

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project Number: 43405-027

Reporting Period: January-June 2019

GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 5) (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 Environmental Protection and Permits

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ABBREVIATIONS

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

I. INTRODUCTION

1.1 Preamble

1. This report represents the Semi - Annual Environmental Monitoring Review (SAEMR) for the Urban Services Improvement Investment Program, Tranche 5.
2. This report is the 4rd Environmental Monitoring Review (EMR) of Tranche 5 under USIIP.

1.2 Headline Information

3. Contractors in accordance with USIIP / T5 usually follow the instructions given by the Supervision Consultant and the UWSCG / USIIP during environmental monitoring of construction sites. Non-conformance notice is issued by SC and UWSCG when necessary. 12% of discrepancies are still unresolved, compared with 32% for the previous reporting period - July-December 2018. These are mainly H&S problems of workers and local community, especially in the framework of the Zug-02 sub-project.

II. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

4. The Urban Services Improvement Investment Program was developed as the Government's response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is intended to optimize social and economic development in selected urban areas through improved urban water and sanitation services, and is financed by the ADB through its Multi-tranche Financing Facility. The Ministry of Regional Development and Infrastructure is the Executing Agency and the United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
5. The Investment Program will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
6. Tranche 5 of the Investment Program includes:
 - Construction of Sewage System in Zugdidi (ZUG-02);
 - Construction of Wastewater Treatment Plants in Zugdidi (A) – REG-03a
 - Construction of Waste Water treatment Plant in Mestia (B) - REG-03b

The following projects are financed under Tranche 5:

7. **Construction of Sewage System in Zugdidi (ZUG-02).** The Zugdidi wastewater project envisages the rehabilitation and extension of the sewer network with gravity sewers and

pressure lines and the construction of wastewater pumping stations. The project measures for the sewer network comprise the laying of 160 km new gravity pipes (DN 100 to DN 800) and 9.7 km new pressure pipes (OD 110 and OD 630). There will be 24 new wastewater pumping stations. The new network will convey the wastewater to a new wastewater treatment plant, which will be constructed under Reg-03 – Zugdidi (A) WWTP project.

8. The contract No P43405-ICB-Zug-02 was signed on February 1, 2017 with Ludwig Pfeiffer Hoch-und Tiefbau GmbH & Co.KG, The date of completion of the contract is 1 February 2020.
9. **Construction of Wastewater Treatment Plant in Zugdidi (REG-03a).** The project comprises of the construction of new Wastewater Treatment Plant with the capacity of 22,000 m³/day.
10. The contract No UWSCG-USIIP-ICB-REG-03a was signed on February 1, 2017 with “JV “Pfeiffer - EMIT” comprised by “Ludwig Pfeifer Hoch – and Tiefbau GmbH7Co. KG (Germany)” and “EMIT |Group – Ercole Marelli Impianti Tecnologici S.r.l. (Italy)”, Original completion date: 15 Jan. 2020, no Contract extension applied for the moment.
11. **Construction of Wastewater Treatment Plant in Mestia (REG-03b).** The project comprises of the construction of new Wastewater Treatment Plant with the capacity of 3,200 m³/day. No contract was signed under REG-03b project as yet.

2.2 Project Contracts and Management

12. 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.
13. 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
14. 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.

15. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) – Posch&Partners Consulting Engineers under T5. 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.
16. All mitigation measures during construction are implemented respectively by the contractor companies: Ludwig Pfeiffer Hoch-und Tiefbau GmbH & Co.KG and Ludwig Pfeifer Hoch – and Tiefbau GmbH7Co. Each contractor company have Environmental and safety officers responsible for HSE issues during construction process. Mr. Nikoloz Neparidze is simultaneously responsible for EH&S issues under ZUG-02 sub-project and only for Environmental Issues under ZUG-03/a sub-project. Mr. Irakli Abuladze is responsible for H&S issues under Reg-03/a sub-project.
17. Ms. Tiko Zhizhiashvili is Environmental H&S specialist of Supervision Consultant Posch. Construction companies are monitored by the supervision consultant's (Posch) environmental specialist – Ms. Tiko Zhizhiashvili 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 Posch prepares quarterly environmental reports and submits to UWSCG.
18. 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.
19. 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.
20. 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.
21. 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.

- 22. 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.
- 23. 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

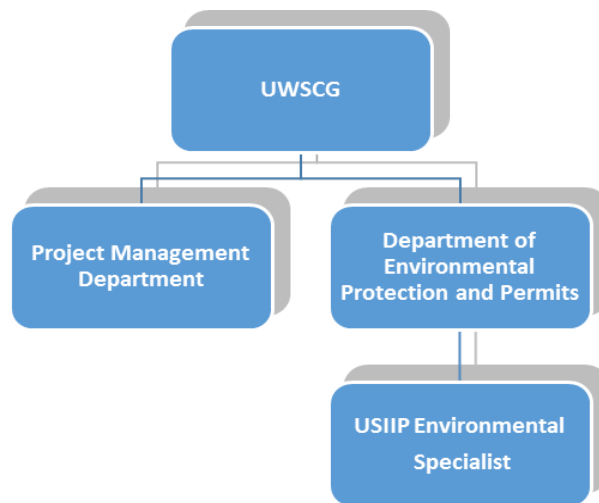
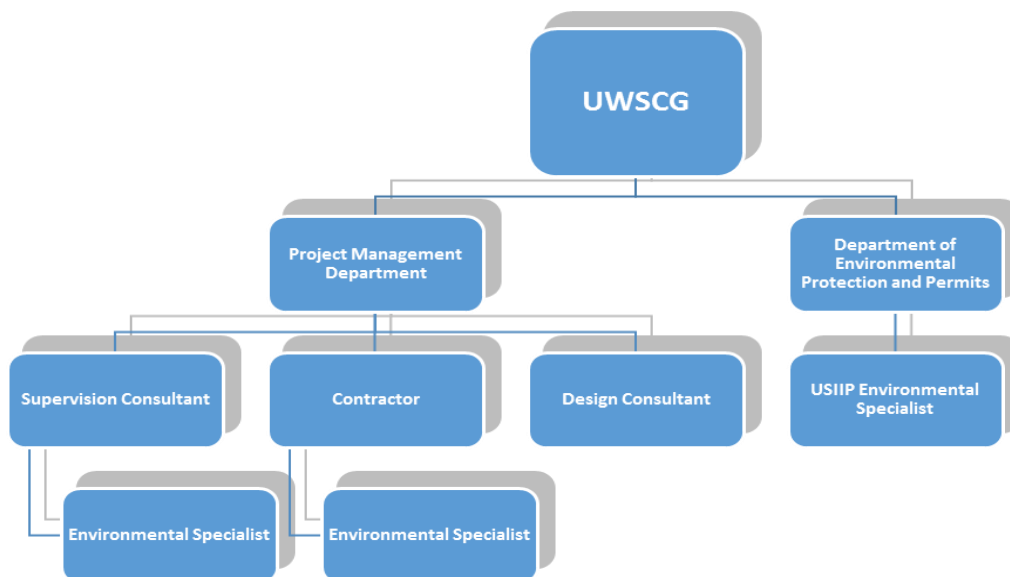


Figure 2: Structure Diagram of the Agencies Involved in Investment Program Implementation



24. Main organizations involved in the project and related to environmental safeguard are presented in the table below:

Table 1: List of Main Organizations under USIIP/T5

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 nnadashvili@adb.org
		ADB RETA International-Regional Environmental Consultant	Keti Dgebuadze Tel: +995 577232937 ketdgeb@yahoo.com
Borrower	UWSCG	UWSCG, Department of Environmental Protection and Permits, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
		UWSCG/IPMO Department of Projects Management, Head	Mr. Giorgi Archaia Tel: +995 577 380213 E-mail: G.Archaia@water.gov.ge
Borrower	UWSCG/USIIP/T5	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: Chomakhidzek@yahoo.com

