SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project Number: 43405-028

Reporting Period: January-June 2020

GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 6)

(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

July 2020

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ABBREVIATIONS

ADB	Asian Development Bank
DC	Design Consultant
DEPRP	Department of Environmental protection, Resettlement and Construction Permit
DIPDR	Department of International Procurement and Donors Relations
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/ SES	Environmental Specialist/ Senior Environmental Specialist
GoG	Government of Georgia
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IPMO	Investment Program Management Office
IEE	Initial Environmental Examination
MFF	Multi-tranche Financing Facility
MEPA	Ministry of Environmental Protection and Agriculture
MoRDI	Ministry of Regional Development & Infrastructure
NEA	National Environmental Agency
OJSC	Open Joint Stock Company
SC	Supervision Consultant
USIIP	Urban Sector Improvement Investment Program
UWSCG	United Water Supply Company of Georgia
WHO	World Health Organization
WSS	Water Supply & Sewerage

1. INTRODUCTION

1.1 Preamble

1. This report represents the Semi - Annual Environmental Monitoring Review (SAEMR) for the Urban Services Improvement Investment Program, Tranche 6.

2. This report is the 6th Environmental Monitoring Review (EMR) of USIIP/Tranche 6.

1.2 Headline Information

3. During the reporting period no other changes took place to the project design and accordingly nothing has been updated or prepared.

2. 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 6 of the Investment Program includes:

- Construction of Water Supply and Waste Water Systems in Marneuli and Construction of Waste Water System and Collector in Bolnisi (MAR-01);
- Construction of Waste Water Treatment Plant in Marneuli (MAR-02);
- Construction of Water Supply System in Chiatura (CHI-01).

The following projects are financed under Tranche 6:

7. **Construction of Water Supply and Waste Water Systems in Marneuli and Construction of Waste Water System and Collector in Bolnisi (MAR-01):** Mar-01 project envisages the rehabilitation and construction of reservoirs with the total capacity of 12,000M^3=(2X3000+3X2000); construction of cast iron transmission pipeline with the diameter of 700 mm - 10 km and 600 mm – 4km; construction of network with Polyethylene pipes of OD 50 to OD 500. The project measures for the sewer network comprise the lying about 150 km new gravity pipes (DN 150 to DN 800) and 2.7 km new pressure pipes (OD 110 and OD 225). There will be 9 new wastewater pumping stations; 600mm to 1000 mm diameter inspection wells (concrete or polyethylene) and 400 mm diameter house connections (polyethylene). Proposed project envisages construction of sewerage system in Bolnisi which will work entirely by gravity (DN 200 and DN 250 HDPE pipes) and will be connected at 3 different points to the future DN 500 HDPE interceptor that will convey the collected sewer from Bolnisi to Marneuli WWTP.

8. Three separate IEEs were prepared for MAR-01 project: Improvement of Marneuli Water Supply System (August 2016); Improvement of Marneuli Wastewater System (August 2016); Improvement of Bolnisi Wastewater System (August 2016) and further updated and approved in January 2019 due to the finalization of the project design (please see para 3 above).

9. The contract No P43405-ICB-MAR-01 was signed on November 20, 2018 with "Akelik Group OJSC" (Azerbaijan). The date of completion of the contract is March 29, 2021.

10. **Construction of Waste Water Treatment Plant in Marneuli (MAR-02).** The project comprises of the construction of new Wastewater Treatment Plant in Marneuli with the capacity of 9,931 m^3/day.

11. The contract No UWSCG-ICB-MAR-02-2019 was signed in October 18, 2019 with Joint venture of Toshiba Water Solutions Pvt. Ltd and IN-SI LLC (JV partner) (India/Georgia). The contract completion date is April 2021.

12. **Construction of Water Supply System in Chiatura (CHI-01).** The work under the CHI-01 project comprises the rehabilitation and construction of the water supply network, transmission pipeline and Reservoirs. In particular, Chi-01 project envisages construction of network in Chiatura and Navardzeti, construction of a transmission lines, the rehabilitation of existing reservoirs and construction of 2 new reservoirs one near the intake and one new reservoir in Bisi, construction of pumping stations and replacement of network pipelines, more detailed information is provided in chapter 31 below.

13. The contract No P43405-ICB-CHI-01 was signed on August 21, 2017 with "Akkord Industry Construction Investment Corporation" OJSC" (Azerbaijan), the initial completion date on April 15, 2019 was extended twice, for the first time until April 1, 2020, and then another 91 days until July 30.

2.2 Project Contracts and Management

14. 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.

15. 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

16. 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. The Investment Program Management Office (IPMO) under UWSCG is Project Management Department, the Head of Department is Ms. Ana Onashvili. 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/UWSCG.

17. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) – Hill International N.V. (Netherlands) under T6. 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.

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

19. All mitigation measures during construction are implemented by the contractor: "Akkord Industry Construction Investment Corporation" OJSC, under CHI-01 sub-project. Contractor's EH&S Specialist - Mr. Tamaz Ulumbelashvili, who was dismissed and replaced by Mr. Theodor Kalmakhelidze, is responsible for environmental issues, health and safety during the construction process.. Contractor is monitored by the environmental specialist – Mr. Rezo Enukidze of SCt/Hill 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-conformance notes. ES of SC prepares quarterly environmental reports and submits to UWSCG.

20. All mitigation measures under MAR-01 sub-project are implemented by the contractor: "Akelik Group OJSC" (Azerbaijan). Contractor's H&S Specialist - Mr. Vakhtang Burchuladze and Environmental Specialist Mr. Paata Chankotadze are responsible for environmental health and safety issues during construction process. Contractor is monitored by the environmental specialist – Mr. Rezo Enukidze of SCt/Hill 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-conformance notes. ES of SC prepares quarterly environmental reports and submits to UWSCG.

21. The Contractor, prior to the onset of the construction, is obliged to conduct a number of studies and develop environmental plans, including "Site Environment Management Plan" (SEMP). Such plans can be further subdivided into Topic Specific or Site Specific EMP's. The number of such plans will depend upon the type of project, complexity and sensitivity of the receiving environment.

22. Topic Specific EMPs are developed on a topic by topic basis. For example:

- Waste Management Plans;
- Traffic Management Plans;
- Protected Species Management Plans;
- Water Management Plans.

23. These plans are detailed and set out how the project will address potential issues identified in the impact assessment process and ensure that specific mitigation and monitoring measures are fully implemented. A topic specific environmental management plan will cover all of the project.

24. The environmental specialist of UWSCG/USIIP Ms. Ketevan Chomakhidze 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 CCs and SCs in safeguards compliance. ES supports DEPP in EARF implementation, in particular, reviewing IEE/EIA Reports, overseeing implementation of EMPs, Reviewing and approving SEMPs and carrying out training and capacity-building activities in cooperation with Supervision Company. The ES prepares Semi-annual and annual environmental monitoring reports and submits to ADB.

25. Department of Environmental Protection and Permits of UWSCG is responsible for the implementation of mitigation and monitoring measures during construction and operation of subprojects under USIIP. Currently DEPP is staffed with a Head of Department and 5 specialists, those are responsible for environmental safeguard and construction permission issues.

26. ADB is the donor financing the Investment Program. Environmental management organization is shown in Figure 1 and Figure 2.

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

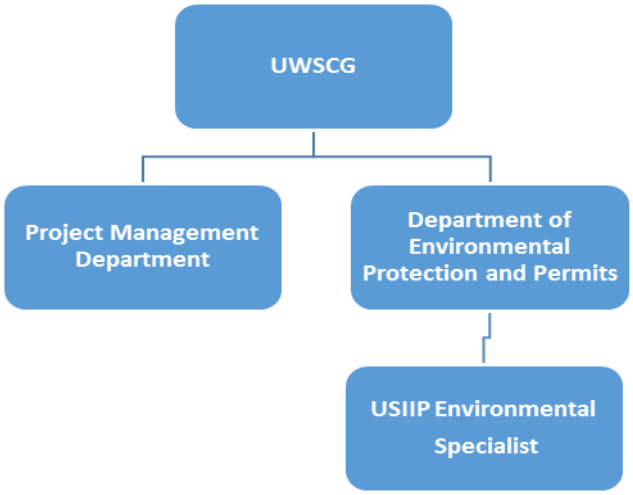
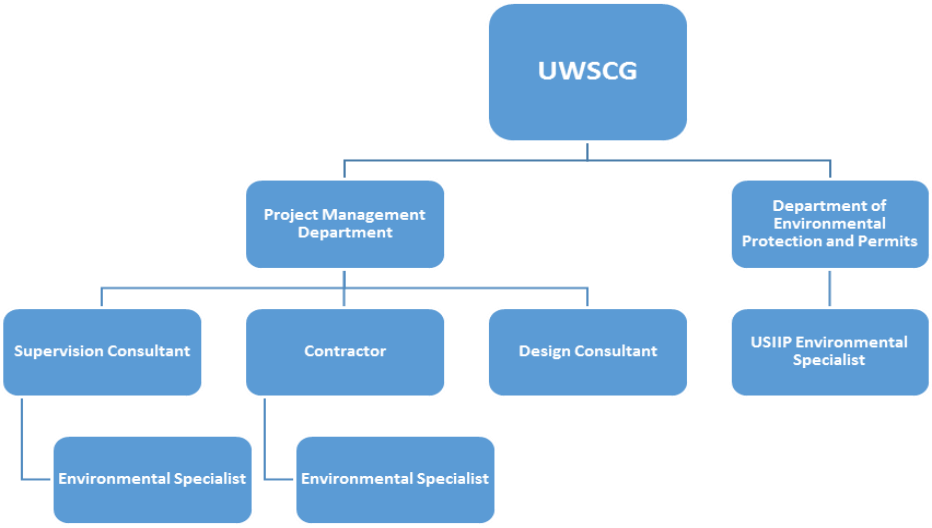


