

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

#15 Semi-annual Report

(Reporting Period: January-June 2025)

Loan Number: 3441

Project Number: 43405-028

**GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM
(TRANCHE 6)**

(FINANCED BY THE ASIAN DEVELOPMENT BANK)

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For: The Ministry of Infrastructure of Georgia and the Asian Development Bank

July 2025

ABBREVIATIONS

ADB	Asian Development Bank
CC	Construction Company
CCTV	Closed-Circuit Television Video
CAP	Corrective Action Plan
DPEPSA	Department of Permits, Environmental Protection and Social Affairs
DMPFDO	Department of Management of Projects financed by Donor Organizations
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
ERP	Emergency Response Plan
ES	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
LLC	Limited Liability Company
MFF	Multi-tranche Financing Facility
MEPA	Ministry of Environmental Protection and Agriculture
MIG	Ministry of Infrastructure of Georgia
NEA	National Environmental Agency
NCN	Non-compliance Notice
OJSC	Open Joint Stock Company
RE	Resident Engineer
SAEMR	Semi-Annual Environmental Monitoring Report
SC	Supervision Consultant
T6	Tranche 6
USIIP	Urban Sector Improvement Investment Program
UWSCG	United Water Supply Company of Georgia
WHO	World Health Organization
WS	Water Supply
WSS	Water Supply & Sewerage
WWTP	Waste Water Treatment Plant

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I. INTRODUCTION

1.1 Preamble

1. This report represents the Semi-annual Environmental Monitoring Review (SAEMR) for the Urban Services Improvement Investment Program (USIIP), Tranche 6 and describes the period of January-June 2025. USIIP/T6 was financed by the ADB through its Multi-tranche Financing Facility (MFF).
2. This report is the 15th Environmental Monitoring Review (EMR) of Urban Services Improvement Investment Program /Tranche 6.

1.2 Headline Information

Tranche 6 of USIIP includes the following sub-projects:

3. **Construction of Water Supply and Wastewater Systems in Marneuli and Construction of Wastewater System and Collector in Bolnisi (MAR-01):** The contract for the implementation of the MAR-01 sub-project was signed in September 2022. The original project completion date was March 2024. However, the construction works have not been completed and are currently being continued with Government financing, as the MFF was closed in March 2024. The new anticipated completion date is September 2025.
4. **Construction of Wastewater Treatment Plant for Marneuli and Bolnisi in Marneuli (MAR-02):** The contract for the implementation of the MAR-02 sub-project was signed on October 18, 2019. The initial completion date was set for March 2024. As with the MAR-01 project, construction has not been finalized and is now proceeding with Government funding, following the closure of the MFF in March 2024. The revised completion date is October 2025.
5. **The Construction of Water Supply System in Chiatura (CHI-01).** The contract for construction of the Chiatura Water Supply Sub-project (CHI-01) was signed in August 21, 2017 with “Akkord Industry Construction Investment Corporation” OJSC (Azerbaijan). Civil works for Section 1 of the CHI-01 sub-project were successfully completed within the contractual timeframe, 30 June 2021 and are now under operation by the local service center of Chiatura.
6. For Section 2 of the CHI-01 sub-project, the contract period was extended until April 5, 2022. However, these works remain incomplete, as the works were suspended by contractor in April 2022 and “Akkord” has stopped construction activities and abandoned the site. Approximately 43% of the Section 2 works still need to be finalized (more detailed information about the incomplete works under the CHI-01 sub-project is provided in para 28 below)
7. A new tender under the CHI-01 sub-project will be announced by the end of 2025 to complete the remaining tasks, with financing provided through the central Government budget. The Tender Documentation is currently being finalized by the Supervision Company, HILL. UWSCG is responsible for overseeing and ensuring the full completion of the CHI-01 sub-project.

8. As part of the tender preparation process, a draft Environmental Due Diligence Report (EDDR) has been prepared by UWSCG/IPMO. The draft report assesses the potential environmental impacts and risks associated with the revised scope of works for the Rehabilitation of the Chiatura Water Supply Project. The EDDR will be updated included in the tender documentation once it is finalized and cleared by ADB.