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Supervision Consultant	Posch&Partners Consulting Engineers	Environmental Specialist:	Mr. Tinatin ZhiZhiashvili Tel: +995 577 380113 E-mail: tikozhizhiashvili@yahoo.com
Contractor ZUG-02	Ludwig Pfeiffer Hoch-und Tiefbau GmbH & Co.KG	Environmental H&S Specialist	Mr. Nikoloz Neparidze Tel: +995 599 346821 E-mail: nikoloz.neparidze@ludwigpfeiffer.com
Contractor REG-03a	JV "Pfeiffer - EMIT" comprised by "Ludwig Pfeiffer Hoch – and Tiefbau GmbH7Co. KG (Germany)" and "EMIT Group – Ercole Marelli Impianti Tecnologici S.r.l. (Italy)	Environmental H&S Specialist H&S Specialist	Mr. Nikoloz Neparidze Tel: +995 599 346821 E-mail: nikoloz.neparidze@ludwigpfeiffer.com Mr. Irakli Abuladze Tel: +995 568 012858 E-mail: irakli.abuladze.1974@gmail.com

2.3 Project Activities During Current Reporting Period

25. The following works were implemented by contractor during the reporting period:

❖ Mobilization

- Site offices completed with facilities (furniture, internet, phone connection, and water and toilet facilities) are established on site, both for Contractor and for Engineer/Employer
- Concrete Batching Plant is delayed in final start-up
- Surveying team is fully active on site (work on setting out, design survey checks and reports)
- Health and safety equipment mobilization is in completion stage
- Procurement of materials is ongoing.
 - PP manholes are in delivery stage
 - PE pipes and fittings are delivered in stages

❖ Construction of a new sewerage system

- Submitting of detailed method statements is ongoing.

- Works in the Western zone are progressing and two lines in the Hospital zone have started by the end of the reported period
- Machinery for construction is on site

26. More detailed construction activities under ZUG-02 project during the reporting period is presented in the Table 2 below.

Table 2: progress of construction activities ZUG-02

Site	Construction of new sewers
Zug-02	Earth Works
Works undertaken during January-June 2019	62,26%
Site	Pipeline and manholes Installation
Works undertaken during January-June 2019	80,06%
	Reinstatement
Works undertaken during January-June 2019	38,70%

27. Overall progress of works on the contract REG-03/a is 72,60%.

28. The updated organization chart of the key and non-key personnel employed by JV” Pfeiffer- EMIT” is enclosed in the below figure. The team members are divided as follows:

Management team

for

- Dusan Arbanovski (JV Director)
- Miroslav Zivkovic (Project Coordinator)
- Serhan Filiz (Project Coordinator)
- Nikola Marinko (Project Manager)

Site Eng. /Constr. Superintendents:

- Carmen Vlad (Project Administrator)
- Giuseppe Colucci (Procurement Specialist Abroad)
- Vano Tisklauri (Procurement Specialist Georgia)
- Bojana Pavlovic (QAQC Manager)
- Semih Tasketin (StartUp Manager)

- Dejan Filipovic (Construction Manager)
- Ruslan Shonia (Site Eng. Civil Works)
- Celal Coskun (Contr. Exp. Mechanical Equipment)
- Angeles Barron (Constr. Exp. Electrical Equipment)
- Nikoloz Chkhaidze (Foreman – Prime Concrete’s Project Manager);
- Karamzin Kvaratskhelia (Foreman – New Power’s Project Manager)

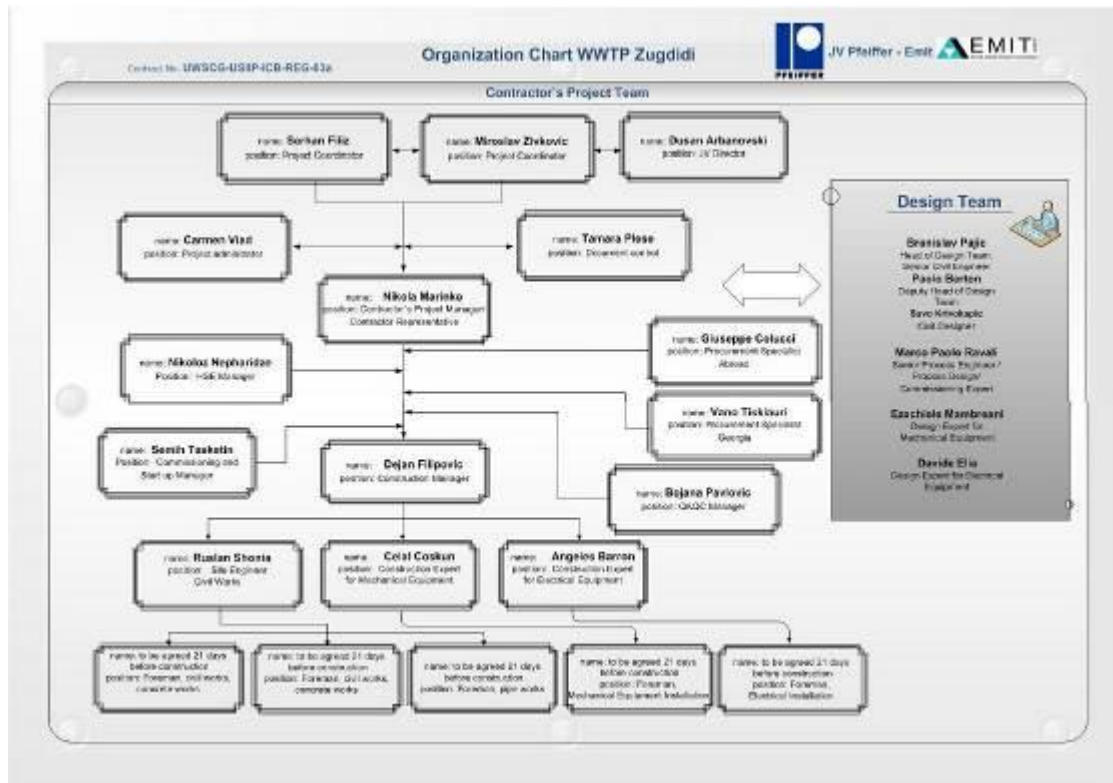
Design team:

- Branislav Pajic (Head of Design Team)
- Paolo Berton (Deputy Head of Design Team)
- Savo Krivokapic (Civil Engineer/Designer)
- Davide Elia (Electrical Engineer/Designer)
- Marko Paolo Ravali (Process Engineer/Designer)
- Ezechiele Mambreani (Mechanical Engineer/Designer)

Environmental and Safety Team:

- Nikoloz Nephaidze (Environment Specialist)
- Irakli Abuladze (Health&Safety Officer)
- Goran Milojevic (Surveyor)

Fig 1: Organization Chart of REG-03/a - Zugdidi WWTP project



29. Progress of construction activities under REG-03/a project during the reporting period is presented in the Table 3 below.

Table 3: Construction progress REG-03a project

Site	Works %
REG-03/a - STP Zugdidi	
Works undertaken during January - Jun 2019	
Works performed including January 2019.	
Plant and Mandatory Spare Parts Supplied from Abroad	0 %
Design Services	100 %
Civil and Installation Works	38.06 %
Works performed including February 2019.	
Plant and Mandatory Spare Parts Supplied from Abroad	6.86 %
Design Services	100 %
Civil and Installation Works	47.43 %
Works performed including March 2019.	
Plant and Mandatory Spare Parts Supplied from Abroad	11.09 %
Design Services	100 %
Civil and Installation Works	54.17 %
Works performed including April 2019.	
Plant and Mandatory Spare Parts Supplied from Abroad	28.78 %
Design Services	100 %
Civil and Installation Works	60.1 %
Works performed including May 2019.	
Plant and Mandatory Spare Parts Supplied from Abroad	41.99 %
Design Services	100 %
Civil and Installation Works	63.9 %
Works performed including Jun 2019.	

