცულია დასახლებულ ობიექტების და მათი სიახლოვეს.</p>	<p>დიახ Yes</p>			<p>3-4 brigada muSaobs Ramis cvlaSi. სამუშაო საათების რეგულირება ცივ სეზონში დაცულია.</p>
	<p>During the required temporary disruptions of water, power or gas supply, the customers are notified in advance. წყლის, ელექტროენერჯის, ან გაზის მიწოდების დროებითი შეწყვეტისას ხდება მოხმარებელთა წინასწარი გაფრთხილება.</p>	<p>დიახ Yes</p>			
	<p>The construction machinery and equipment is in good order (there is no leakage of fuels and lubricants, nor excess noise and emissions). სამშენებლო მანქანები და ტექნიკა გამართულია (არ ხდება საწვავ-საპოქის ჯონვა, ვარბი გამონახველი და ხმაური).</p>	<p>დიახ Yes</p>			<p>დრო და დრო არი დიზელის საწვავის და ზეთის დაწვობის შემცირება. დაბინავებული მიწის და გადაადგილება საფატი ნარჩენების განთავსებისთვის მოვლობილია საწვავის კონტეინერების, რომლებიც განთავსებული არიან (ინახება სეზონის კონტეინერების, რომლებიც განთავსებული არიან).</p>
	<p>The construction materials and waste are temporarily stored in the specific place on-site, designated for this purpose. სამშენებლო მასალები დასაწყობებულია</p>	<p>დიახ Yes</p>			

	ობიექტზე გამოყოფილ განსაზღვრულ ადგილას.				
	The construction waste is transported from the site on regular basis, to the officially designated (in writing) site. სამსენებლო ნარჩენების ობიექტიდან გათავსდება რეგულარულად, ვერილობით ნებადართულ ადგილას.	დიახ Yes			
	During transportation, the construction materials and waste are placed on the covered hood. ტრანსპორტირებისას სამსენებლო მასალა და ნარჩენები თავსდება გადახურულ ჯარაზე.		Partially/წილობრივ		Sekვეტილია specialური gadasaxuri tentebi
	The site is watered during the periods of intensive dust generation and dry weather conditions. სამსენებლო ობიექტი ირწყვება მთვრის ინტენსიური თბობის და მშრალი ამინდის პირობებში.	დიახ Yes			
	The containers for collection of domestic waste are placed in the construction site/camp. სამშენებლო ობიექტზე/ბანაკაში განთავსებულია საყოფაცხოვრებო ნარჩენების შესაგროვებელი კონტეინერები.	დიახ Yes			
	The construction camp is supplied with water and toilets in good sanitary condition. სამშენებლო ბანაკაში მიყვანილია წყალი, მოწყობილია ტუალეტი და დაცულია მისი სანიტარული მდგომარეობა.	დიახ Yes			
	During excavation works, in case of any archeological chance finds, the works are suspended and the employer is notified in written form. მიწის სამუშაოთა დროს, თუ არქეოლოგიური აღმოჩენის შემთხვევაში სამუშაოები შეწყვეტება და მფლობელს დახმარებითი ინფორმაცია მიწოდდება.	დიახ Yes			
Monitoring measurements	Monitoring measurement data (air, water, soil, erosion, noise, dust, vibration, etc). წყლის, ჰაერის, ვიბრაციის, ეროზიის, ხმაურის, მტვრის და ნიადაგის მონაცემების გაზომვების მონიტორინგი.	დიახ Yes			ვიბრაციის, ხმაურის და მტვრის მონაცემების გაზომვები ტარდება პერიოდულად. შენიშვნა:

						გაზომვები ტარდება სსემპ-ში მოცემული მონიტორინგის გეგმის შესაბამისად.
Top soil protection	<p>Topsoil is stripped and stored according to standard procedures and used further for landscaping and reinstatement.</p> <p>წიადაგის ზედა ფენა სტანდარტული პროცედურების მიხედვით მოჭრილია და დასაწყობებულია, შემდგომში აღდგენითი სამუშაოების წარმოებისთვის.</p>	<p>დიახ Yes</p>				
Pollution Prevention	<p>Pollution prevention and response measures are implemented.</p> <p>dabinZurebis Tavidan acileba.</p>	<p>დიახ Yes</p>				
Prevention of trees	<p>Trees are protected from cutting or unintentional damage. Cutting is performed only in cases of proved necessity and in agreement with municipality.</p> <p>xeebis dacva.</p>	<p>დიახ Yes</p>				
Safety Measures	<p>The workers use all personal safety equipments required for individual technological processes (hard hats, gloves, respirators, glasses, etc.).</p> <p>muSaxeli iyenebs calkeuli teqnologiuri procesebisTvis aucilebel pirad damcav saSualebebs (Cafxutebi, xeITaTmanebi, respiratorebi, saTvaleebi da a.S.).</p>	<p>დიახ Yes</p>				
	<p>The sites are provided with the fire fighting and emergency medical aid kits, site is fenced, site lightning, signs are installed, etc .</p> <p>samSeneblo obieqtze ganTasebulia xanZarsawinaaRmdego da saswrafo samedicino daxmarebis sabaziso nakrebebi. Saiti SemoRobilia, ganaTeba damontaJebulia, sainformacio dafebi/abrebi gakrulia, das xv.</p>	<p>დიახ Yes</p>				

Works' Completion	<p>After completion of main works, the site undergoes final cleanup, harmonization with outward landscape and landscaping.</p> <p>ZiriTad samuSaoTa dasrulebisas warmoebs obieqtis saboloo dasufTaveba, gare landSafTan harmonizeba da gamwvaneba.</p>	<p>დიახ</p> <p>Yes</p>				<p>შენიშვნა: განხორციელდება სამშენებლო სამუშაოების დასრულების შემდეგ.</p> <p>ქაბურღილებზე უნდა ჩატარდეს დასუფტავებითი სამუშაოები</p>
	<p>After completion of the operations in the quarry or its certain section, the idle material is backfilled, compacted, terraced and harmonized with the landscape.</p> <p>karieris an misi calkeuli ubnis eqspluataciis dasrulebisas warmoebs fuWi masalis ukuCayra, kompaqtireba, terasireba, da landSafTan harmonizeba.</p>				N/A	
	<p>Final Post Construction Environmental Audit/monitoring is conducted and Final Environmental Audit Report is prepared //საბოლოო გარემოსდაცვის მონიტორინგი/აუდიტი ჩატარებულია და საბოლოო გარემოსდაცვის აუდიტის ანგარიში მომზადებული.</p>	<p>დიახ</p> <p>Yes</p>				<p>შენიშვნა: ჩატარდება სამშენებლო სამუშაოების დასრულების შემდეგ</p>

## ANNEX G: CORRECTIVE ACTION PLANS

### Corrective Actions Responding Mission Note (28-29 September – 2 October 2017)

- Wheelie bins have been cleaned and labeled. Drum with mixed waste has been removed. Licensed company for used tires utilization is seeking.
- Housekeeping was done at the well field and compressor station; collected waste was removed to the camp area.
- Diesel and oil spills were cut and contaminated soil was removed to the hazardous waste area. Environmental helper was employed for waste management improvement.

#### Rukhi Camp

Waste Containers Cleaned and Labeled



Contaminated Soil Stripped and Stored in the Hazardous Waste Storage Shelter



Hazardous Waste Stored in the Shelter





**Ingiri Pumping Station Construction Site**

Site Cleaned and Solid waste Removed



**Water Wells**

Sites Cleaned and Solid Waste Removed