Damage to Sewerage Collector Due to Flooding of the Mashavera River in Bolnisi, under USIIP/T6

9. During the night of 25 to 26 May 2024, severe flooding caused by prolonged and intense rainfall led to an abnormal rise in the water level of the Mashavera River. As a result, damage occurred to the newly installed sewerage collector, under the ongoing MAR-01/ LOT-05 sub-contract (Construction of sewerage collector in Bolnisi), which was partially rectified by the contractor to the extent possible.
10. Subsequently, in January 2025, further flooding led to additional destruction. Approximately 300 meters of the sewerage collector, which had been installed within a protective metal casing, was washed away by the river.
11. The primary cause of the damage in both cases was the abnormal rise in river levels, driven by prolonged heavy rainfall, extensive sand and gravel extraction from the riverbed, and the resulting erosion of the riverbanks.
12. The United Water Supply Company of Georgia (UWSCG) is currently evaluating new alignment options to relocate the sewerage collector further from the river to minimize the risk of future flood-related damage. Three alternative routes are being developed and assessed by the UWSCG design department. A new tender will be announced after approval of new DD, and these changes will be incorporated into the scope. Consequently, the existing Supplementary Initial Environmental Examination (IEE) for MAR-01/LOT-04 and LOT-05 sub-projects will be revised accordingly. The document is scheduled to be updated by the end of December 2025.
13. The image below shows a gabion structure installed for riverbank reinforcement. The sewer pipe that was washed away had previously been laid behind this Gabion wall.
14. As previously noted, once the final design is approved, the Supplementary IEE will be updated to reflect the new alignment and associated environmental considerations.

Photo N1: Gabion Structure



Photo N2: Damaged Sewerage Collector



2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

15. 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.

16. The Investment Program improves infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sanitation) in one town. Sub-projects rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works include sewer network, pumping stations, main collectors and waste water treatment plants.

17. Tranche 6 of the Investment Program includes:

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

18. Construction of Water Supply and Waste Water Systems in Marneuli and Construction of Waste Water System and Collector in Bolnisi (MAR-01 - LOT-01; LOT-02; LOT-03 and LOT-06): The contract for the implementation of Lot-01, Lot-02, Lot-03, and Lot-06 under the MAR-01 sub-project was awarded to China Geo-engineering Corporation (CGC) of the People's Republic of China in September 2022. The project was originally scheduled for completion in March 2024, in line with the closing date of the MFF. However, as previously noted, the construction works were not completed by the deadline. The project is now being continued under Government financing, with the revised completion date set for September 2025. A brief overview of Lots 01, 02, 03, and 06, including the scope of works, is provided below.

Lot 1: Marneuli city is divided in 6 zones. Zone 1 under LOT-01 mainly includes remaining house connection work. The components of the sub-project that involves civil works under LOT-01 are as follows:

- Construction of new distribution water system 63 mm PE 100 pipes (4.6 km),
- Commission new distribution 39.5 KM laid earlier
- Approximately 44,1km road reinstatement works¹

¹ Is it simple overlay of the road no new road will be constructed

Lot 2: The geographical boundary for Lot 2 covers zone 2, 3 & 6 of Marneuli. It provides for both water supply & sewerage lines. It is in Northeast directions. Sewer pipeline and water supply pipeline are to be laid. In parallel with the construction works, testing will be carried out on the previously laid water supply and sewage lines by AKELIK GROUP OJSC to ensure its commissioning. The civil works under LOT-02 comprise mainly the following items:

- New distribution water system 40,16 km
- New sewers lines 34,5 km
- Rehabilitation of existing sewers 3.9 km
- New sewage pumping stations 2

Lot 3: The geographical boundary for Lot 3 covers zone 4 & 5 of Marneuli. It covers both water supply & sewerage lines. It is in West direction. Sewer pipe and water supply pipes are to be laid. In parallel with the construction works, testing will be carried out on the previously laid water supply and sewage lines by AKELIK GROUP OJSC to ensure its commissioning. The civil works under LOT-03 comprise mainly the following items:

- New distribution water system (44,3 km)
- Construction of new sewer lines (49,0 km)
- Construction of new sewage pumping stations (3 no.)

Lot 6: It includes Conclusion of new pumping station at Kolagiri and one booster station at Jandhari with mechanical, electrical and SCADA works; Rehabilitation of bore wells at Kolagiri; Finalization of new Reservoir at Jandhari and construction of city reservoir; Transmission line DCI pipes 700 mm, 600 mm & 400 mm pipes from Kolagiri to City reservoir and city reservoir to Jandhari. Also, a chlorination facility is to be installed near Jandhari reservoir. The works under LOT-06 comprise mainly the following items:

- Three new transmission mains DCI pipes 250 mm to 700 mm (total length almost 15.9 km)

19. Post Construction Environmental Audit Report under MAR-01 (LOT-01, LOT-02, LOT-03 and LOT-06) sub-project will be prepared in September 2025 by the Supervision Consultant – HILL and submitted to UWSCG for approval.