Site	Works %
Plant and Mandatory Spare Parts Supplied from Abroad	43.41 %
Design Services	100 %
Civil and Installation Works	67.54 %

2.4 Description of Any Changes to Project Design

N/A

2.5 Description of Any Changes to Agreed Construction methods

N/A

III. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

30. 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 January-June 2019. Also unscheduled monitoring visits were carried out, on-site verbal instructions have been given to the contractor and its environmental team and non-conformance 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.
31. The monitoring activities included:
 - The monitoring of compliance of construction activities under Zug-02 project sites to the IEE/EMP requirements;
 - The monitoring of mobilization activities under Reg-03/a project sites to the overall project EMP/SSEMP requirements.
32. Environmental Monitoring Specialist hired under the ZUG-02 and Reg-03/a projects Mr.Nikoloz Meparidze conducted the day-to-day monitoring of the construction sites, filled the weekly checklist forms (example is provided in Annex D) developed the monthly monitoring reports and submitted to SC/Posch.
33. Environmental Monitoring Specialist, Ms.Tinatin Zhizhiashvili developed quarterly monitoring reports for UWSCG/USIIP based on the monthly reports submitted by Contractor, and on regular site inspections.
34. 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 Semi-annual and annual environmental monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
35. The construction activities affecting the environment during the reporting period are as follows:
 - Excavation works
 - Removal of Surplus Soil
 - Backfilling of Trenches
 - Reinstatement Activities
36. 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. Accordingly, the monitoring guidelines were set as shown in the Table 4 below.

Table 4: Parametric Measurement Guidelines

Parameters	Frequency & Location	Remarks
Zug-02		
Air Quality	Air Quality Every 6 months Networks,	Watering site during excavation works to avoid dust spreading Conduct measurements of Dusts Mg/m ³ ; CO Mg/m ³ ; NO ₂ Mg/m ³ ; SO ₂ Mg/m ³
Noise	Noise, Every 6 months Sewerage Networks,	Ensure that all equipment & vehicles used for construction activity are in good condition Limiting working hours to 8 am – 6 pm
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
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.
REG-03/a		
Air Quality	Air Quality Every 6 months Zugdidi WWTP	Watering site during excavation works to avoid

Parameters	Frequency & Location	Remarks
	construction site	dust spreading Conduct measurements of Dusts Mg/m ³ ; CO Mg/m ³ ; NO ₂ Mg/m ³ ; SO ₂ Mg/m ³
Noise	Noise, Every 6 months Zugdidi WWTP construction site	Ensure that all equipment & vehicles used for construction activity are in good condition Limiting working hours to 8 am – 6 pm
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
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.

3.2 Site Audit

37. Regular inspection and monitoring of construction sites under ZUG-02 and REG-03/a sub-projects were conducted by ESs of USIIP and Posch. The schedule of Joint inspection and summary of audits carried out under sub-projects are provided in the Table 5 below.

Table 5. Summary of site audits

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
Continuously during reporting period (January-June 2019)	Ludwig Pfeiffer Hoch- und Tiefbau GmbH & Co.KG ZUG-02	Environmental, H&S Specialist of Contractor Mr. Nikoloz Nepridze	Day to day monitoring of sites Compliance with Environmental and HES requirements	1. Poor housekeeping 2. Safety issues on construction sites	Develop Weekly Checklists (Annex D) Prepare Monthly Monitoring Reports and send to Supervision Consultant
		Environmental, H&S Specialist of Supervision Consultant Ms. Tinatin Zhizhiashvili	Monthly monitoring of sites		Quarterly Monitoring Reports prepared and Non-Conformance Notice Issued (example is provided in Annex c)
		Environmental Specialist of SC Ms. Tiko Zhizhiashvili Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze	Compliance with EH&S requirements		Safety signs/tapes around of all open trenches should be installed to avoid accident of workers and population
11 February 2019		Environmental Specialist of	Monthly Monitoring of	All trenches shall be backfilled	Non-Conformance

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		USIIP Ms. Ketevan Chomakhidze Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze	sites for Compliance with EH&S requirements	immediately after pipes are laid; The construction of the trenches should be carried out in small segments, trenches should not be left open at night; Safety signs/tapes around of all open trenches should be installed to avoid accident of population Construction activities information signs should be installed at each construction segment Walls of the deep trenches (>1.5m) has to be strengthened by boards to avoid landfall of the soil and accidents Refilling/compaction and reinstatement process should bring site at the same or better condition as it was before construction	Notice Issued by UWSCG to Contractor (Please see Annex C) and was requested to immediately improve the situation and send improved photos of site.
6 March 2019		Head of Department of Environmental protection and	Monthly monitoring of sites	Safety signs/tapes around of all open trenches should be installed to avoid accident of workers	Verbal instruction was given to contractor to immediately

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		Permits, Environmental Specialist of USIIP Ms. Ketevan Chomakhidze Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze		and population Workers always should use complete PPE	improve the situation.
19 April 2019		Environmental Specialist of SC Ms. Tiko Zhizhiashvili	Monthly monitoring of sites	Walls of the deep trenches (>1.5m) are not strengthened by boards to avoid landfall of the soil and accidents	Verbal Instructions given to contractor Quarterly Environmental Monitoring Report Prepared
23-24 May 2019		Environmental Specialist of CC Mr. Nikoloz Neparidze Environmental Specialist of USIIP Ms. Ketevan Chomakhidze	Monthly monitoring of sites	Safety signs/tapes around of all open trenches should be installed to avoid accident of population and workers. Walls of the deep trenches (>1.5m) are not strengthened by boards to avoid landfall of the soil and accidents Surplus waste soil should be removed and disposed in a proper place	Verbal Instructions given to contractor

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
3 June 2019		Environmental Specialist of SC Ms. Tiko Zhizhiashvili	Monthly monitoring of sites	Construction activities information signs should be installed at each construction segment Workers always should use complete PPE	Verbal Instructions given to contractor Quarterly Environmental Monitoring Report Prepared
Continuously during reporting period (January-June 2019)	JV "Pfeiffer - EMIT" REG-03/a	Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze	Day to day monitoring of sites Compliance with Environmental and HES requirements	Workers always should use complete PPE	Monthly Monitoring Reports
8 February 2019		Environmental Specialist of SC Ms. Tiko Zhizhiashvili Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze	Compliance with EH&S requirements	Poor housekeeping Power generator without secondary containment Construction materials improper storage	Verbal Instructions given to contractor
11 February 2019		Head of Department of Environmental protection and Permits, Ms. Maka Giderdzishvili Environmental Specialist of	Monthly Monitoring of sites for Compliance with EH&S requirements	Construction waste should be timely removed from the construction site and disposed properly	Verbal instructions were given to contractor to improve the situation on site

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		USIIP Ms. Ketevan Chomakhidze Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze			
6 March 2019		Head of Department of Environmental protection and Permits, Environmental Specialist of USIIP Ms. Ketevan Chomakhidze Environmental, H&S Specialist of Contractor Mr. Nikoloz Neparidze	Monthly monitoring of sites	<p>The main problem on site is that there are too many actors on the ground who are not coordinated, and they claim each other about the disorder on the construction site.</p> <p>Proper construction site gate should be arranged</p> <p>Construction waste should be timely removed from the construction site and disposed properly</p> <p>Environmental, Health and Safety officer should be regularly available at the site!</p> <p>Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site</p> <p>Containers with fuel/lubricant should be managed properly (stored at</p>	Non-Conformance Notice Issued by UWSCG to Contractor (Please see Annex C) and requested to immediately improve the situation, prepare Corrective Action Plan and sent to UWSCG/USIIP (Please see Annex E)

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				<p>the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination</p> <p>All construction materials should be properly segregated and stored adequately</p> <p>Waste should be collected regularly at the site and placed only at the proper waste container</p> <p>Site internally should be arranged properly and cleaned regularly</p>	
19 April 2019		Environmental Specialist of SC Ms. Tiko Zhizhiashvili	Monthly monitoring of sites	Construction waste should be timely removed from the construction site and disposed properly	Verbal Instructions given to contractor Quarterly Environmental Monitoring Report Prepared
23-24 May 2019		Environmental Specialist of CC Mr.Nikoloz Neparidze Environmental Specialist of USIIP Ms. Ketevan Chomakhidze	Monthly monitoring of sites	Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground	Non-Conformance Notice Issued (example is provided in Annex c)

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				contamination All construction materials should be properly segregated and stored adequately Waste should be collected regularly at the site and placed only at the proper waste container	
3 June 2091		Environmental Specialist of SC Ms. Tiko Zhizhiashvili	Monthly monitoring of sites	All construction materials should be properly segregated and stored adequately Waste should be collected regularly at the site and placed only at the proper waste container Workers always should use complete PPE	Verbal Instructions given to contractor Quarterly Environmental Monitoring Report Prepared

3.3 Issues Tracking (Based on Non-Conformance Notices)

38. Non-Conformances have been observed during the site visits under ZUG-02 and REG-03/a 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 Posch 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.