Figure 2: Structure Diagram of the Agencies Involved in Investment Program Implementation



27. Main organizations involved in the project and related to environmental safeguard are presented in the Table 1 below:

Table 1: List of Main Organizations under USIIP/T6

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.	Nurlan Djenchuraev E-mail: ndjenchuraev@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	Ms. Ana Onashvili Tel: +995 599 692090 E-mail: ana.onashvili@water.gov.ge
Borrower	UWSCG/USIIP/T6	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: Chomakhidzek@yahoo.com
Supervision Consultant	. Supervision Consultant: Hill International N.V. (Netherlands)	Environmental Specialist: .	Mr. Rezo Enukidze Tel: +995 599 164 469 E-mail: . r.enukidze@gmail.com

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Contractor CHI-01	"Akkord Industry Construction Investment Corporation" OJSC (Azerbaijan)	EH&S Specialist	Environmental Specialist of CC: Name: Mr. Teodor Kalmakhelidze Tel: +995 598 977 977 E-mail: kalmakhelidzetedore@gmail.com
Contractor MAR-01	Akelik Group OJSC (Azerbaijan)	EH&S Specialist	Mr. Vakhtang Burchuladze Tel: +995 577477432 E-mail: v.burchuladze@akelik.ge
		HSE Manager	Mr. Natig Aliev E-mail: aliyevnatig@mail.ru Mob: +995 593 60 44 48
		HSE Engineer	Mr. Zaur Askerov E-mail: askerovzaur43@gamil.com Mob: +995 593 39 00 29

2.3 Project Activities During Current Reporting Period

2.3.1 Construction progress under CHI-01 project

Reservoirs

28. The status of Civil works for the reservoirs is as follows:

- Sachkhere new reservoir, is fully operational;
- Bisi new reservoir: it was put in operation by Contractor due to the delays of Contract, however water tightness test was not concluded and will be performed after the rehabilitation of Bisi old reservoir;
- Bisi old reservoir: Piping works were performed, and Contractor is now involved in performing the new bottom and upper slabs;
- Lezhubani old reservoir: it was put in operation by Contractor due to the delays of Contract, however, water tightness test was not concluded
- Rustaveli old reservoir: Rehabilitated and under operation
- Memorial old reservoir: Rehabilitated and under operation

- Tekhisa old reservoir: Rehabilitated and under operation
- Perevisi old reservoir: Rehabilitated and under operation

Network

29. The works related to the construction of the Network are basically finished and only remaining some short sections scattered and identified. The new network has been flushed & pressurized. However, since water is being taken partly by old meters & old network, the new network is almost 90% operational. There is urgent need to connect new meters & draw water through new network so that it becomes functional, operational & tested.

Pumping Stations

30. The mechanical & electrical installation works have been completed at all three pumping stations. The SCADA work & instrumentation works are under installation.

Bulk Flow Meters

31. Bulk flow meters arrived on site in the last days of May and installed in the first week of June

32. More detailed information about the construction work performed during the reporting period under the project CHI-01 is presented in Table 2 below.

Table 2: Construction progress under CHI-01 project, January-June 2020

Pipeline	Unit	Progress
Main Transmission Line	m	100.00%
Distribution Network	m	100.00%
DN355 Bisi-CPS Transmission	m	100.00%
DN160 CPS-Lezhubani	m	100.00%
DN160 CPS-Perevisi	m	100.00%
DN225 CPS-Rustaveli	m	100.00%
DN225 Lezhubani Res to PS	m	100.00%
Q200 ST Lezhubani PS - Memorial Res	m	100.00%
Q100 ST Perevisi PS - Tekhisa Res	m	100.00%
DN160 Memorial-Navardzeti	m	100.00%
Giorgadze area	m	100.00%
Total Laid Pipe	**m**	**100.00%**
House Connection	n	94%
Crossings	n	100%
Hydraulic Chambers	m3	98%
Hydrants	n	100%
Reinstatement of Asphalt	m2	70%
Reinstatement of Concrete	m2	6%

Pipeline	Unit	Progress
Pavement		

33. The cumulative physical progress of structures under MAR-01 sub-project during the period of January-June 2020 is presented in the Table 3 below.

Table 3: Construction progress under MAR-01 project, January-June 2020

Structure	Civil	Mechanical	Electrical	Instrumentation
Jandhari Reservoir	80%	5%	0	0
Kolagiri Pumping Station	80%	3%	0	0
City Reservoir	10%	0	0	0

34. Cumulative physical progress of water supply and sewer pipes are presented in the Table 4 below.

Table 4: Cumulative Physical Progress of Water Supply & Sewer pipes

Particulars	Water Supply Pipes		Sewer Pipes	
	laid	%	Laid	%
Marneuli	69.719	39.13%	23.016	20.38%
Transmission mains	0	0.00%	0	0.00%
Bolnisi	0	0.00%	6.746	25.09%
Interceptor	0	0.00%	7.286	25.77%
Total	69.719	35.61%	37.148	20.33%

2.4 Description of Any Changes to Project Design

35. No changes took place under CHI-01 sub-project during the reporting period.

2.5 Description of Any Changes to Agreed Construction methods

36. During the reporting period no changes took place to the Construction methodology.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

37. Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC, Mr. Rezo Enukidze and Environmental Specialist of USIIP Ms. Ketevan Chomakhidze before March 2020, when the WHO declared a world Pandemic due to the COVID-19 virus. Even before that date the Georgian Government had already imposed some legislation that was disrupting the normal execution of works in Marneuli and Bolnisi Municipalities of Georgia. Some labour returned to Azerbaijan and could not come back due to closure of border. Initially emergency was declared in Georgia under which more than 10 persons not allowed to gather at one place. Subsequently the measures were further tightened, restricting only three persons can travel in a vehicle. The labour strength decreased to approximately 65% & rest of the worker force abandoned the construction site and it was not possible yet to find replacements due to the same reasons.

38. On the 15th of April the Governement of Georgia forbid the movements of people between the cities of the Country, which together with the Easter festivities, reduced even more the work load on site.

39. During May 2020 the national restraints to traveling were gradually lifted, and part of the work enforce returned. None of these workers tested positive for the COVID-19 virus and in May 2020 this group of workers resumed works under MAR-01 sub-project.

40. The Government of Georgia and its Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia, issued the General Guidelines Related to Infection (COVID-19) Caused by Novel Coronavirus (SARS-CoV-2) which applies to all sectors of economic activity.

41. The General Guideline for COVID-19 was also developed by the Government of Georgia specifically for the construction sector (Please see Annex E of this report).

42. Based on the above mentioned guidelines the construction staff must not appear in the workplace if they:

- Left the affected country over the past 14 days;
- Were in close contact with infected person/persons for the past 14 days (they must be self- isolated/quarantined as per the rule);
- Have symptoms of respiratory infection (coughing, temperature, sneezing, difficulty in breathing, general weakness etc.);
- Are among the ones who have high risk of getting infected with COVID-19 or serious complications: over 70 years of age, people suffering from chronicle diseases (cardio-vascular diseases, diabetes, bronchial asthma and other respiratory diseases.

43. During the reporting period, construction work under T6 were carried out within the framework of the CHI-01 and MAR-01 sub-projects and therefore in this Semi-annual EMR these two sub-projects are reported.

44. Construction activities under MAR-02 will be started when the final design is prepared and submitted by contractor to SC and UWSCG and finally agreed with ADB.

45. The monitoring activities included:

- The monitoring of compliance of construction activities under CHI-01 project sites to the IEE/EMP requirements;
- The monitoring of compliance of construction activities under MAR-01 project sites to the IEE/EMP requirements;

46. During the reporting period Mr.Teodor Kalmakhelidze, who conducted daily monitoring of construction sites, developed monthly monitoring reports and represented in SC / Hill.

47. Environmental, H&S Specialist, Mr. Vakhtang Burchuladze hired by Contractor under the MAR-01 sub-project conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC / Hill.

48. Environmental Monitoring Specialist, Ms. Rezo Enukidze hired by Supervision Company under USIIP/T6 developed quarterly monitoring reports for UWSCG/USIIP based on the monthly reports submitted by Contractor, and environmental monitoring of construction sites.

49. Environmental Specialist of UWSCG/USIIP, Ms. Ketevan Chomakhidze 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 Environmental Monitoring Reports (SAEMR) and submitted to ADB based on the quarterly reports prepared by SC and monitoring results of construction sites.

50. 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

51. 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. The monitoring guidelines were set as shown in the Table 5 below.

Table 5: Parametric Measurement Guidelines

Parameters	Frequency & Location	Remarks
CHI-01		
Air Quality	Air Quality Reservoirs, Networks, Transmission Main	Watering site during excavation works to avoid dust spreading Conduct measurements of Dusts Mg/m3; CO Mg/m3; NO2 Mg/m3; SO2 Mg/m3
Noise	Noise, Quarterly Reservoirs, Networks, Transmission Main	Ensure that all equipment & vehicles used for construction activity are in good condition Limiting working hours to 8 am – 6 pm

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

Parameters	Frequency & Location	Remarks
		Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.

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

3.2 Site Audit

53. Regular inspection and monitoring of construction sites under CHI-01 and MAR-01 sub-project were conducted by ESs of USIIP and SC/HILL. The schedule of Joint inspection and summary of audits carried out under sub-projects are provided in the Table 6 below.

Table 6. Summary of site audits for CHI-01 or MAR-01sub-projects.