20. Construction of Water Supply and Sewerage System in Marneuli and Sewerage System and Collector in Bolnisi, Lot 4 and lot 5. The contract for the implementation of Lot-04 and Lot-05 under the MAR-01 sub-project was awarded to POLAT Yol Yapı Sanayi ve Ticaret Anonim Şirketi (Turkey). Physical works on both lots commenced in October 2022. The original project completion date was set for March 2024, in line with the MFF closing date. However, the civil works were not completed by that deadline and continued under Government financing until the end of November 2024. All construction activities were finalized in November 2024. A brief description of Lot-04, Lot-05, and their respective scopes of work is provided below.

Lot 4: It covers sewer network in Bolnisi city. Bolnisi is distinctly separate habitation and is about 22 km from Marneuli. new sewer lines are to be laid under LOT-04. Earlier laid sewer lines by AKELIK GROUP OJSC would also need to be tested and commissioned. The components of the subproject that will involve civil works under LOT-04 are as follows:

- Construction of new sewer lines (28,6 km)

- Rehabilitation of existing sewer lines (7,5 km)

Lot 5: Sewerage Interceptor (Collector) from Bolnisi to Marneuli. It includes one sewage pumping station to be laid. Earlier laid sewer lines by AKELIK GROUP OJSC would also need to be tested and commissioned. The works under LOT-05 comprise mainly the following items:

- Construction of new sewerage lines (15, 8 km).
- Rehabilitation of earlier laid sewers (7,9 km)

21. The Post-Construction Environmental Audit Report (PCEAR) for the MAR-01 (Lot-04 and Lot-05) sub-project was prepared by the Supervision Consultant (HILL) in December 2024 and approved by the United Water Supply Company of Georgia (UWSCG). For reference, please see Annex E of this report.

22. However, as noted above, an additional circumstance arose in January 2025, when flooding of the Mashavera Riv. In Bolnisi, caused significant damage: approximately 300 meters of the sewerage collector, previously installed within a protective metal casing, was washed away. This incident has been included in the PCEAR and reflected in the corresponding summary table (see Table No. 1 below).

23. To verify the reported non-compliances, a joint site visit was conducted on May 20, 2025, by the environmental teams of HILL and UWSCG, represented by Mr. Nikoloz Neparidze and Ms. Kate Chomakhidze. During the visit, it was observed that site conditions had not significantly changed since the time of the audit and the Non-compliances were not addressed by the contractor. The main findings of the PCEAR are summarized in Table 1 below.

24. Accordingly, the final version of the PCEAR will be prepared once all non-compliances have been addressed and the sewerage collector is fully rehabilitated. Currently, the timeline for completing this rehabilitation remains undetermined.

25. A summary of the findings from the initial PCEAR and the follow-up visit in May 2025 is presented in Table 1 below.

Table 1: Summary information of post-construction environmental audit, 20 May 2025

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status
						By the June 2025
Bolnisi Pumping Stations						
1	There are no warning and information signs on entrance gates of the Pumping Stations (Photo N1)	Proper Warning and information signs should be installed on entrance gate	Photo N1	End of August 2025	UWSCG	Not completed by the end of June 2025

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status By the June 2025
						
2	Deep and unprotected pits, both inside (Photo N2) and outside (Photo N3) the pumping station building	Clearly visible signs/safety tapes, trench side fences or proper cover should be installed around deep open pits/reservoirs (3-7m) to avoid accidents with working personal indoor and outdoor of the Pumping Stations	Photo N2  Photo N3 	End of August 2025	CC	Not completed by the end of June 2025
3	A small amount of construction waste remains on the site, both inside (Photo N5) and outside (Photo N5) the pumping	Construction waste should be removed from the territory and disposed adequately	Photo N4	End of December 2024	CC	Completed, removed from inside and outside of Pumping Station, May 2025, please see Photo N1

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status By the June 2025
	station building.		 Photo N5 			and N2 below Photo N1  Photo N2 
Construction of Waste Water Collector in Bolnisi						
	Un-fenced /unsecured pipeline cross river near resident areas (next to PS #2), Photo N6	The sewage collector across the river should be properly fenced off, as children may use the pipeline as a playground or bridge, posing a potential health risk	Photo N6 	End of August 2025	CC	Not completed by the end of June 2025