39. A summary of the identified environmental issues for January-June 2019 is presented in table 6 below.

Table 6: Summary of Issues Tracking Activity for Current Period Zug-02

Total Number of Issues for Project	17
Issues Opened This Reporting Period	2
Issues Closed This Reporting Period	15
Percentage Closed	88%

Table 7: Summary of Issues Tracking Activity for Current Period Zug-02

Total Number of Issues for Project	24
Issues Opened This Reporting Period	3
Issues Closed This Reporting Period	21
Percentage Closed	87%

3.4 Trends

40. 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 8: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
1 July-December 2018	20	68%	32%
2 January-June 2019	41	88%	12%

41. All major Non-Conformances under USIIP/T5 during the reporting period are provided in an Annex C of this report.

3.4 Unanticipated Environmental Impacts or Risks

N/A

IV. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

42. During the reporting period Environmental measurements of Noise level and ambient air Quality were carried out by contractor under Zug-02 and REG-03/a sub-projects.
43. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 9 and 10 below.

Table 9: Noise Level Guidelines

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

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

Table 10: Air pollution Guidelines

Contaminants	IFC/WHO Guideline Value (Limit mg/m ³)
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

Contaminants	IFC/WHO Guideline Value (Limit) mg/m ³)
Carbonic monoxide	n/a
Nitrogen dioxide (NO ₂)	0,2/ 1 Hour 0,04/1 Year
Aldehyde	n/a

44. Monitoring measurements of noise level and Dust under Zug-02 project was conducted by contractor in the nearest sensitive receptors in 15 March and 24 March 2019 (See Table 9 and Annex A). The next monitoring measurements will be conducted in September 2019 and results will be reflected in the next July-December 2019 EMR.
45. According to data received in March 2019 noise level does exceed the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Zugdidi and therefore additional mitigation measures are not required (Please see Table11: 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 13:00 pm to 17:30 pm and no complaints were received from the local population about the noise during the reporting period.

Table 11: Monitoring Measurement of Noise, ZUG-02

Instrument measurement (dBA)					Phone measurement (dBA)		
Line	brigade	Min	Max	Avg (log)	Min	Max	Avg
A7	1	23.5	63.1	39	36	65	38
B8	1	26.1	63.2	41	33	68	40
B8-10	1	23.2	64.1	39	34	67	40
B8-11	1	26.1	63.1	41	31	69	39
B8-13	1	21.5	63.8	37	36	68	40
Kostavast.	1	22.1	63.5	37	31	69	41
F3	1	23.2	64.1	39	34	67	40
T1	1	24.1	64.1	39	31	69	39
R1	1	21.5	63.8	37	36	68	40
G5-7	1	22.1	63.5	37	31	69	41
R2 (collector)	1	25.7	65.1	41	32	67	41
C10	1	23.2	64.1	39	34	69	40
G15-2, G5-7	1	24.1	66.5	40	31	69	39

Instrument measurement (dBA)					Phone measurement (dBA)		
K5	1	22.1	64.3	38	31	68	41
S7-1	1	21.5	63.8	37	36	70	40
S6	1	23.4	63.5	39	31	69	41
S6 (HC)	1	21.3	65.8	37	32	68	39
S6-2	1	25.4	64.2	40	37	70	40
S6-5	1	20.6	67.3	37	34	72	38
C12	1	21.3	68.4	38	33	68	37
C13	1	26.2	69.1	43	28	64	40
C15	1	24.3	70.1	41	32	68	38

Table 12: Monitoring Measurement of Dust, ZUG-02

WEEKLY DUST MONITORING REPORT						
brigade	measurement number ($\mu\text{g}/\text{m}^3$)					avrg.
1	53	61	52	56	59	56.2
1	48	52	49	52	51	50.4
1	52	53	56	54	53	53.6
1	54	53	55	50	48	52.0
1	58	60	57	59	60	58.8
1	49	51	48	52	51	50.2
1	54	52	55	54	52	53.4

46. Monitoring measurements of noise level and ambient air quality under REG-03a project was conducted by the National Environmental Agency under the MEPA in the construction area in 11 February 2019 (See Table 13 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.
47. 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 7 and 8 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 13:00pm to 15:00pm and no complaints were received from the local population about the noise during the reporting period

Table 13: Monitoring Measurement of Noise and Air Quality, Reg-03/a

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	Zugdidi 0734030 4708169		0.092	0.98	0.005	<0.247	51.4

4.2 Trends

48. All mitigation measures identified within the ZUG-02 and REG-03/a projects are effective and no additional measures are required.

4.3 Summary of Monitoring outcomes

49. Noise level and Dust during the construction period under ZUG-02 exceeds the existing standards of IFC/WHO and therefore additional mitigations are required (Please see para. 44-47 above and Annex A of this report). The parameters of the ambient air quality is within the existing norms. Noise level and air quality under the REG-03/a sub-project does not exceed the existing standards and therefore no additional measurements are required. Next environmental quality measurements will be conducted in September 2019 findings will be reflected in the next Semi-annual EMR in July-December 2019.

4.4 Material resources Utilization

4.4.1 Current Period

50. The following information was provided by contractor under REG-03/a sub-project about the material resources utilization during the reporting period – January-June 2019, within the framework of the REG-03/a sub-project.

51. The consumption of technical water is averages 6-8 tons per day, when the construction site is sprayed by water. When water is not used for spray, 3-5 tons per day is enough; Based on this data, we can consume consumption of an average of 5.5 tons per day.
52. Electricity consumption for 3 months is 6467.4 kV. The numbers are estimated and depend on the weather, the intensity of works, in case there is no electricity supply and the light is off, the generator is very common.
53. Drinking water is provided by the private company “Sno” an amount of 500-600 liters per week, depending on the weather condition and intensity of work, (please see Annex A-Photos).

4.4.2 Cumulative Resources Utilization

N/A

4.5 Waste Management

4.5.1 Current Period

54. At the construction sites there are mainly produced household, construction (inert, surplus soil) and hazardous waste. Despite the request from UWSCG to contractors and SC to provide quantity of produced waste during the construction in accordance with the requirements of the new Semi-annual EMR format, the contractor did not provide any information on this issue.
55. 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.
56. In most cases waste/surplus soil is removed from the construction site for further use in agreement with municipality or it stays at the construction site for its future use.
57. 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”.
58. Hazardous waste (lubricant residues and etc) were stored according to all the safety norms after the strong instruction given by SC and UWSCG. In the case of formation such kind of waste, contractor has to write to the management of the municipality or the company who is licensed to recycle/decontaminate such kind of waste. Also contractors have special container with proper labelling at the construction site.