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions
Continuously during reporting period (January-June 2020)	"Akkord Industry Construction Investment Corporation" OJSC CHI-01	Environmental, H&S Specialist of Contractor Mr. Teodor Kalmakhelidze	Day to day monitoring of sites Compliance with Environmental and HES requirements	Environmental, Health and safety issues on construction sites,	Prepare Monthly Environmental Monitoring Reports and send to SC
		Environmental Specialist of Supervision Company HILL Mr. Rezo Enukidze	Compliance with Environmental safeguard requirements	Environmental issues on construction sites	Prepare Quarterly Environmental Monitoring Reports and send to UWSCG Issue non-compliance if necessary
24 January 2020		Environmental Specialist of Supervision Consultant HILL	Regular Monitoring of sites	Storage territory internally should be arranged properly and cleaned regularly	Verbal Instruction were given to contractor

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions
		Mr.Rezo Enukidze		Reinstatement by asphalt layer of tranches within Chiatura network as far as possible as these present driving hazard and community annoyance.	to improve the situation by the end of January 2020
15 February 2020		Environmental Specialist of SC Mr. Rezo Enukidze Environmental, H&S Specialist of Contractor Mr. Teodor Kalmakhelidze Environmental Specialist of USIIP Ms. Ketevan Chomakhidze	Monthly monitoring of sites	Proper warning and information signs should be arranged at the entrance and perimeter of the site High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly on the territory primarily agreed with the Municipality	Verbal instruction was given to contractor to improve the situation by the 20 of February 2020

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions
June 19 2020		Environmental Specialist of SC Mr. Rezo Enukidze Environmental, H&S Specialist of Contractor Mr. Teodore Kalmakhelidze	Regular monitoring of sites	Workers always should use complete PPE and Safety norms during working at height should be provided Construction waste should be timely removed from the construction site and disposed properly	[1]Verbal instruction was given to contractor improve the situation
Continuously during reporting period (January-June 2020)	"Akelik Group OJSC" (Azerbaijan) MAR-01	Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze	Day to day monitoring of sites Compliance with Environmental and HES requirements	Safety issues on construction sites, Workers always should use complete PPE	Prepare Monthly Environmental Monitoring Reports and send to SC
		Environmental Specialist of Supervision Company HILL Mr. Rezo Enukidze	Compliance with Environmental and HES requirements	Poor Housekeeping	Prepare Quarterly Environmental Monitoring Reports and send to UWSCG Issue non-compliance if necessary
3 February 2020		Environmental Specialist of USIIP Ms. Ketevan Chomakhidze Environmental Specialist of	Monthly monitoring of sites	Proper warning and information signs should be arranged at the entrance and perimeter of the site	Verbal instruction was given to contractor to immediate improve the

[1] SC is requested to issue Non-compliance Notice to CC to avoid incidents and near misses.

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions
		Supervision Consultant HILL Mr.Rezo Enukidze		High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly on the territory primarily agreed with the Municipality Workers always should use complete PPE and Safety norms during working at height should be provided Construction waste should be timely removed from the construction site and disposed properly Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination	situation

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions
26 June 2020		Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze Environmental Specialist of Supervision Consultant HILL Mr.Rezo Enukidze	Regular Environmental monitoring of sites	Baseline Environmental Quality Measurement of Noise, Air and Vibration to be conducted before starting any construction activities Construction site should be properly fenced from all sides and equipped with lockable gate Proper warning and information signs should be arranged at the entrance and perimeter of the site All construction materials should be properly segregated and stored adequately Proper waste containers should be installed and labeled (Household waste and Hazardous waste) Site internally should be arranged properly and cleaned regularly	Verbal instruction was given to contractor to immediately improve the situation

3.3 Issues Tracking (Based on Non-Conformance Notices)

54. Non-Conformances have been observed during the site visits under CHI-01 and MAR-01 sub-projects. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send photos of improvements. Environmental team of HILL and UWSCG/USIIP monitored the improvements during the next monitoring visits. No Non-conformance Notices was issued during the reporting period, only verbal instructions were given to contractor to improve the situation and send the improved photos of sites to SC and UWSCG.

55. A summary of the identified environmental issues for January-June 2020 is presented in Table 7 and Table 8 below.

Table 7: Summary of Issues Tracking Activity for Current Period CHI-01

Total Number of Issues for Project	7
Issues Opened This Reporting Period	1
Issues Closed This Reporting Period	6
Percentage Closed	86%

Table 8: Summary of Issues Tracking Activity for Current Period MAR-01

Total Number of Issues for Project	12
Issues Opened This Reporting Period	4
Issues Closed This Reporting Period	8
Percentage Closed	67%

3.4 Trends

56. Summary of identified trends under CHI-01 and MAR-01 sub-projects during the reporting period – January-June 2020 is presented in the Table 9 below.

Table 9: Summary of Identified Trends in Environmental Issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
July-December 2019	43	86%	14%
January-June 2020	19	77%	23%

3.5 Unanticipated Environmental Impacts or Risks

Not yet applicable

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

57. During the reporting period Environmental measurements of Noise level and ambient air Quality were carried out by contractor under CHI-01 sub-project.

58. Noise standards defined by IFC/WHO 1999, are presented in the Table 10 below.

Table 10: Noise Level Guidelines

Noise	dBA National Regulations		dBA 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

59. Air pollution standards by IFC/WHO 1999, are presented in the Table 11 below.

Table 11: 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
Carbonic monoxide	n/a
Nitrogen dioxide (NO_2)	0,2/ 1 Hour 0,04/1 Year
Aldehyde	n/a

60. Environmental quality measurements of noise, vibration ambient air quality under CHI-01 sub-project were conducted by Ltd "NaSeTo Group" on 19 January 2020 (Date of submission of Measurement data is January 19, 2020, please see Annex A). Location and data are included in

the Table 12 below. The next monitoring measurements will be conducted in September 2020 and results will be reflected in the next Bi-annual EMR of July-December 2020.

61. According to data received in January 2020 noise level exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Chiatura and therefore additional mitigation measures are required and presented in Table 19: Recommendations to Address Environmental Issues under CHI-01 sub-project. IFC/WHO standards for Noise and Air pollution are presented in Tables 10 and 11 above. It should be noted also that environmental quality measurements were carried out at the nearest sensitive receptors of construction sites, were temporary and conducted during the daytime from 13:30pm to 16:45pm and no complaints were received from the local population about the noise during the reporting period.

Table 12: Environmental Quality Measurement Noise, Vibration, Dust CHI-01

Measurement Point	Measurement Results								
Dust, Air Pollution, Noise and Vibration									
Location	Coordinates	[2]Noise dBA (1-hour)	Vibro Speed		Vibro Acceleration		Dust Mg/M^3		
			mm/s	db	m/s^2	db	PM_{25}	PM_{10}	Total
Chiatura BiCi Reservoir	38T0360054 4683292	63,4	<0,1	<66	<0,1	<100	0.067	0.092	0.124
"Sahkere Chiatura Road" 61km`	38T0365372 4686965	71.2	<0,1	<66	<0,1	<100	0.034	0.067	0.098
Chiatura Leguban Reservoir	38T0357841 4684386	61,3	<0,1	<66	<0,1	<100	0.028	0.047	0.083
Chiatura Chavchavadze 18	38T0358296 4682951	82,1	0,1	66	0,1	100	0.081	0.106	0.237
Nitrogen and Sulfur Dioxide, Carbon Monoxide and Total Hydrocarbon Air Pollution Measurement Results									
Location	Coordinates	Nitrogen Dioxide	Sulfur Dioxide		Carbon Monoxide		Total Hydrocarbons		
Chiatura BiCi Reservoir	38T0360054 4683292	0.048	<0.01		0,19		<0.1		
"Sachkere Chiatura Road" 61km`	38T0357841 4684386	0.008	<0.01		0.96		0.1		
Chiatura Leguban Reservoir	38T0357841 4684386	0.025	<0.01		0.27		<0.1		

[2] This data for noise propagation is the Maximum and Average will be obtained for the next reporting period and reflected in the next SAEMR - January-June 2020.

Chiatura Chavchavadze 18	38T0358296 4682951	0.059	<0.01	2.37	<0.1

62. Environmental quality measurements of noise, vibration ambient air quality under MAR-01 sub-project were conducted by contractor on 30 January 2020 and 27 May 2020. Location and data are included in the Table 13 and Table 14 below.

Table 13: Environmental quality measurements results MAR-01, 30 January 2020

#	Location	GPS coordinates WGS 84	Measurement results				
			Dust (PM), mg/m^3		Noise dBA (1-hour)		Vibration, mm/s^2
			Result	Permissible	Result	Permissible	
1	Marneuli, Jandari reservoir (3m from nearest house) Power generator was turned on within 25m from the house*	N4594930 E482888	0.037	0.15-average; 0.5–max	53	55	0
2	Marneuli, Construction camp	N4594096 E485275	0.041		49	55	0
3	Qolagiri headwork, 20 meters from existing pump station building (constructing pump station area)	N4588169 E476315	0.035		64	85	0
4	116, Tchavtchavadze street, Bolnisi	N4588815 E460925	0.053		54	55	0
5	Marneuli, City reservoir A	N4593262 E482437	51		63	85	0
6	Marneuli, City reservoir A 5 m from nearest house	N4593204 E482493	48		51	55	0

63. According to data received on 30 January 2020 noise level exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Marneuli and therefore additional mitigation measures are required and presented in Table 19: Recommendations to Address Environmental Issues under MAR-01 sub-projects. IFC/WHO standards for Noise and Air pollution are presented in Tables 10 and 11 above. It should be noted also that environmental quality measurements carried out at the nearest sensitive receptors of construction sites, were temporary and conducted during the daytime from 13:00 am to 15:00pm and no complaints were received from the local population about the noise during the reporting period.