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status By the June 2025
	Approximately 300 meters of the sewerage collector, which had been installed within a protective metal casing, was washed away by the river Mashavera, as a result of the abnormal increase in river levels, triggered by prolonged heavy rainfall, intensified sand and gravel extraction from the riverbed.	UWSCG should evaluate new alignment options to relocate the sewerage collector further from the river. Three alternative routes should be developed and assessed by the UWSCG design department. A new tender will be announced, and these changes will be incorporated into the scope.		End of December 2025	UWSCG	Not completed

- 1. Construction of Waste Water Treatment Plant (WWTP) for the Cities of Marneuli and Bolnisi** in Marneuli (MAR-02). The project comprises of the construction of new Wastewater Treatment Plant in Marneuli with the capacity of 9,931 m³/day. 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 project was originally scheduled for completion in March 2024, in line with the closing date of the MFF. However, the construction works were not completed by the deadline. The project is now being continued under Government financing, with the revised completion date set for October 2025.
- 2.** Currently it is planned to construct an emergency bypass collector and a pumping station for the Marneuli Wastewater Treatment Plant (WWTP). These components are essential to ensure uninterrupted operation of the wastewater system, particularly during emergency situations and peak load periods. The construction works will be carried out by a contractor selected through a

competitive tendering process and financed from the state budget of Georgia. The tender documentation includes a revised and updated Environmental Management Plan (EMP).

3. According to Article 5, Paragraph 12 of the Environmental Assessment Code of Georgia, any modification to the technological process or change in the discharge point covered by an existing environmental decision, including increases in capacity is classified as an activity subject to the screening procedure defined by the Code.
4. The original environmental decision for the construction and operation of the Marneuli WWTP was issued by the Ministry of Environmental Protection and Agriculture of Georgia under Order No. 2-227 dated 11 March 2020.
5. Although the planned works do not involve any changes to the WWTP's core technological processes, treatment technology, facility capacity, or discharge point, the addition of the emergency bypass collector and pumping station is subject to the screening procedure in accordance with the Georgian Environmental Assessment Code. Accordingly, the screening document will be prepared and is expected to be submitted to the Ministry of Environmental Protection and Agriculture in Q1 of 2025.
6. It is important to note that the new infrastructure will be constructed within the existing cadastral boundaries of the WWTP, thereby avoiding the need for additional land acquisition.
7. Furthermore, since the emergency bypass collector will ultimately discharge into the existing overflow channel chamber, the final water discharge point into the Algeti River will remain unchanged.
8. In accordance with these circumstances, a draft screening report was prepared specifically for the construction of the emergency bypass collector and pumping station at the Marneuli WWTP and at the end of June 2025. Although the report was initially planned for submission to the Ministry of Environmental Protection and Agriculture (MoEPA) in July 2025, it requires further refinement. Comments have been provided by the UWSCG, and following incorporation of these remarks and finalization of the document, it is expected to be submitted to the MoEPA by the mid. of September 2025.
9. To comply with the requirements of the Asian Development Bank's (ADB) Safeguard Policy Statement (SPS, 2009), the existing Site-Specific Environmental Management Plan (SSEMP) for the Marneuli WWTP will be updated. As of the reporting period (30 June 2025), this SSEMP was under preparation and will be finalized and submitted in July 2025. It will be implemented prior to the commencement of the associated construction works, which are expected to begin in Q3 2025, to ensure that all environmental safeguards are effectively managed. The updated SSEMP will be reflected in the upcoming Semi-Annual Environmental Monitoring Report (SAEMR) covering the period July–December 2025.
10. **Post Construction Environmental Audit Report under MAR-02 sub-project** will be prepared in December 2025 by the SC – HILL and submitted to the UWSCG for its approval.

Construction of Water Supply System in Chiatura (CHI-01). 36. Construction of Water Supply System in Chiatura (CHI-01):

26. The contract for the Chiatura Water Supply Sub-project (CHI-01) was signed on August 21, 2017, with Akkord Industry Construction Investment Corporation OJSC (Azerbaijan). The initial project completion date was April 15, 2019, with a defect notification period ending on April 14, 2020.

27. Subsequently, the scope of work was divided into two sections:

- **Section 1** included the original contract works. The contract period for Section 1 was extended until June 30, 2021. These works were completed within the revised timeframe and are currently operated by the local service center in Chiatura.
- **Section 2** included additional components such as the installation of generators for pumping stations, extra house connections, fencing, and construction of a new reservoir (Avarioni). The contract time for Section 2 was extended until April 5, 2022. However, construction was suspended by the contractor in April 2022, and the site was abandoned. Approximately 43% of the Section 2 works remain incomplete.