4.5.2 Cumulative Waste Generation

N/A

4.6 Health and Safety

4.6.1 Community Health and Safety

59. No community incidents have been reported to SC during reporting period under ZUG-02 and Reg-03a sub-projects.

4.6.2 Worker Safety and Health

ZUG-02

60. Environmental H&S Manager of ZUG-02 project Mr. Nikoloz Neparidze was performing every day monitoring, induction and supervision of ongoing works according to EH&S standards and by requirements of ADB/UWSCG/POSCH and providing relevant reports on a regular basis taking into account any recommendations given by SC/UWSCG engineers.
61. Health & safety and environment issues which were covered during the reporting period are as follows:
- PPE;
 - Manual works;
 - Upgrade Safety Hard and Warning Barricade
62. Contractor under ZUG-02 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 ZUG-02 project.
63. The following Near-Misses were reported by SC under ZUG-02 project, which may be resulted in Workers' Health and Safety problems:
- The Contractor should erect secure robust safety barriers around all open excavations.
64. During the reporting period, within the framework of the ZUG-02 sub-project, no near-misses forms have been filed. SC and UWSCG / USIIP requested from contractor to adequately fill the near-misses forms and reflect in their monthly monitoring reports.

REG-03/a

65. Environmental H&S Managers of ZUG-03/a sub-project Mr. Nikoloz Neparidze and Irakli Abuladze were performing every day monitoring, induction and supervision of ongoing works according to HSE standards and by requirements of ADB/UWSCG/Posch and providing relevant reports on a regular basis taking into account any recommendations given by SC/UWSCG engineers.
66. Health & safety and environment issues which were covered during the reporting period are as follows:
- PPE;
 - Housekeeping;
 - Reinforcement;
 - Ground works;
 - Manual works;
 - Removal waste;
 - Bending rebar, Cutting;
 - Installation and dismantle formwork

- Induction all visitors
- Dust and Noise Measurements
- Upgrade Safety Hard and Warning Barricade

67. Contractor under ZUG-03/a 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 ZUG-03/a project.

68. The following Near-Misses were reported by SC under ZUG-02 project, which may be resulted in Workers' Health and Safety problems:

- On the wooden material there were nails which could damage workers during construction activities. In accordance with the instructions given to workers by EH&S Specialist of contractor, wooden materials were cleaned from nails
- Special equipment during working at heights should be used

69. During the reporting period, within the framework of the REG-03/a subproject, no incidents with workers were registered. No near-misses forms were filled under REG-03/a subproject as well. SC and UWSCG / USIIP requested from contractor to adequately fill the near misses forms and reflect in their monthly monitoring reports.

4.7 Training

70. Routine personnel trainings and toolbox talks happen by the construction companies almost on daily basis under Zug-02 and REG-03/a sub-projects. The recording of such toolbox talks are available at the sites. Signed sheets of workers confirming participation on this trainings is attached to this report (Please see Annex E). This trainings were conduct on the following issues: working on height including proper use of PPE (special work shoes, high visibility vest, helmet and gloves).

71. 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.

V. FUNCTIONING OF THE SEMP

5.1 SEMP Review

72. SSEMP for Zugdidi WWTP under Reg-03/a project was prepared by Contractor, endorsed by SC and approved by UWSCG in 13 March 2018. SSEMP was reviewed/commented by the RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Keti Dgebudze.

73. No SEMP's have been prepared under Zug-02 project, since all construction activities are going on already inhabited area and no damage will be caused to the environment.

VI. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

N/A

6.2 Opportunities for Improvement

N/A

VII. SUMMARY AND RECOMMENDATIONS

7.1 Summary

74. During the reported period construction activities were implemented under ZUG-02 and REG-03/a 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 Posch and UWSCG/USIIP on a regular basis.
75. 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.
76. Environmental Monitoring Specialist of Posch, Ms. Tiko Zhizhiashvili conducted monthly monitoring of project sites under T5 and developed Non-Conformance Notice were required. She also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
77. The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under ZUG-02 and REG-03/a sub-projects.
78. Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP, and other environmental commitments of the contractor. USIIP/ES developed Semi-annual monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and results of monitoring of construction sites.
79. 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.
80. 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.

7.2 Recommendations

81. The following activities are recommended for the next reporting period:
82. During the reporting period, from January to June 2019, the T5 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.

83. More detailed recommendations for the implementation of T5 during the next reporting period July-December 2019 are provided in the table 14 below:

Table 14: Recommendations to Address Environmental Issues under ZUG-02 and REG-03/a sub-projects

Recommendations ZUG-02 and REG-03/a sub-projects	
Recommendations ZUG-02	Implementation status and date
Poti Network	
All trenches shall be backfilled immediately after pipes are laid	The contractor is given a strong instruction to improve the situation by the mid. July 2019 and constantly maintain an improved standard.
The construction of the trenches should be carried out in small segments, trenches should not be left open at night	
Safety signs/tapes around of all open trenches should be installed to avoid accident of population	
Construction activities information signs should be installed at each construction segment	
Walls of the deep trenches (>1.5m) has to be strengthened by boards to avoid landfall of the soil and accidents	
Refilling/compaction and reinstatement process should bring site at the same or better condition as it was before construction	
ZUG-03/a	
Proper construction site gate should arranged	
Construction waste should be timely removed from the construction site and disposed properly	
Environmental, Health and Safety officer should be regularly available at the site	
Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site	
Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination	

84. Conduct monitoring of Ambient Noise and Air quality under ZUG-02 project at the nearest sensitive receptors in September 2019.

Table 12: Conduct Monitoring of Environmental Quality under Zug-02 project

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

85. Conduct monitoring of Ambient Noise and Air quality under REG-03/a project at the nearest sensitive receptors in September 2019.

Table 13: Conduct Monitoring of Environmental Quality under REG-03/a project

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

ANNEX A: MEASUREMENT DATA

REG-03/a

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 ჰელენ სპრინგერს

ქალბატონო ჰელენ,

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

დანართი: 2 გვ.

პატივისცემით,

სააგენტოს უფროსი



ანდრო ასლანიშვილი




შპს „ლუდვიგ კვაიფერ ჰობ უნდ ტიფბაუ და კოკვის 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 ³				ხმაურის ზერის 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 ერთეულოვანი კონცენტრაცია			0.5	5.0	0.2	0.5	

სამმართველოს უფროსი:

 გ. კარგარუელი

მთ. სპეციალისტი:

 ს. ხაგავა

შეთანხმებულია:



დეპარტამენტის უფროსი




მ. არაბიძე

Environmental Quality Measurement Data – ZUG-02

Noise

EMPLOYER	ENGINEER	CONTRACTOR
		
United Water Supply Company of Georgia	Posch & Partner GmbH	Ludwig Pfeiffer Hoch- und Tie GmbH&Co. KG

DAILY LOG BOOK




CONSTRUCTION OF SEWAGE SYSTEM IN ZUGDIDI Contract No: P43405-ICB-ZUG-02	time period	8. 11
	Date:	
	Page :	

WEEKLY NOISE MONITORING REPORT							
Instrument measurement (dBA)					Phone measurement (dBA)		
Line	brigade	Min	Max	Avg (log)	Min	Max	Avg
A7	1	23.5	63.1	39	36	65	38
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B8-11	1	26.1	63.1	41	31	69	39
B8-13	1	21.5	63.8	37	36	68	40
Kostavast.	1	22.1	63.5	37	31	69	41
F3	1	23.2	64.1	39	34	67	40
T1	1	24.1	64.1	39	31	69	39

R1	1	21.5	63.8	37		36	68	40
G5-7	1	22.1	63.5	37		31	69	41
R2 (colector)	1	25.7	65.1	41		32	67	41
C10	1	23.2	64.1	39		34	69	40
G15-2, G5-7	1	24.1	66.5	40		31	69	39
K5	1	22.1	64.3	38		31	68	41
S7-1	1	21.5	63.8	37		36	70	40
S6	1	23.4	63.5	39		31	69	41
S6 (HC)	1	21.3	65.8	37		32	68	39
S6-2	1	25.4	64.2	40		37	70	40
S6-5	1	20.6	67.3	37		34	72	38
C12	1	21.3	68.4	38		33	68	37
C13	1	26.2	69.1	43		28	64	40
C15	1	24.3	70.1	41		32	68	38