64. Table 14 below present results of the Environmental Quality Measurement conducted on 27 May 2020 under MAR-01 sub-project.

Table 14: Environmental quality measurements results MAR-01, 27 May 2020

#	Location	GPS coordinates WGS 84	Measurement results				
			Dust (PM), mg/m^3		Noise dBA (1-hour)		
			Result	Permissible	Result	Permissible	
1	Marneuli, Jandari reservoir (3m from nearest house)	N4594930 E482888	0.077	0.15-average; 0.5–max	50	55	0
2	Marneuli, Construction camp	N4594096 E485275	0.069		45	55	0
3	Marneuli, City reservoir A	N4593262 E482437	0.098		63	85	0
4	Marneuli, City reservoir A 5 m from nearest house	N4593204 E482493	0.071		52	55	0

65. According to data received on 27 May 2020 noise level exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Marneuli and therefore additional mitigation measures are required and presented in Table 19: It should be noted also that environmental quality measurements carried out at the nearest sensitive receptors of construction sites, were temporary and conducted during the daytime from 14:10 am to 17:00pm and no complaints were received from the local population about the noise during the reporting period.

4.2 Trends

66. All mitigation measures identified within the IEE/EMP, SEMPs under CHI-01 and MAR-01 sub-projects are effective and no additional measures are required.

4.3 Summary of Monitoring outcomes

67. Noise level during the construction period under CHI-01 sub-project exceeds the existing standards of IFC/WHO and therefore the following additional mitigations measures are required: 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; Noisy construction activities will be avoided during night time; All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions. Environmental Specialists of SC and UWSCG/USIIP will monitor the improvements under CHI-01 sub-project and reflect findings in the next Semi-annual EMR in July-December 2020.

4.4 Material resources Utilization

4.4.1 Current Period

68. The following information were provided by the contractor under CHI-01 sub-project about the material resources utilized during the reporting period January-June 2029.

Table15: Material Resources Utilized under CHI-01 sub-project

Item	Quantity
Water	2271 m^3
Electricity	46646 kw
Natural Gas	10952 m^3

69. The following information was provided by the contractor within the framework of the MAR-01 sub-project on the use of material resources during the reporting period – January-June 2020.

Table 16: Material Resources Utilized under MAR-01 sub-project

Item	Quantity
Water	3,030.00 m^3
Electricity	32,600.00 kw
Natural Gas	1450.00 m^3

4.4.2 Cumulative Resources Utilization

N/A

4.5 Waste Management

4.5.1 Current Period

70. At the construction sites under the CHI-01 and MAR-01 sub-projects are mainly produced household, construction (inert, surplus soil) and hazardous waste.

71. Mainly household waste is collected in municipal containers. Local municipality is responsible for the disposal of household waste.

72. The local Municipality of Chiatura is responsible for the disposal of household waste under CHI-01 sub-project, LTD "Sanitary" is constructed by contractor "AKKORD" for the disposal of hazardous waste. For disposal of Inert waste the special place is allocated for contractor which is previously agreed with the Municipality of Chiatura.

73. Amount of Solid Waste generated during the reporting period within the framework of the CHI-01 sub-project is presented in the Table 17 below.

Table 17: Amount of Solid Waste (CHI-01)

Type of Waste	Quantity
Household Waste	120 m^3

74. Hazardous waste (lubricant residues and etc) were stored according to all the safety norms after the strong instruction given by SC and UWSCG. Also contractors have special container with proper labelling at the construction site.

75. Amount of Solid Waste generated during the reporting period within the framework of the MAR-01 sub-project is presented in the Table 18 below.

Table 18: Amount of Solid Waste (MAR-01)

Type of Waste	Quantity
Household Waste	180 m^3

76. The local Municipality of Marneuli is responsible for the disposal of household waste under MAR-01 sub-project.

4.5.2 Cumulative Waste Generation

Not yet applicable.

4.6 Health and Safety

4.6.1 Community Health and Safety

77. No community incidents have been reported by SC during reporting period under CHI-01 and MAR-01sub-projects.

4.6.2 Worker Safety and Health

78. Environmental H&S specialist of contractor under CHI-01 sub-project Mr. Tengo Kalmakhelidze was performing day-to-day monitoring of Health & Safety on the Sites and press the Contractor to improve the provision of trench barriers in roads and to provide suitable work boots for the labour force.

79. It should be noted that SC does not have a dedicated staff member responsible for H&S, despite numerous discussions with SC initiated by ADB and an oral agreement with SC, no progress has been made so far.

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

- Ground works;
- Manual works;
- Removal waste;
- PPE;
- Housekeeping;
- Reinforcement;
- Dust and Noise Measurements
- Upgrade Safety Hard and Warning Barricade

81. The following Near-Misses were reported by SC under CHI-01 sub-project, which may be resulted in community and workers' Health and Safety problems:

- Safety issues on construction sites, Workers always should use complete PPE;
- Single row of plastic security tape acting as a fence which is inadequate and ineffective. In addition, no night warning lamps are being used for the open trenches

82. During the reporting period, Near-Misses were identified by contractor within the framework of the MAR-01 subproject. These Near Missis include the following cases, the excavator operator stated that the worker enter and exit the unprotected trench during the construction works.

83. The following Preventing measures were implemented, the shuttering of the trench was executed for protection of the trench from collapse.

84. SC and UWSCG / USIIP strictly requested from contractor to adequately fill the Near Misses forms and reflect in their monthly monitoring reports (Near Misses form filled by contractor are provided in the Annex C of this report).

4.7 Training

85. On site environmental and H&S safeguard training were conducted for environmental team of MAR-01 and CHI-01 sub-projects on a regular bases. Environmental specialists of contractors were introduced with all necessary safeguard requirements of ADB/SPS 2009.

5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

86. During the reporting period Location Specific EMP was prepared and approved under MAR-02 sub-project for construction of Marneuli WWTP.

87. The following SEMPS have been updated due to the changes in project design under CHI-01 sub-project.

- SEMP for Sachkhere reservoir (December 2019)
- SEMP for Bisi Reservoir (December 2019)

88. The following SEMPs have been prepared and approved under CHI-01 and MAR-01 sub-project during the previous reporting periods:

CHI-01 Sub-project:

- SEMP for CAMP site (approved in August 2018)
- SEMP for Sachkhere Reservoir (approved in August 2018);
- SEMP for Bisi Reservoir (approved in September 2018);
- SEMP for Lezhubani Reservoir (approved in September 2018);
- SEMP for Navardzeti Reservoir (approved in September 2018);
- SEMP for Perevisy Reservoir (approved in September 2018);
- SEMP for Rustaveli reservoir (approved in September 2018);
- SEMP for Tekhisa Reservoir (approved in September 2018);
- SEMP for Chiatura Well fields (approved in November 2018)

MAR-01 sub-project:

- SEMP for Jandary Reservoir (approved in March 2019)
- SEMP for Kolagiri Pumping Station (approved in March 2019);
- SEMP for CAMP (approved in May 2019)
- SEMP for City Reservoir

MAR-02 sub-project:

- SSEMP for MAR-02 (approved in March 2020).

89. All SEMPs were prepared by Contractor, endorsed by SC and approved by UWSCG. SEMPs were reviewed/commented by the RETA International Environmental Consultant of ADB under RETA 8663 - Ms. Keti Dgebuadze.

90. Due to COVID-19 circumstances it is necessary to updated SEMPs for anti-COVID measures and reflect it within the next Semi-annual EMR (due in Jan 2021).

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6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

Not yet applicable.

6.2 Opportunities for Improvement

Not yet applicable.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

91. Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC, Mr. Rezo Enukidze and Environmental Specialist of USIIP Ms. Ketevan Chomakhidze before March 2020, when the WHO declared a world Pandemic due to the COVID-19 virus. Even before that date the Georgian Government had already imposed some legislation that was disrupting the normal execution of works in Georgia.

92. The Government of Georgia and its Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia, issued the General Guidelines Related to Infection (COVID-19) Caused by Novel Coronavirus (SARS-CoV-2) which applies to all sectors of economic activity.

93. The General Guideline for COVID-19 was also developed by the Government of Georgia specifically for the construction sector.

94. During the reported period construction activities were implemented under CHI-01 and MAR-01 sub-projects. Contractors have intensified all activities to improve the progress of the works on sites. Individual and Joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC/HILL and UWSCG/USIIP on a regular basis.

95. In accordance with the IEE, the Contractor was required to undertake parametric measurements and observations on air quality and noise.

96. Noise level exceeded the existing standards of national and international regulations under CHI-01 and MAR-01 sub-project. Additional mitigation measures to improve the situation is provided in the Table 19 below.

7.2 Recommendations

97. During the reporting period, from January-June 2020, the T6 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.

98. Contractors to update SEMPs for anti-COVID measures – Q3 2020.

99. More detailed recommendations for the implementation of T6 during the next reporting period July-December 2020 are provided in the Table 19 below:

Table 19: Recommendations to Address Environmental Issues under CHI-01 sub-project

Recommendations CHI-01 sub-project	
Recommendations CHI-01	**Implementation status and date**

Recommendations CHI-01 sub-project	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the July 2020: 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; Noisy construction activities will be avoided during night time; All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions; Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses) Install noise barriers (e.g., panels, curtains, or partitions) to reduce the emission of engine noise. Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.
Recommendations MAR-01	**Implementation Status and**

Recommendations CHI-01 sub-project	
	Date
High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population	The contractor is given a strong instruction to improve the situation by the mid July 2020 and constantly maintain an improved standard.
Construction site should be properly fenced from all sides and equipped with lockable gate	
Proper warning and information signs should be arranged at the entrance and perimeter of the site	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the July 2020 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; Noisy construction activities will be avoided during night time; All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions; Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses) Install noise barriers (e.g., panels, curtains, or partitions) to reduce the emission of engine noise.