28. Following works are incomplete under Section 2 of the Chi-01 sub-project that still need to be finalized:

Construction of water supply system for Avarioni & Safari areas sub-component:

Construction of Avarioni Reservoir:

- Avarioni reservoir fencing to be done;
- Mechanical and Electrical works to be completed;
- Guard house to be constructed;
- Some house connection work remains to be done.

Construction of BISI Pumping Station

- Bisi pumping station to pump water from Bisi reservoir to Avarioni reservoir is incomplete. The pump house building foundation slab was laid but other works not done, such as installation of the booster pump for providing water in two houses near Navradzeti reservoir.
- Purchase of generators for BISI pumping stations to ensure smooth operation of PS.

29. A new tender under the CHI-01 sub-project will be announced by the end of 2025 to complete the remaining works, with funding provided through the central Government budget. The tender documentation is currently being finalized by the Supervision Consultant, HILL. The United Water Supply Company of Georgia (UWSCG) is responsible for overseeing and ensuring the full completion of the CHI-01 sub-project.

30. As part of the tender preparation process, an Environmental Due Diligence Report (EDDR) was prepared by UWSCG/IPMO. The report presents an assessment of the potential environmental impacts and risks associated with the revised scope of works for the rehabilitation of the Chiatura Water Supply Project. The EDDR will be included as an integral part of the tender documentation to ensure compliance with environmental requirements during the implementation of the remaining works.

Post Construction Environmental Audit under CHI-01 sub-project

31. The Post-Construction Environmental Audit Report for the CHI-01 sub-project was prepared in March 2024 by the SC – HILL and afterwards approved by the UWSCG. The audit identified several major non-compliances that remain unresolved, including the need to properly fence the Avarioni reservoir sites and install appropriate warning signs, as well as the requirement to fill and secure the trenches at the BISI Pumping Station with proper fencing along their borders. The report outlines the necessary corrective actions, suggested timelines for their implementation, and the progress made thus far. As noted earlier, the UWSCG plans to

complete the Chiatura Water Supply project with funding from the Government Budget by the end of 2025, and a new tender for this work most probably will be announced in Q4 of 2025.

32. A summary of the Post-Construction Environmental Audit and key findings for the CHI-01 sub-project is provided in the table below. To verify the reported non-compliances, the environmental consultant of HILL Mr. Nikoloz Neparidze conducted a site visit on May 13, 2025. All major non-compliances identified under the CHI-01 sub-project remain outstanding and will be addressed upon completion of construction works under the new tender, approximately by the end of December 2025.

Table 2: Summary information of post-construction environmental audit, CHI-01 sub-project, April 2024

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment Responsibility	Progress of Corrective Actions
Avarioni Reservoir					
1	Avarioni Reservoir, uncontrolled disposal of construction waste were fixed.	Construction Waste must be collected and disposed from the project area.	Photo N1 	UWSCG End of June 2024	Completed June 2024, Photo N1 
2	Avrioni Reservoir Oil spill Fuels and lubricants spills to be eliminated	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.	Photo N2 	UWSCG End of June 2024	Completed June 2024 No traces of leakage were identified in the project area, Photo N2 

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment Responsibility	Progress of Corrective Actions
3	Avarioni Reservoir surplus waste soil soil were piled up on the construction area	Avarioni Reservoir surplus waste soil should be removed completely from the disposed area	Photo N3 	UWSCG End of June 2024	Completed June 2024, Photo N3 
4	Prevent access of public to the reservoir site - The fence of the reservoir should be done properly and equipped with Signs, information and warnings	Reservoirs sites should be properly fenced equipped with proper warning signs	Photo N4 	UWSCG UWSCG	Not yet completed ² A new tender will be issued to complete these remaining tasks, with funding provided through the central government budget. UWSCG is responsible for ensuring the completion of the CHI-01 sub-project.
5	There are deep Trenches around the Avarioni Reservoir without Protection	Trenches on the Avarioni Reservoir should be filled or fenced off their borders.	Photo N5		

² At this stage, it is impossible to indicate the exact deadline for improvement, as soon as the date is known, this table will be updated

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment Responsibility	Progress of Corrective Actions
					