CONTRACTOR: Site Engineer: Davit Chkhubiani		ENGINEER: Supervisor: Tinatin Zhizhiashvili	
[signature]	15/03/2019	[signature]	15/03/2019

Dust under ZUG-02

EMPLOYER	ENGINEER	CONTRACTOR
		
United Water Supply Company of Georgia	Posch & Partner GmbH	Ludwig Pfeiffer Hoch-und Ti GmbH&Co. KG

DAILY LOG BOOK

CONSTRUCTION OF SEWAGE SYSTEM IN ZUGDIDI Contract No: P43405-ICB-ZUG-02	time period	15.03.20 24.03.20
	Date:	24/03/21
	Page :	4 / 4

WEEKLY DUST MONITORING REPORT							
Line	brigade	measurement number ($\mu\text{g}/\text{m}^3$)					avrg.
C12	1	53	61	52	56	59	56.2
G1	1	48	52	49	52	51	50.4
F3	1	52	53	56	54	53	53.6
R2(avrasia)	1	54	53	55	50	48	52.0
R2	1	58	60	57	59	60	58.8
S6	1	49	51	48	52	51	50.2
S6-4	1	54	52	55	54	52	53.4

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 ³				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

ANNEX B: PROJECT PHOTOS NEW

Photos of REG-03a project – CONSTRUCTION OF THE WWTP IN ZUGDIDI





Drinking Water for Workers and other Personal on site



Technical Water for site



PHOTOS of ZUG-02 – CONSTRUCTION OF WASTE WATER SYSTEM IN ZUGDIDI



ANNEX C: NON-CONFORMANCE NOTICES ZUG-02



Project Main Office:
No 82 Shalva Nutsubidze
Str. 4th floor/Ap.162
Georgia, 0186, Tbilisi

Phone: +995 599 443 053
Web: www.pap.co.at
Email: usip5ge@pap.co.at

Ludwig Pfeiffer Hoch und Tiefbau GmbH & Co.KG
Attn.: Dragan Djordjevic, Contractor's Representative
N1 Shavshvili Street,
Tbilisi Georgia

CC: UWSCG Head Office
Attn.: Ekaterine Galdava Director
76b Vazha-Pshavela Ave.
0186, Tbilisi, Georgia

Zugdidi, 08 Feb 2019
Our Ref: ENG_ZUG-02_341_20190208

CONSTRUCTION SUPERVISION (USIIP TRANCHE 5): ZUGDIDI AND MESTIA
UWSCG/USIIP/QCBS/03-2016
Contract: ZUG-02 – Construction of Sewage System in Zugdidi

SUBJECT: CONTRACTOR'S POSITION ON ISSUED INSTRUCTION


Dear Mr. Djordjevic

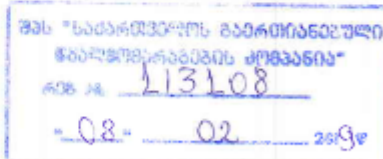
For the record, the Engineer has issued to you directly on site verbal instruction (G.C.C. sub-clause 3.3) followed the same day by NCR 44 and finally SM 33, all in respect to Works on the Western Collector without the necessary trench supporting. The clear instruction was to immediately backfill the trench until the required trench support equipment is provided on site to be in position to execute the excavation as technically required in safe mode.

Site inspections in the last 24h revealed continuation of the excavation without following of the instructions from the Engineer. Your written explanation is required on actions taken from your side in respect to the instruction of the Engineer. This shall be received within today considering the high endangered position of the workers and the nearby structures due to your unprofessional performance.

For the Employer, the Contractor is neglecting his responsibility to apply the necessary H & S measures on the sites while verbally is informing all related parties on his intentions to have these in place. The here attached photo is for information about the case here presented. The Engineer considers the present situation as critical and is expecting response and actions from the Contractor with emergency reactions in professional manner.

Yours sincerely


USIIP TRANCHE 5
THE ENGINEER
Hristo Grozdev
Chief Resident Engineer HYDRO-ING


შპს "საპროექტო-ინჟინერინგის კომპანია"
შპს "საპროექტო-ინჟინერინგის კომპანია"
ნაგ. № 213208
"08" 02 2019



NON-COMPLIANCE NOTICE – REG-03a

Non-Compliance Notice, 7 March 2019

<p>Project: USIIP</p>	<p>Non-compliance Notice Zugdidi WWTP</p>
<p>Contract No: REG-03a</p>	
<p>Contractor: JV "Pfeiffer – EMIT"</p>	
<p>Supervisor: Posch&Partners Consulting Engineers</p>	
<p>Reference:</p>	
<p>Zugdidi – Construction of the Waste Water Treatment Plant</p>	
<p>This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented urgently.</p>	
<ul style="list-style-type: none"> - Proper construction site gate should arranged - Construction waste should be timely removed from the construction site and disposed properly - Environmental, Health and Safety officer should be regularly available at the site! - Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site - Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination - All construction materials should be properly segregated and stored adequately - Waste should be collected regularly at the site and placed only at the proper waste container - Site internally should be arranged properly and cleaned regularly 	
	
	
<p>Monitored by: Maka Goderdzishvili, Head of Environmental Protection and Permits, UWSCG</p>	
<p>Date: 6-7 March 2018, monitoring of site</p>	
<p>Additional Note: The main problem on site is that there are too many actors on the ground who are not coordinated, and they claim each other about the disorder on the construction site. This should be improved immediately and Corrective Action Plan Developed.</p>	
<p>Deadline for Improvement: Urgently.</p>	

NON-COMPLIANCE NOTICE – ZUG-02, 11 FEBRUARY 2019

Non-Compliance Notice, 11 February 2019

Project: USIIP	Non-compliance Notice Zugdidi
Contract No: ZUG-02	
Contractor: Ludwig Pfeiffer Hoch-und Tiefbau GmbH & Co.KG	
Supervisor: Posch&Partners Consulting Engineers	
Reference:	
Zugdidi – Construction of Waste Water System in Zugdidi	
This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented urgently .	
<ul style="list-style-type: none">- All trenches shall be backfilled immediately after pipes are laid;- The construction of the trenches should be carried out in small segments, trenches should not be left open at night;- Safety signs/tapes around of all open trenches should be installed to avoid accident of population- Construction activities information signs should be installed at each construction segment- Walls of the deep trenches (>1.5m) has to be strengthened by boards to avoid landfall of the soil and accidents- Refilling/compaction and reinstatement process should bring site at the same or better condition as it was before construction	
Monitored by:	Ketevan Chomakhidze, Environmental Consultant of USIIP
Date:	11 February 2019, monthly monitoring of site
Deadline for Improvement: - Immediately develop a corrective action plan and send to UWSCG with improved photos of sites	

Annex D: Weekly Monitoring Checklists, Zug-02

ყოველკვირეული გარემოსდაცვითი მონიტორინგის რეპორტი
Weekly Environmental Monitoring Report