Recommendations CHI-01 sub-project	
	Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.

100. Conduct quarterly monitoring of Noise and Air quality under CHI-01 project at the nearest sensitive receptors. The schedule of environmental quality measurements to be carried out during the next reporting period, July-December 2020 is presented in the Table 20 below.

Table 20: Conduct Monitoring of Environmental Quality under CHI-01 project

Parameters	Quarterly measurement
Dust	September 2020
$PM_{2.5}$ and PM_{10}	September 2020
Vibration	September 2020
Carbon monoxide	September 2020
Nitrogen dioxide	September 2020
Noise	September 2020

101. Conduct quarterly monitoring of Noise and Air quality under MAR-01 project at the nearest sensitive receptors. The schedule of environmental quality measurements to be carried out during the next reporting period, July-December 2020 is presented in the Table 21 below.

Table 21: Conduct Monitoring of Environmental Quality under MAR-01 project

Parameters	Quarterly measurement
Dust	September 2020
$PM_{2.5}$ and PM_{10}	September 2020
Vibration	September 2020
Carbon monoxide	September 2020

Nitrogen dioxide	September 2020
Noise	September 2020

102. Conduct baseline environmental measurements of Noise and Air quality under MAR-02 sub-project during the next reporting period of July-December 2020 in August 2020.

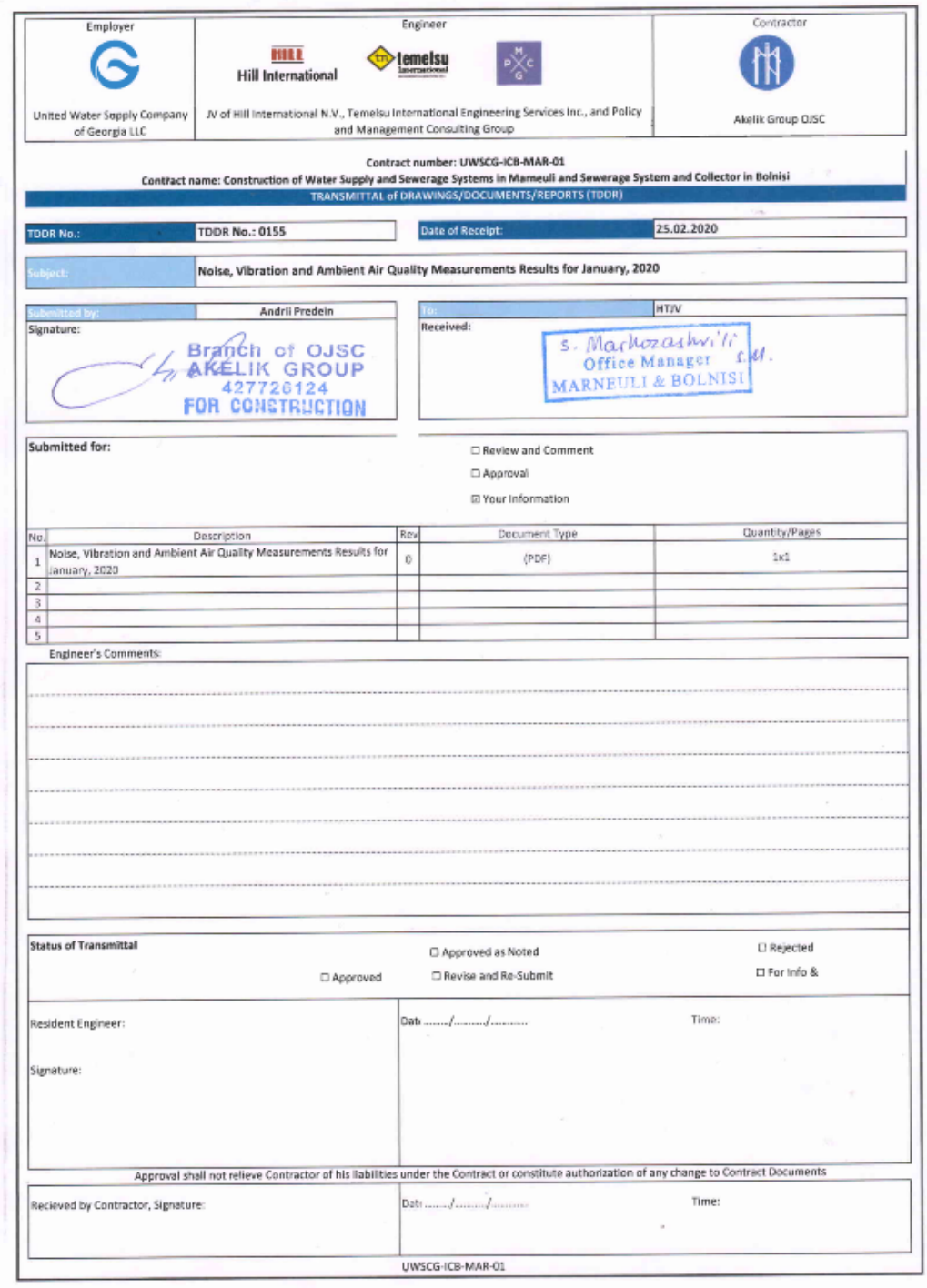
Table 21: Conduct Monitoring of Environmental Quality under MAR-01 project

Parameters	Quarterly measurement
Dust	August 2020
$PM_{2.5}$ and PM_{10}	September 2020
Vibration	August 2020
Carbon monoxide	August 2020
Nitrogen dioxide	August 2020
Noise	August 2020

ANNEXES

ANNEX A: ENVIRONMENTAL QUALITY MEASUREMENT DATA

Environmental Quality Measurement Data (MAR-01), 25 February 2020



Employer	Engineer	Contractor
United Water Supply Company of Georgia LLC	Hill International; Temelsu International; MMC	Akelik Group OJSC
	JV of Hill International N.V., Temelsu International Engineering Services Inc., and Policy and Management Consulting Group	

Contract number: UWSCG-ICB-MAR-01

Contract name: Construction of Water Supply and Sewerage Systems in Marneuli and Sewerage System and Collector in Bolnisi

TRANSMITTAL of DRAWINGS/DOCUMENTS/REPORTS (TDDR)

TDDR No.:	TDDR No.: 0155	Date of Receipt:	25.02.2020
Subject:	Noise, Vibration and Ambient Air Quality Measurements Results for January, 2020		
Submitted by:	Andrii Predein	To:	HTJV

Signature: Branch of OJSC AKELIK GROUP 427726124 FOR CONSTRUCTION

Received: S. Machozashvili Office Manager MARNEULI & BOLNISI

Submitted for:

☐ Review and Comment

☐ Approval

☑ Your Information

No.	Description	Rev	Document Type	Quantity/Pages
1	Noise, Vibration and Ambient Air Quality Measurements Results for January, 2020	0	(PDF)	1x1
2				
3				
4				
5				

Engineer's Comments:

Status of Transmittal

☐ Approved ☐ Approved as Noted ☐ Revise and Re-Submit ☐ Rejected ☐ For Info &

Resident Engineer: Date ...../...../..... Time:

Signature:

Approval shall not relieve Contractor of his liabilities under the Contract or constitute authorization of any change to Contract Documents

Recieved by Contractor, Signature: Date ...../...../..... Time:

UWSCG-ICB-MAR-01

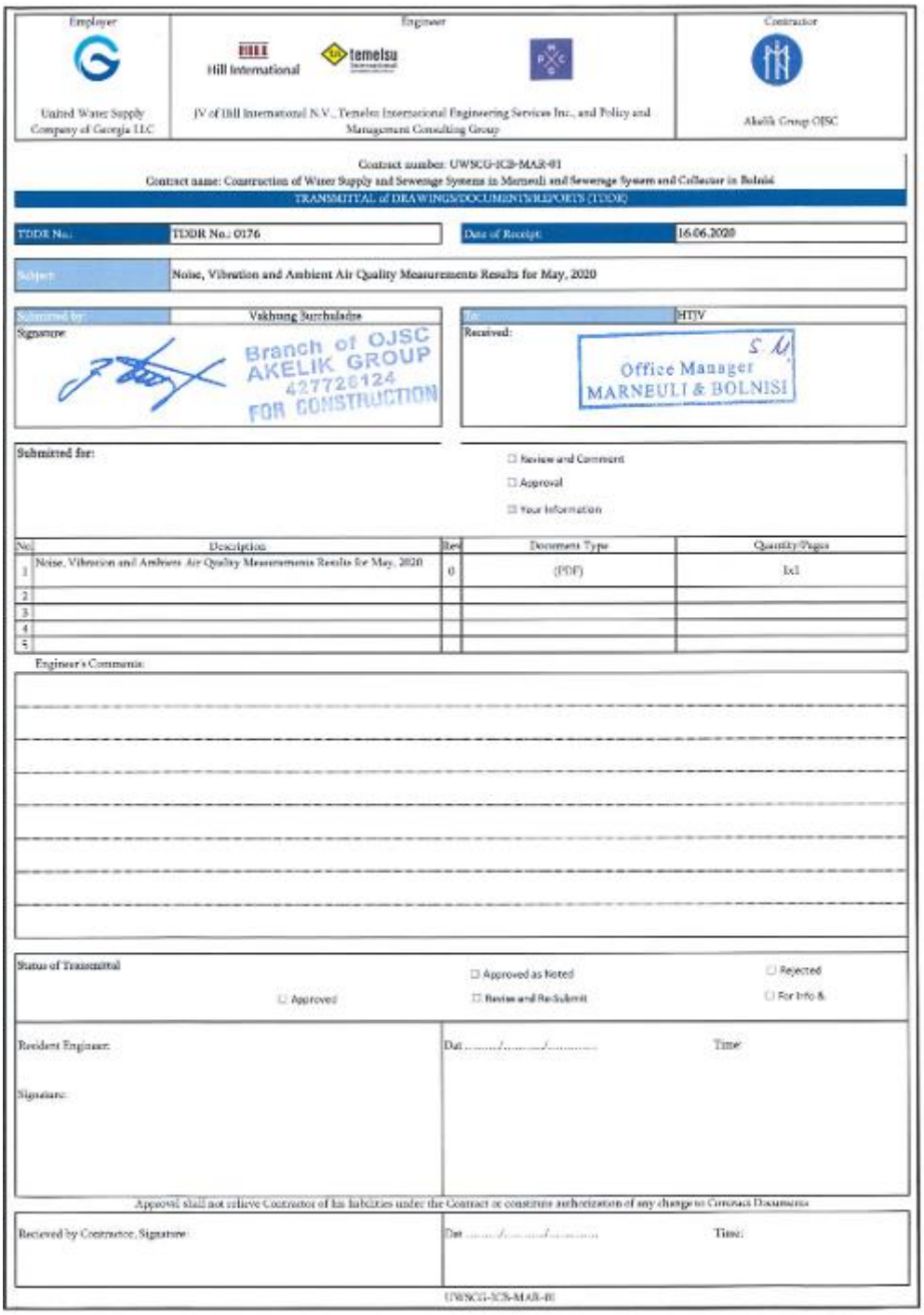
Noise, vibration and ambient air quality measurement results

	Location	GPS coordinates WGS 84	Measurement results				
			Dust (PM), mg/m^3		Noise, Db		Vibration, mm/s^2
			Result	Permissible	Result	Permissible	
1	Marneuli, Jandari reservoir (3m from nearest house) Power generator was turned on within 25m from the house*	N4594930 E482888	0.037	0.15-average; 0.5–max	53	55	0
2	Marneuli, Construction camp	N4594096 E485275	0.041		49	55	0
3	Qolagiri headwork, 20 meters from existing pump station building (constructing pump station area)	N4588169 E476315	0.035		64	85	0
4	116, Tchavtchavadze street, Bolnisi	N4588815 E460925	0.053		54	55	0
5	Marneuli, City reservoir A	N4593262 E482437	51		63	85	0
6	Marneuli, City reservoir A 5 m from nearest house	N4593204 E482493	48		51	55	0

Measurement performed by /P. Chankotadze/

30.01.2020.

Environmental Quality Measurement Data (MAR-01), 16 June 2020



Employer	Engineer	Contractor
United Water Supply Company of Georgia LLC	JV of Hill International N.V., Temelsu International Engineering Services Inc., and Policy and Management Consulting Group	Akaliki Group OJSC

Contract number: UWSCG-ICB-MAR-01

Contract name: Construction of Water Supply and Sewerage Systems in Marneuli and Sewerage System and Collector in Bolnisi

TRANSMITTAL of DRAWINGS/DOCUMENTS/REPORTS (TDDR)

TDDR No.:	TDDR No.: 0176	Date of Receipt:	16.06.2020
Subject:	Noise, Vibration and Ambient Air Quality Measurements Results for May, 2020		
Submitted by:	Vakhtang Surmhaladze	To:	HTJV
Signature:	Branch of OJSC AKELIK GROUP 427726124 FOR CONSTRUCTION	Received:	Office Manager MARNEULI & BOLNISI

Submitted for:

☐ Review and Comment
☐ Approval
☐ Your Information

No.	Description	Rev.	Document Type	Quantity/Pages
1	Noise, Vibration and Ambient Air Quality Measurements Results for May, 2020	0	(PDF)	Incl.
2				
3				
4				
5				

Engineer's Comments:

Status of Transmittal

☐ Approved
☐ Approved as Noted
☐ Review and Re-Submit
☐ Rejected
☐ For Info &

Resident Engineer: Date ...../...../..... Time:

Signature:

Approval shall not relieve Contractor of his liabilities under the Contract or constitute authorization of any change to Contract Documents

Recieved by Contractor, Signature: Date ...../...../..... Time:

UWSCG-ICB-MAR-01

Noise, vibration and ambient air quality measurement results

	Location	GPS coordinates WGS 84	Measurement results				
			Dust (PM), mg/m^3		Noise, Db		Vibration, mm/s^2
			Result	Permissible	Result	Permissible	
1	Marneuli, Jandari reservoir (3m from nearest house)	N4594930 E482888	0.077	0.15-average; 0.5–max	50	55	0
2	Marneuli, Construction camp	N4594096 E485275	0.069		45	55	0
3	Marneuli, City reservoir A	N4593262 E482437	0.098		63	85	0
4	Marneuli, City reservoir A 5 m from nearest house	N4593204 E482493	0.071		52	55	0

Measurement performed by /P. Chankotadze/

27.05.2020.

Measurements Data – CHI-01

საქართველო
შპს „ნასეტო გრუპ“

GEORGIA
LTD "NaSeTo Group"

საქართველო, ქუთაისი, ხუნდაძის 65, email: nato-gabuniagmail.ru, ტელ. 595-270-451, TBC ა/ა № GE29TB7064236020100019
Georgia, Kutaisi, Khundadze str. 65, , email: nato-gabuniagmail.ru, tel. 595-270-451, TBC bank № GE29TB7064236020100019

ღია სააქციო საზოგადოების "აკორდ ინდუსტრიული სამშენებლო საინვესტიციო კორპორაციის" წარმომადგენლობა საქართველოში "აკკორდ ჯორჯია"

Open Joint Stock Company "Akkord Industrial Construction Investment Corporation" in Georgia "Akkord Georgia"

ჰაერის მტვერით დაბინძურების, ხმაურის და ვიბრაციის გაზომვების შედეგები
19.01.2020 $14^{00} - 16^{20}$

Dust air pollution, noise and vibration measurements on 19.01.2020 $14^{00} - 16^{20}$

№	გაზომვის წერტილის Measurement point		Measurement results							
	ადგილ მდებარეობა Location	კოორდინატები Coordinates	ხმაური Amax დბ Noise Amax db	ვიბრო სიჩქარე Vibro Speed		ვიბრო აჩქარება Vibro acceleration		მტვერი მგ/მ³ Dust mg / m3		
				მმ/წმ mm/s	დბ db	მ/წმ² m/s²	დბ db	$Pm_{2.5}$	Pm_{10}	Total
1	ჭიათურა, BiCi რეზერვუარი Chiatura, BiCi Rezervoir	38T0360054 4683292	63,4	<0.1	<66	<0.1	<100	0.067	0.092	0.124
2	სარხერე - ჭიათურა 61კმ, Sachkhere – Chiatura, road 61km	38T0365372 4686965	71,2	<0.1	<66	<0.1	<100	0.034	0.067	0.098

3	ჭიათურა, ლეჭუბნის რეზერვუარი Chiatura, Leguban, Reservoir	38T0357841 4684386	61,3	<0.1	<66	<0.1	<100	0.028	0.047	0.083
4	ჭიათურა, ჭავჭავაძის 18 Chiatura, Chavchavadze 18	38T0358296 4682951	82,1	0,1	66	0,1	100	0.081	0.106	0.237

ჰაერის აზოტის და გოგირდის დიოქსიდით, ნახშირბადის მონოოქსიდით და ჯამური ნახშირწყალბადებით დაბინძურების გაზომვების შედეგები
19.01.2020 $14^{00} - 16^{20}$

Nitrogen and sulfur dioxide, carbon monoxide and total hydrocarbon air pollution measurement results 19.01.2020 $14^{00} - 16^{20}$

№	გაზომვის წერტილის Measurement point		გაზომვის შედეგები მგ/მ³ Measurement results mg/m³			
	ადგილ მდებარეობა Location	კოორდი-ნატები Coordinates	აზოტის დიოქსიდი nitrogen dioxide	გოგირდის დიოქსიდი sulfur dioxide	ნახშირბადის მონოოქსიდი carbon monoxide	ჯამური ნახშირწყალბადები total hydrocarbons
1	ჭიათურა, BiCi რეზერვუარი Chiatura, BiCi Rezervoir	38T0360054 4683292	0.048	<0.01	0,19	<0.1
2	საჩხერე - ჭიათურა 61კმ, Sachkhere - Chiatura, road 61km	38T03653724 686965	0.008	<0.01	0.96	0.1

3	ჭიათურა, ლეგუბნის რეზერვუარი Chiatura, Leguban, Reservoir	38T0357841 4684386	0.025	<0.01	0.27	<0.1
4	ჭიათურა, ჭავჭავაძის 18 Chiatura, Chavchavadze 18	38T0358296 4682951	0.059	<0.01	2,37	<0.1

გაზომვის დროს გამოყენებულია ხელსაქყოები:/During measurement tools used:
ხმაური/Noise - Mini Sound Level Meter N05CC;
ვიბრაცია/Vibration- Smart Sensor ® AR63B Vibration Meter:
დამტვერიანობა/ Dust- Portable Dust Deteqtor model LB-HD08
და Gasella Mikro Dust Pro (თვითკალიბრაცია ნულოვანი და ოპტიკური ფილტრით./Self-calibration zero and optical filter.). აზოტის დიოქსიდის და ნახშირბადის მონოქსიდის - nitrogen dioxide and carbon monoxide - Элан CO/NO_2
ჯამური ნახშირწყალბადების - total hydrocarbon MiniRae 7600;
გოგირდის დიოქსიდის - sulfur dioxide – WASP-XM-E-SO2.