BISI Reservoir and Pumping Station					
6	Open trenches of the BISI Pumping Station are observed	Trenches on the BISI reservoir should be filled or fenced off their borders.	Photo N6 	UWSCG	Not yet completed A new tender will be issued to complete these remaining tasks, with funding provided through the central government budget. UWSCG is responsible for ensuring the completion of the CHI-01 sub-project.
7	Uncontrolled disposal of construction waste were outside the BISI reservoir was fixed.	Construction Waste must be collected and disposed from the project area.	Photo N7 	UWSCG End of May 2024	Completed May 2024, Photo N4 

2.2 Project Contracts and Management

11. The main institutions that are involved in implementation of the IEE/EMP under USIIP/T6 are UWSCG executing agency (EA), Supervision Consultant (SC) the Construction Company (CC) and to a lesser extent the Ministry of Environmental Protection and Agriculture of Georgia (MoEPA).
12. The Investment Program Management Office (IPMO) under UWSCG, is the Department of Management of Projects Financed by Donor Organizations, which is responsible for the day-to-day management of the project, including the implementation of the EMP. IPMO has an Environmental Specialist Ms. Kate Chomakhidze who is responsible for managing the environmental aspects of the USIIP. The deputy head of the department is Mr. Nodar Rostomashvili. As of May 2025, several changes have been implemented in the company's leadership structure, Mr. Davit Kvinitadze has been appointed as the new Director of UWSCG, and Ms. Tamar Lebanidze as Deputy Director for International Projects.
13. The IPMO Environmental Specialist's responsibilities in respect of implementation of the EMP are as follows:
 - (i) Approve the Site Specific Environmental Management Plan (SSEMP) before Contractor takes possession of construction site;
 - (ii) Monitor implementation of EMP and ensure the environmental safeguards compliance;
 - (iii) Review the updated IEE and/or SEMP and send it for clearance to ADB;
 - (iv) Ensure that contractors have access to the EMP and IEE report;
 - (v) Develop SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB's comments until SAEMR disclosure; Provide ENG and summary of GEO final versions of SAEMRs to be uploaded on UWSCG website;
 - (vi) Review and approve the Corrective Action Plan and provide to ADB for review and comments if any;
 - (vii) Participate in public consultations during project implementation;
 - (viii) In case of need assist IPMO Social/Resettlement Consultant in resolving process of environmental safeguards related complaints;
 - (ix) Assist in organizing trainings for the Contractors in coordination with ADB/RETA consultant;
 - (x) Participate in external trainings in environmental management and environmental auditing
14. The SC/HILL hires a full time Environmental Specialist, Mr. Nikoloz Neparidze to assist the IPMO oversee day-to-day implementation of EMPs by contractors under USIIP/T6, including compliance with all government rules and regulations; Support IPMO in the review and endorsement of contractor's SSEMP; Conduct inspections on contractor's implementation of SSEMP and compliance with government rules and regulations; Ensure contractors comply with health and safety requirements per approved SSEMP's Health and Safety Management Plan; Conduct investigations on grievances/complaints, incidents and accidents; Assist IPMO in addressing any grievances in a timely manner as per the GRM; Issue non-compliance notifications to CC; Monitor corrective actions as required in CAPs, and ensure non-compliances are resolved immediately and are not occurring repeatedly; Prepare recommendations for contractors repeated non-compliances on safeguards and EHS requirements; Submit monthly and quarterly environmental monitoring reports to IPMO.
15. The Construction Companies also appointed a full time Environmental specialists under MAR-01 and MAR-02 sub-project. Mr. Guram Tandilashvili is the Environmental Specialist of the construction management team under MAR-02 sub-project, Mr. Giorgi Gvasalia is the ESH&S specialist under MAR-01 (LOT-01, LOT-02, LOT-03 and LOT-06) sub-project. Environmental Specialists of CCs are responsible for preparing the Specific Environmental Management Plan

(SSEMP) for endorsement by Supervision Consultant and approval by the UWSCG prior to the Contractor taking possession of the construction site and provide pre-works photo documentation; Ensuring the SSEMP is implemented effectively throughout the construction period; Establish and maintain site records of weekly site inspections using checklists based on SSEMP; Establish and maintain environmental accidents/incidents including resolution activities and environmental monitoring data; Developing Corrective action plans in response to non-compliance notices issued by the SC and UWSCG; Conduct Community relations activities including maintaining complaints register; Routine reporting of SSEMP compliance and community liaison activities; Implement Occupational Health and safety requirements. Implement site clean-up measures after civil works finalization.