Place: Zugdidi

Reporting period from 07 September - 13 September 2018

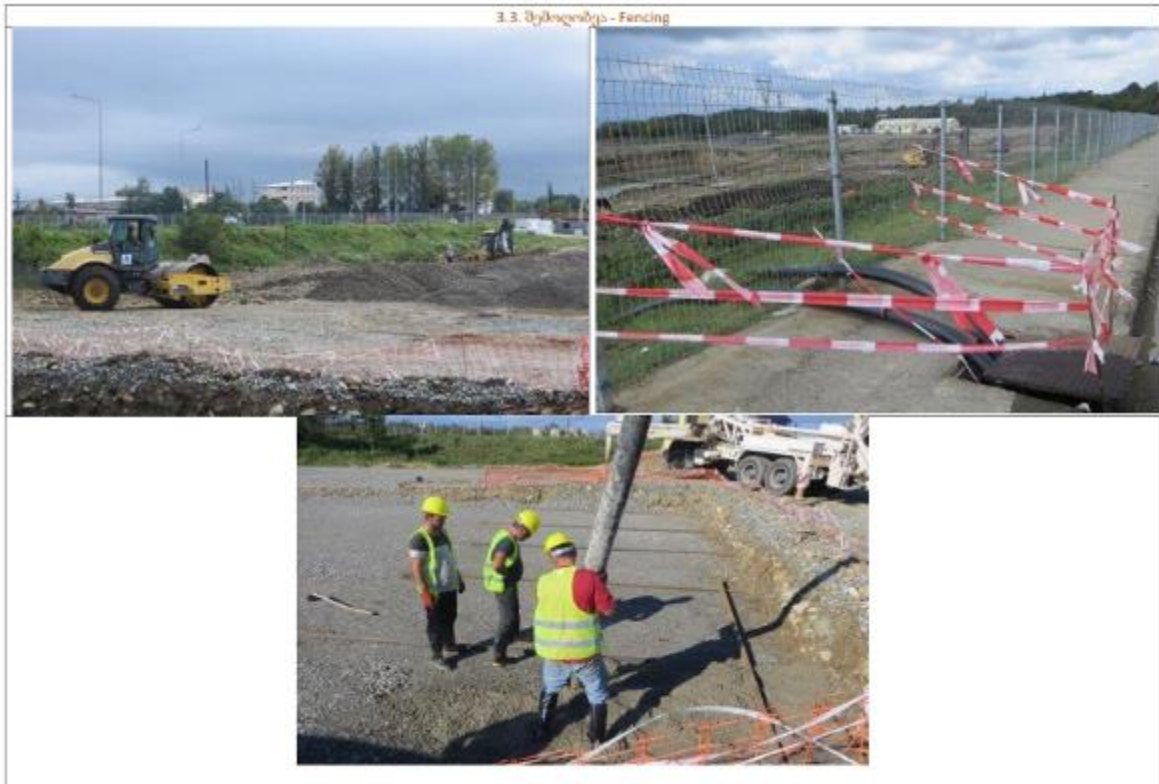
Name of the Contractor and project number/lot მშენებელი კონტრაქტორის სახელი და პროექტის/ლოტის ნომერი	Ludwig Pfeiffer Hoch- und Tiefbau GmbH & Co.KG (Germany) Construction of a new wastewater treatment plant (WWTP) in Zugdidi (No: P43405-ICB-ZUG-02)
კონტრაქტის №: Contract #:	No: P43405-ICB-ZUG-02
Description and location of the Site სამშენებლო საიტის ადგილმდებარეობის აღწერა	The project area is located in Zugdidi, Georgia. პროექტი ხორციელდება ქ. ზუგდიდში, საქართველო
Name of the Employer / Implementing Agency განმახორციელებელი სააგენტო	"United Water Supply Company of Georgia", LLC შპს "საქართველოს გაერთიანებული წყალმომარაგების კომპანია"
Name of the Engineer (name, last name, contact information and signature) საზღადავებელი კომპანიის წარმომადგენლის სახელი, ფარი, საკონტაქტო ინფორმაცია და ხელმოწერა	JV: Posch & Partners Consulting Engineers Hydro Inaeniture Consulting & Engineering შპს "პოშ ენჯინერინგ პარტნერს პიფერ ჯინჟინგი"
Current Stage of Civil Works სამშენებლო სამუშაოების მიმდინარე სტადია	მისდინარე, ON-GOING
Weekly Weather Conditions კვირის ამინდის პირობები	Sunny/intermediate cloudy
Remarks შენიშვნა	შინაინ/საქართველოში არ არის

ობიექტის გარემოს დაცვაზე პასუხისმგებელი პირი (კონტრაქტორი). Staff responsible for environment/safety at the site (contractor)	სახელი: ირაკლი აბულაძე Name: Irakli Abuladze	ხელმოწერა/ Signature: 
გარემოს დაცვის სპეციალისტი (კონტრაქტორი) Environmental Specialist (contractor)	სახელი: ნიკოლოზ ნაფარიძე Name: Nikoloz Napharidze	ხელმოწერა/ Signature: 
კონტრაქტორის წარმომადგენელი Contractor's Representative	სახელი: ნიკოლა მარინკო Name: Nikola Marinko	ხელმოწერა/ Signature: 

N	Documents and Observations to be Reported შესამოწმებელი დოკუმენტები და ფაქტები	კი/ Yes	არა/ No	მიმდინარეობს Ongoing	შენიშვნა/ Comment
1	EMPs/SSEMPs, Protocols and Reports				
1.1	Contractor's Site-specific Environmental Management Plan (SSEMP) is prepared, reviewed and approved by Engineer prior to contractor commencing the works. მუშაზე დასრულებული საიტ-სპეციფიკური გარემოსდაცვითი მართვის გეგმა, შემოწმებული და დატკიცებულია ინჟინრების მიერ, სამშენებლო სამუშაოების დაწყებამდე.	X			(All documents requested by the NES (IEE, EMP, SSEMP, H&S plan, monitoring reports, checklists, licenses, permits, complaints log book, as well as records of trainings) were kept on camp including monitoring checklists of CC)
1.2	Contractor has Environmental supervisor in place. კონტრაქტორის დადებული აქვს ხელშეკრულება ადგილობრივ გარემოსდაცვითი საკითხების სუპერვაიზორთან.	X			
1.3	Monthly environmental monitoring reports are prepared by the Contractor and submitted to the Supervision Consultant მომზადებულია გარემოსდაცვითი მართვის გეგმის განხორციელების ყოველთვიური ანგარიშები კონტრაქტორის მიერ და წარედგინა კონსულტანტისათვის	X			
1.4	Health and Safety Management Plan is prepared and approved. მუშაზე დასრულებული და მიღებულია ჯანდაცვისა და უსაფრთხოების მართვის გეგმა და ჯანდაცვისა და უსაფრთხოების მართვის სისტემა მშენებლობის ფაზისათვის.	X			
1.5	Complaints log book exists on site. საჩივრების ყურნალი/რეგისტრი არსებობს სამშენებლო საიტზე.	X			Complaints log book was kept at the camp site
1.6	Site Inspection NCR's (non-compliance reports) about Environmental issues were issued and corrective actions were implemented. შეუსაბამოების შეტყობინებების მომზადება და წარდგენა კონტრაქტორისათვის და მაკორექტირებელი ქმედებების განხორციელება.	X			
1.7	Training protocols about HSE are prepared and signed by employees. Records are kept on site. გაფორმებული და ხელმოწერილია მუშაზე ტრენინგის ოქმი ჯანდაცვისა და უსაფრთხოების საკითხებზე. ტრენინგის ანგარიშები მომზადებულია და ინახება კემპ-საიტზე.	X			
2	Permits, Licenses and Contracts				
2.1	The Contractor has a Permit from the Municipality or relevant contract for final disposal of excavation material/კონტრაქტორს მიღებული აქვს ექსკავირებული ნარჩენი საბოლოო განთავსების ნებართვა ან შესაბამისი კონტრაქტი ადგილობრივ მუნიციპალიტეტთან.		X		
2.2	The Contractor has a permit for disposal of communal waste. კონტრაქტორს მიღებული აქვს საყოფაცხოვრებო ნარჩენების საბოლოო განთავსების ნებართვა.	X			
2.3	The Contractor has the contract with the licensed organization for the hand-over and disposal of hazardous waste. კონტრაქტორს გაფორმებული აქვს სახიფათო ნარჩენების გადაცემისა და გატანის ხელშეკრულება ლიცენზირებულ ორგანიზაციასთან.				There is no hazardous waste