2001 წლის 16 აგვისტოს, საქართველოს შრომის, ჯანმრთელობისა და სოციალური დაცვის მინისტრის ბრძანება №297/ნ, გარემოს ხარისხობრივი მდგომარეობის ნორმების დამტკიცების შესახებ: / August 16, 2001, the Ministry of Labor, Health and Social Affairs of Georgia №297 / N, approval environmental quality of the norms:
დამტვერიანობის ნორმა შეადგენს 0.5 მგ/მ^3; / Dust norm is 0.5 mg / m3;
აზოტის დიოქსიდის ნორმა შეადგენს 0.2 მგ/მ^3; / nitrogen dioxide norm is 0.2 mg / m3;
გოგირდის დიოქსიდის ნორმა შეადგენს 0.5 მგ/მ^3; / sulfur dioxide norm is 0.5 mg / m3;
ნახშირბადის მონოქსიდის ნორმა შეადგენს .5 მგ/მ^3; / carbon monoxide norm is 5 mg / m3;
ჯამური ნახშირწყალბადების ნორმა შეადგენს 1 მგ/მ^3;/total hydrocarbons norm is 1 mg /m3;
ვიბროსიჩქარის ნორმა შეადგენს 112 დბ; / Vibro-speed norm is 112 db;
ვიბროაჩქარების ნორმა სპეციალური დამცავი საშუალებების გამოყენების გარეშე - 126 დბ./Vibro acceleration norm special protective outlets without using - 126 db.

დირექტორი:

ANNEX B: PHOTOS OF SITES

CHI-01 Project, Construction of chamber

New Memorial Pumping Station

Asphalt reinstatement works

MAR-01 Project

DN 200mm Sewerage Pipeline in Bolnisi 2020

Jandari Reservoir 2020

Kolagiri Pumping Station

ANNEX C: HEALTH AND SAFETY REPORTS

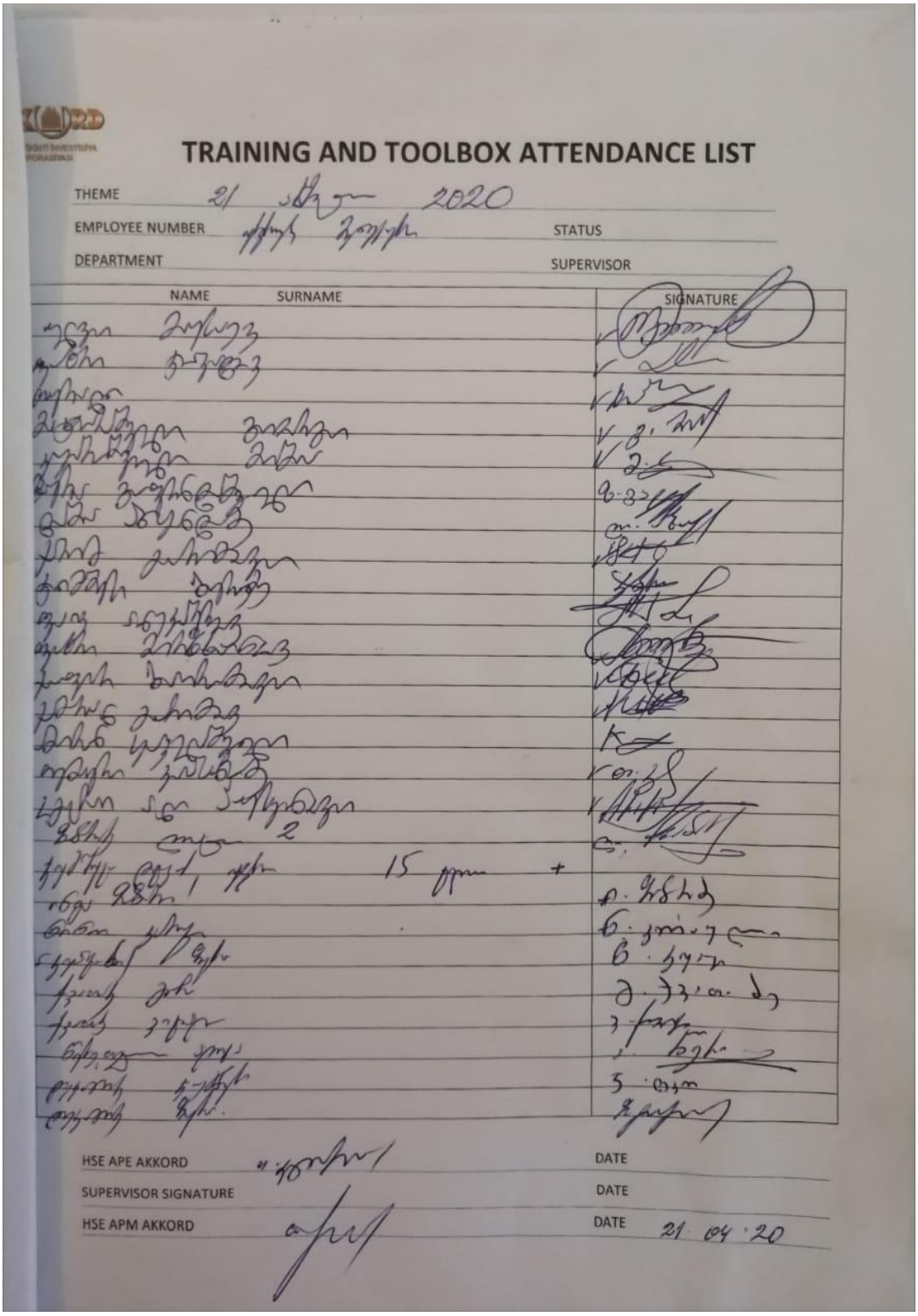
Near Misses Report

"Akelik-Group"'s Report of Injury Form

Instructions: Akelik will use this form to report all work related injuries, illnesses, or "near miss" events (which could have caused an injury or illness) – *no matter how minor*. This helps us to identify and correct hazards before they cause serious injuries. This form shall be completed by employees as soon as possible and given to a supervisor for further action.

I am reporting a work related: ❑ Injury ❑ Illness ☑ Near miss	
Your Name: Vakhtang Burchuladze	
Job title: Constuction / Deputy of PM	
Supervisor: Beso Gabidzashvili	
Have you told your supervisor about this injury/near miss? ☑ Yes ❑ No	
Date of injury/near miss: 05/01/2020	Time of injury/near miss: 11:00
Names of witnesses (if any): Zura Sikharulidze	
Where, exactly, did it happen? Bolnisi Network	
What were you doing at the time? Supervising	
Describe step by step what led up to the injury/near miss. (continue on the back if necessary): The excavator operator stated that the worker enter and exit the unprotected trench that morning.	
What could have been done to prevent this injury/near miss? The shuttering of the trench was executed for protection of the trench from collapse.	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? ❑ Yes ☑ No	
If yes, whom did you see?	Doctor's phone number:
Date: 05/01/2020	Time: 13:00
Has this part of your body been injured before? ❑ Yes ❑ No	
If yes, when?	Supervisor:
Your signature: V. Bur	Date: 05/01/2020.

ANNEX D: Training and Toolbox Attendance List



TRAINING AND TOOLBOX ATTENDANCE LIST

THEME 21 ... 2020

EMPLOYEE NUMBER ... STATUS

DEPARTMENT ... SUPERVISOR

NAME	SURNAME	SIGNATURE

HSE APE AKKORD ... DATE

SUPERVISOR SIGNATURE ... DATE

HSE APM AKKORD ... DATE 21.04.20

ANNEX E: GENERAL GUIDELINES RELATED TO INFECTION (COVID-19) CAUSED BY NOVEL CORONAVIRUS (SARS-CoV-2) FOR CONSTRUCTION SECTOR

MINISTRY OF INTERNALLY DISPLACED PERSONS FROM THE OCCUPIED TERRITORIES, LABOUR, HEALTH AND SOCIAL AFFAIRS OF GEORGIA

Labour Conditions Inspection Department

Create Together Safe Working Environment!

Annex №2

General Guidance Related to Infection (COVID-19) Caused by Novel Coronavirus (SARS-CoV-2) for Construction Sector

Note: In accordance with Order N281/N of the Minster of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia on "the rule for Examination for Short-term Employment Disability and Issuance of Doctors Note", the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia will issue an equivalent document to the doctors excuse note (Medical Certificate) to persons quarantined in order to prevent the spread of coronavirus. The document will serve as the basis to receive monthly payment and therefore, the working days spend in quarantine or in self-isolation will be legitimate and fully paid to the employees. In order to get the certificate, an interested person has to apply to the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia at - info@moh.gov.ge.

For further information, please contact: 15 05 116 001

StopCoV.ge

The job of builders involves constantly changing work places and work activity existing in open-air conditions. For this reason, in terms of virus spread, construction falls within the medium risk sector because its specificity covers natural ventilation. Nevertheless, it is important to consider the following preventive measures at construction work.