3 Performance of civil works			
3.1	Adequate fencing of construction area from all sides სამშენებლო ტერიტორიის სრულად შემოღობვა	X	
3.2	Arrangement of lockable gate with standard warning and information signs საკეტანი შესასვლელი კარის მოწყობა, სტანდარტული გამაფრთხილებელი და საინფორმაციო ნიშნებით აღჭურვა	X	
3.3	Placement of standard warning and information signs at the perimeter and inside of construction area სამშენებლო ტერიტორიაზე და პერიმეტრზე სტანდარტული გამაფრთხილებელი და საინფორმაციო ნიშნების განთავსება	X	
3.4	Installation of safety signs/tapes and trench side barriers around of open trenches დიად დატოვებულ თხრილებზე და ჭებზე უსაფრთხოების ლენტების, ბარიერების და გამაფრთხილებელი ნიშნების განთავსება		X
3.5	Strengthening of walls of the deep trenches (>1.5m) by boards 1.5 მეტრზე მეტი სიღრმის ტრანშეებში კედლების გამაგრება		X
3.6	Removal of top soil (about 30 cm depth) and separately storing in appropriate place ექსკავაციის დროს, ნიადაგის ნაყოფიერი (დაახლოებით 20-30 სმ სისქის) ფენის მოხსნა და განცალკევებულად გროვებად შენახვა		There was no topsoil ჭუმუხოვანი ფენა არ ყოფილა
3.7	Provide adequate lighting of construction territory სამშენებლო ტერიტორიის დამის საათებში განათება	X	
3.8	Storing of construction materials/equipment is in accordance with environmental requirements სამშენებლო ტერიტორიის შესაბამისად მოწყობა მასალების და მოწყობილობების და დანადგარების ორგანიზებულად განთავსება (საჭიროებიდან გამომდინარე)		Not Applicable at this moment არ საჭიროებს ამ დროისათვის
3.9	Availability of proper fuel/oil spill response items (sand, sawdust, special containers) at the construction site სამშენებლო ტერიტორიაზე საწვავის და საპოხი მასალების დაღვრის შედეგების სალიკვიდაციო ნაკრების (ჭეიმა, ნახერხი, მღირე ზომის აუზი და სხვა) ხელმისაწვდომობა	X	
3.10	Allocation of fuel and lubricants containers at the special dedicated place (with roofing and concrete flooring) საწვავის და საპოხი მასალების კონტეინერების განთავსება მხოლოდ სპეციალურ გადახურულ ადგილებში	X	
3.11	Placement of proper Household Waste container at the special dedicated place with relevant indication signs (for example "Household Waste") სამშენებლო ტერიტორიაზე საყოფაცხოვრებო ნარჩენებისთვის თავსახურიანი კონტეინერის განთავსება და შესაბამისი წარწერებით აღჭურვა (მაგ. "HOUSEHOLD WASTE")	X	
3.12	Placement of proper Hazardous Waste container at the special dedicated places with relevant indication signs (for example "Hazardous Waste") სამშენებლო ტერიტორიაზე სახიფათო ნარჩენებისთვის თავსახურიანი კონტეინერის განთავსება და შესაბამისი წარწერებით აღჭურვა (მაგ. "HAZARDOUS WASTE")		X
3.13	Arrangement of proper Parking area at the adequate place inside/outside of construction territory with relevant sign (for example P)	X	

	სამშენებლო ტერიტორიაზე ან მის გარეთ ტრანსპორტისთვის პარკირების ადგილის მოწყობა და ნიშნით აღჭურვა (მაგ., P)			
3.14	Use tarpaulins cover during materials transportation სამშენებლო მასალების და ნარჩენების ტრანსპორტირების დროს ავტოტრანსპორტის სპეციალური საფარით (შრეზუნტით, ტენტით და სხვა) აღჭურვა			Not Applicable at this moment არ საჭიროებს ამ დროისათვის
3.15	Ensure that all workers are provided with and use appropriate Personal Protective Equipment - helmets, hand gloves, boots, masks, safety belts მუშების და ინჟინერ-ტექნიკური პერსონალის მიერ ინდივიდუალური დაცვის საშუალებების (წაფხუტი, ყელბეჭტი, ხელთათმანი, ჩექმები, დამცავი სათვალე და სხვა) სრულად გამოყენება	X		One set is always on the place for visitors ერთი კომპლექტი ყოველთვისაა ადგილზე ვიზიტორებისთვის
3.16	Use of special safety equipment during working at heights/depth სიმაღლეზე/სიღრმეზე მუშაობის დროს სპეციალური დამცავი აღჭურვილობის გამოყენება			Not Applicable at this moment არ საჭიროებს ამ დროისათვის
3.17	Regularly cleaning of construction territory სამუშაო საიტების მუდმივ სამშენებლო ტერიტორიის მუდმივად დალაგება და დასუფთავება	X		
3.18	Washing construction site to avoid dust generation სამშენებლო ტერიტორიის მორწყვა, მტერისგან თავის აცილების მიზნით		X	
4 Monitoring Measurements				
4.1	Monitoring measurement data (air, water, soil, erosion, noise, dust, vibration, etc.). წყლის, ჰაერის, ვიბრაციის, ეროზიის, ხმაურის, მტერის და ნიადაგის მონაცემების გაზომვების მონიტორინგი.		X	
5 Top Soil Protection				
5.1	Topsoil is stripped and stored according to standard procedures and used further for landscaping and reinstatement. ნიადაგის ბიოკომპლექსიანი ფენის დაცვა			Not Applicable at this moment არ საჭიროებს ამ დროისათვის
6 Safety Measures				
6.1	The workers use all personal safety equipment required for individual technological processes (helmets, gloves, respirators, glasses, etc.). მუშახელი იყენებს ცალკეული ტექნოლოგიური პროცესებისათვის აუცილებელ პირად დამცავ საშუალებებს (წაფხუტები, ხელთათმანები, რესპირატორები, სათვალეები და ა.შ.).	X		
6.2	The sites are provided with the fire fighting and emergency medical aid kits, site is fenced, site lightning, signs are installed, etc. სამშენებლო ობიექტზე განთავსებულია ხანძარსაწინააღმდეგო და სასწრაფო სამედიცინო დახმარების საბაზისო ნაკრები. საიტი შემოღობილია, განათება დამონტაჟებულია, საინფორმაციო დოკუმენტი/აზრები გაკრულია და სხვ.	X		All necessary safety measures are organized უსაფრთხოების ყველანაირი ზომა მიღებული
6.3	Brief training about HSE and Environmental issues every morning ყოველდღე მოკლე ტრენინგი უსაფრთხოებისა და გარემოსდაცვით საკითხებზე		X	





Correction Action Plan

Zugdidi – Construction of the Waste Water Treatment Plant

Project: USIIP
Contract No: REG-03a
Contractor: JV "Pfeiffer – EMIT"

Contractor’s information on Non-Compliance Notice (dated 6-7 March 2019)

Non-Compliance	Compliance	Responsible person
Construction waste should be timely removed from the construction site and disposed properly	Waste is timely removed and disposed properly. According to the demand, Municipal Waste is transported by City Hall of Zugdidi	Irakli Abuladze
Environmental, Health and Safety officer should be regularly available at the site!	H&S Officer Mr. Abuladze is regularly at the site 10:00-18:00. Due to construction activity Irakli Abuladze leaves the territory.	Irakli Abuladze
Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site	Special hazardous waste absorption powder (Wurth) is at the site, near the hazardous waste bin.	Irakli Abuladze
Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination	Containers are stored properly – roofing area with concrete floor. When hazardous waste bin will be full, the company "Medical Technology" will take it out.	Irakli Abuladze
All construction materials should be properly segregated and stored adequately	All materials are stored adequately	Irakli Abuladze
Waste should be collected regularly at the site and placed only at the proper waste container	Waste is placed at the proper waste container	Irakli Abuladze
Site internally should be arranged properly and cleaned regularly	Site is cleaned regularly.	Irakli Abuladze

Correction Action Plan