The staff must not appear in the workplace if they :

- Left the affected country over the past 14 days;
- Were in close contact with infected person/persons for the past 14 days (they must be self-isolated/quarantined as per the rule);
- Have symptoms of respiratory infection (coughing, temperature, sneezing, difficulty in breathing, general weakness etc.);
- Are among the ones who have high risk of getting infected with COVID-19 or serious complications: over 70 years of age, people suffering from chronicle diseases (cardio-vascular diseases, diabetes, bronchial asthma and other respiratory diseases.

Employer's responsibilities

- Whether or not the incidence of infection is detected, employer should develop an emergency action plan to support reduction of working days missed due to illness, and in case of detection – prevention of spread;
- Provide employees with information about safe working procedures and about prevention of virus spread (guide with the recommendations defined by LEPL L. Sakvarelidze National Center for Disease Control and Public Health of the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia);
- Inside the working space post announcements about COVID-19 and about the preventive measures that have been identified by LEPL L. Sakvarelidze National Center for Disease Control and Public Health;
- In relation to the employees who can perform job remotely (administrative personnel) ensure as much as possible use of such working mode;
- At the entrances of break room/dining room, place disinfecting rugs with relevant mandatory sign marking;
- Provide hand-washing facility with soap and other disinfectants. If hand-washing facility is not feasible, at least 70% alcohol-based hand cleansing liquid should be used;
- Visibly place the hand sanitizers and post the rules of their proper use;
- Make sure that employees have access to hand sanitizers and are aware of their use with proper rules;
- Provide all employees and contractors, personnel responsible for cleaning with information about relevant preventive measures to avoid spread of coronavirus in the working environment;
- Train the employees in proper use and further storage/removal of personal protective equipment and disinfectants;

- Depending on their work specificity, provide the employees with necessary personal protective equipment (protective clothing, protective shoes, helmet, gloves, respirator) and establish control on their use;
- Periodically, several times a day ensure natural ventilation of closed spaces/facilities;
- At certain periodicities disinfect frequently used working equipment and working places;
- Maintain ergonomics at construction site. Ensure timely cleaning of working space and timely disposal of construction waste.
- For employees and visitors ensure closed containers for used disposable tissues and other used hygienic waste in the working space.

Employees' responsibilities

Ensuring proper hand hygiene regularly and thoroughly is the best way to be protected from most of the viruses. Therefore, it is necessary to take the following measures in the workplace:

- Follow hygiene rules in your workplace;
- Carry out the working process in accordance with emergency situations action plan defined by employer/occupational safety manager;
- When greeting do not shake hands and avoid contact with others (touching etc.);
- Avoid gatherings, it is recommended not more than 10 people in one working platform by keeping a safe distance (at least 2 m);
- While performing your work, fully use personal protective equipment provided by the employers;
- Treat with disinfectants the working places and tools used in the course of the work;
- Before and after taking meals, before and after using the restrooms thoroughly wash your hands with soap and water. After washing dry your hands well;
- If you can not wash and dry your hands, use alcohol-based hand sanitizers;
- Keep safe distance (at least 2 m);
- While coughing or sneezing, cover the face with a clean tissue or elbow and place used dispensable tissue in the waste bin;
- Avoid touching your eyes, nose and mouth with your hands.

2. These recommendations have been developed to be communicated to all employers, workers and stakeholders. Everyone is urged to regularly promote and adhere to this document;
3. Site inductions should be updated as required to include information on coronavirus (COVID-19) potential risks and workplace specific controls that have been implemented such as daily screening, health checks and symptoms of coronavirus (COVID-19), staggered start, finish and meal times, good hygiene practices and cleaning regimes and PPE requirements;
4. Toolbox talks should be regularly conducted, and workers are to be encouraged to put forward practical ideas for changing work practices to avoid the spread of coronavirus (COVID-19). Toolbox talks should also provide clarity to workers on leave arrangements for those that cannot work, and to encourage self-reporting and minimize the spread of risk;
5. Toolbox talks should also include updates from the responsible Health Officer as they occur and additional information on the severity of the pandemic and the importance of physical distancing at toolbox meetings.

15. Other measures

1. Construction sites are diverse and vary in complexity, employers must apply a risk-based approach and implement reasonably practical controls based on the environment and specific hazards at each construction site. In addition to the aforementioned measures and controls mentioned in this section, employers should consider other measures for implementation such as:
    - Using alternatives to face to face meetings where practicable;
    - Reducing the length and size of meetings, especially for critical employees, by requiring some or all to dial in;
    - consider off-site fabrication;
    - ensuring working from home arrangements are enabled where feasible;
    - Structuring management teams to ensure contingency in the event of team members needing to be isolated or quarantined at home.

16. Vulnerable workers

1. Has been identified the following groups of people as vulnerable workers in relation to coronavirus (COVID-19):

- people over the age of 70;
- people with chronic diseases (cardiovascular disease, diabetes, bronchial asthma and other respiratory diseases)

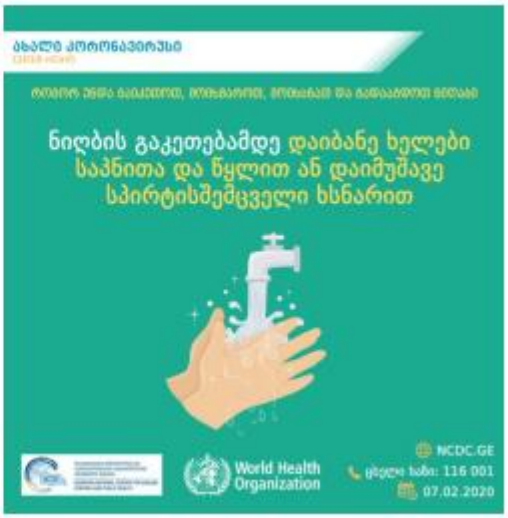
2. Where practical, reasonable action should be taken to minimize vulnerable workers from conducting higher risk roles.

17. Summary of recommendations and responsibility

#	Activity	Responsible for implementation
1.	To provide employees with the information about the work safety procedures and prevention of virus spread (guided by the recommendations of the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia and LEPL L. Sakvarelidze National Center for Disease Control and Public Health)	Employer
2.	To place ads in the workspace about the COVID-19 and its preventive measures defined by the LEPL I. Sakvarelidze National Center for Disease Control and Public Health	Employer
3.	To ensure maximum use of remote work in relation to those employees who can perform work remotely (administrative personnel)	Employer
4.	To put mattings at the entrance of the lounge room / dining room, with the relevant sign of indication	Employer
5.	To ensure hand washing at the workspace with appropriate soap and other hygiene products. In case of inability to wash hands, to provide with at least 70% alcohol- based hand cleaning liquids	Employer
6.	To place hand sanitizers and the instruction for their proper use in a prominent place	Employer
7.	To ensure that employees have access to hand sanitizers and know how to use them in accordance with the relevant instructions	Employer
8.	To provide information to all staff and contractors, as well as cleaning staff, on appropriate preventive measures to avoid the spread of coronavirus in the work environment	Employer
9.	To train the employees on the proper use of personal protective equipment and its subsequent storage / disposal	Employer
10.	To provide employees with the necessary personal protective equipment (overalls, special shoes, helmet, gloves, medical mask) based on the specifics of their job and establish control over their use	Employer
11.	Periodically, several times a day ensure natural ventilation of indoor spaces/closets	Employer
12.	Periodically ensure disinfection of workplaces and frequently used equipment	Employer
13.	To keep ergonomics in order at the construction site. To ensure the prompt cleaning of workspace and removal of construction waste	Employer
14.	To ensure placement of closed containers for the disposable napkins and other hygiene waste used by both employees and visitors	Employer
15.	Follow the rules of hygiene at your workplace	Employee

16.	Carry out the work process in accordance with the Emergency Action Plan defined by the employer / work safety manager	Employee
17.	Avoid shaking hands and direct contact with others (touch, etc.) while saluting	Employee
18.	Avoid gathering, the work of more than 10 people on one work platform at a safe distance (less than 2 m) is not recommended	Employee
19.	When performing the work, make full use of the personal protective equipment provided by the employer	Employee
20.	Clean the workplaces and the tools and equipment used during the work process with disinfectants	Employee
21.	Thoroughly wash your hands with soap and water before and after eating, as well as before and the bathroom. Dry your hands thoroughly after washing	Employee
22.	Use alcohol-based hand sanitizers in case if you are unable to wash and dry your hands	Employee
23.	Keep a safe distance (not less than 1.5 m);	Employee
24.	Cover your mouth with clean napkin or elbow when coughing and sneezing and then throw the used disposable napkin in the trash	Employee
25.	Avoid touching your eyes, nose, or mouth with your hands.	Employee

18. Informational banners for COVID -19




ახალი კორონავირუსი
(2019-nCoV)
როგორ უნდა გაიკეთოთ, მოიხმაროთ, მოიხსნათ და გადააბდოთ ნიღაბი
მოხმარებისას არ შეეხოთ ნიღაბს;
შეხების შემთხვევაში, დაიბანეთ ხელები
საპნითა და წყლით ან დაიმუშავთ
სპირტისშემცველი ხსნარით.
World Health Organization
NCDC.GE
ცხელი ხაზი: 116 001
07.02.2020


ახალი კორონავირუსი
(2019-nCoV)
როგორ უნდა გაიკეთოთ, მოიხმაროთ, მოიხსნათ და გადააბდოთ ნიღაბი
ნიღბის მოხსნის წესი:
მოიხსენით ნიღაბი უკანა თასმის მეშვეობით
(არ შეეხოთ ნიღბის წინა ნაწილს);
მოხსნისთანავე გადააგდეთ უახლოეს დახურულ ნაგვის
ურნაში; დაიბანეთ ხელები წყლითა და საპნით ან
დაიმუშავეთ სპირტისშემცველი ხნარით
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