16. Department of Permits, Environmental Protection and Social Affairs of the UWSCG is working alongside IPMO to address the environmental and social issues of USIIP. The head of the department is Ms. Maka Goderdzishvili. The Department of Environmental Protection consists of two divisions, the Division of Permits and the Division of Environmental Protection and Social Affairs. Ms. Salome Mosidze is the Head of the Division of Environmental protection and Social Affairs. More detailed description of implementation arrangements; responsibilities and staffing are provided in the Table 3 below.

Table 3: Institutionnel Arrangement, Responsabilités and Staffing

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Department of Permits, Environmental Protection and Social Affairs (Environmental Specialist)
1	Environmental planning and management Contractors Environmental Management Plan (site-specific EMP)	Prepare Specific EMP (SEMP) with supplemented Topic Specific EMPs at pre-construction stage based on IEE/EMP Implement SEMF approved by IPMO.	Review and endorse the SEMF; Monitor implementation of SEMF on daily basis; Monitor monthly environmental monitoring reports or results prepared by the Contractor and report to IPMO.	Review and approve the SEMFs; Monitor implementation of EMP and ensure the environmental safeguards compliance.	Work together with IPMO on addressing the environmental non-compliance issues, if any.
2	Changes in design	Provide details of design changes to CSC required to update IEE/EIA, or SEMF; Implement updated SEMF.	Approve the design change to be submitted to IPMO; Make environmental assessment of the change and update the IEE and/or SEMF.	Review the updated IEE and/or SEMF and send it for clearance to ADB	Liaise with CSC in preparing updated IEE and/or SEMF; Upload the approved IEE/SEMF provided by IPMO to UWSCG website for Public Disclosure.
3	Unanticipated impacts	Inform CSC about unanticipated impact and follow the instructions received from IPMO.	Make environmental assessment of the unanticipated impact and update the IEE and/or SEMF	Review the updated IEE and/or SEMF and send it for clearance to ADB	Liaise with CSC in preparing updated IEE and/or SEMF

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Department of Permits, Environmental Protection and Social Affairs (Environmental Specialist)
4	Reporting	Prepare monthly environmental monitoring reports and send it to CSC and IPMO	1. Prepare inputs to environmental part of quarterly construction progress reports; 2. Prepare inputs to semi-annual environmental monitoring report (SAEMR) to be submitted to IPMO for further review, comments and improvement. 3. Conduct Post-Construction Final Environmental Audit and prepare final environmental audit report.	1. Prepare SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB's comments until SAEMR disclosure; 2. Provide ENG and GEO final versions of SAEMRs to be uploaded on UWSCG website.	Upload the approved reports (ENG and GEO) provided by IPMO to UWSCG website for Public Disclosure
5	Permits and clearances	NA	NA	NA	Obtaining environmental permits and clearances
6	Non-compliances	Prepare a corrective action plan (CAP)	Assist contractor in preparing the CAP.	Review and approve the CAP and provide to ADB for review and comments if any.	
7	Public consultations	Participate in public consultations during project implementation	Organize public consultations: inform people about activities and prepare the record of consultations.	Participate in public consultations during project implementation	UWSCG & IPMO host PCs, CSC will present the topics related to environmental issues

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Department of Permits, Environmental Protection and Social Affairs (Environmental Specialist)
8	Grievance Redress Mechanism	Project site Focal person to record environmental grievances in the logbook and follow up with UWSCG established practice for grievance redress	1. Ensure that grievances, if any, are being properly documented and addressed timely and effectively. 2. Assist IPMO to develop consolidated GRM database and consolidation of GRM cases both for ENV and Social safeguards	In case of need assist IPMO Social/Resettlement Consultant in resolving process of environmental safeguards related complaints; Assist IPMO Social/Resettlement Consultant in GRM database consolidation and data analysis.	UWSCG maintains GRM applicable to all projects. UWSCG will ensure IPMO information on grievances is consolidated into the UWSCG grievances (both - environmental and social) without duplication.
9	Trainings	Attend on-site trainings organized by IPMO and ADB/RETA Consultant	Assist the IPMO in organization of trainings for the Contractors on environmental safeguards requirements.	Organize trainings for the Contractors in coordination with ADB/RETA consultant. Participate in external trainings in environmental management and environmental auditing	Participate in external trainings in environmental management and environmental auditing

17. Main organizations involved in the project and related to environmental safeguard are presented in the Table 4 below:

Table 4: 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	Country Environmental Focal	Ninette R. Pajarillaga, E-mail: npajarillaga@adb.org
		Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili Tel: +995 577 44 09 90 E-mail: nnadashvili@adb.org
		ADB RETA, Environmental Consultant	George Kobaladze Tel: +995 599 689834 E-mail: gkabaladze.consultant@adb.org.me
Borrower	UWSCG	UWSCG, Department of Permits, Environmental Protection and Social Affairs, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
		UWSCG/IPMO, Department of Management of Projects Financed by Donor Organizations, Deputy Head	Mr. Nodar Rostomashvili E-mail: n.rostomashvili@water.gov.ge Tel: +995 597 18 11 11
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. Nikoloz Neparidze Tel: 599 346 821 E-mail: nikonep7@outlook.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 Lot-01 Lot-02 Lot-03 Lot-06	China Geo-engineering Corporation (CGC) (Peoples Republic of China)	Environmental Specialist	Mr. Giorgi Gvasalia E-mail: g.gvasalia@gmail.com
Contractor MAR-01 Lot-04 Lot-05	POLAT Yol Yapi Sanayi ve Ticaret Anonim Sirkei (Turkey).	Environmental, H&S Specialist	Mr.Sandro Abzianidze Tel: +995 599 45 29 02 E-mail: sandroabzianidze@gmail.com
Contractor MAR-02	Toshiba Water Solutions Pvt. Ltd and IN-SI LLC (JV partner) (India/Georgia)	Environmental H&S Specialist	Mr. Guram Tandilashvili E-Mail: guram.tandilashvili@gmail.com Mob: +995 577 36 37 29

2.3 Project Activities during Current Reporting Period

2.3.1 Construction Progress under CHI-01 Sub-project, Construction of Water Supply System in Chiatura

- 18.** The physical progress for section of CHI-01 sub-project is 99.7% and for section 2 it is 52.89%. The aggregate progress for all works (section 1 and section 2) is 96.16%. However, actual physical progress for Avarioni works & other miscellaneous works is detailed below.

Table 5: Physical Progress of Works under CHI-01 sub-project

Item No	Description	Unit	Quantity Project	Quantity Completed as of 31.12.2023	Percentage
Works related to Avarioni Water Supply					
1	HDPE Pipes installation including fittings and end cups as required.	M	7,384.00	6052	81.96%
2	Cleaning, flushing and disinfection with chlorine of installed pipelines, including supply and disposal of water	m	7384	0	0.00%
3	Trenches for pipe installation	m3	5,320.00	4845.15	84.75%
4	Valves		44.00	16.00	36.36%
5	House connections implementation and administrative requirements	n	340.00	187.00	55.00%
6	Hydraulic Chambers	n	12.00	10.00	83.33%
7	New Reservoir 500 m3	n	1.00	93.00%	88.65%
8	Reservoir Mechanical Installation	ls	1.00	25.00%	25.00%
9	Pumping Station Mechanical Installation	ls	1.00	-	0.00%
10	Electrical Equipment	ls	1.00	-	0.00%
11	Instruments and SCADA system	ls	1.00	-	0.00%
12	New Pumping Station Construction	ls	1.00	-	0.00%
13	Construction of New PS building in front of Bisi Reservoir	ls	1.00	65.00%	65.00%
B: Mislenious Works					
1	Installation of Generators	ls	1.00	0	0.00%
2	Installation of Boosters in Navradzeti area	ls	1.00	0	0.00%
3	Installation of Boosters in Memorial Area	ls	1.00	85.00%	85.00%

19. The physical progress concerning the main contract is given in the Table 6 below.

Table 6: Progress Concerning the Main Contract

Pipeline	Unit	Quantity	Executed up to May 2022	Executed in year 2022 & 2023	Total executed up to Dec 2023	% Progress
Main Transmission Line	m	16.038	16038	0	16038	100.00%
Distribution Network	m	68.391	68.391	0	68.391	100.00%
DN355 Bisi-CPS Transmission	m	745	745	0	745	100.00%

Pipeline	Unit	Quantity	Executed up to May 2022	Executed in year 2022 & 2023	Total executed up to Dec 2023	% Progress
DN160 CPS-Lezhubani	m	2,165	2165	0	2165	100.00%
DN160 CPS-Perevisi	m	1,810	1810	0	1810	100.00%
DN225 CPS-Rustaveli	m	1,264	1264	0	1264	100.00%
DN225 Lezhubani Res to PS	m	341	341	0	341	100.00%
Q200 ST Lezhubani PS - Memorial Res	m	2025	2025	0	2025	100.00%
Q100 ST Perevisi PS - Tekhisa	m	2053	2053	0	2053	100.00%
DN160 Memorial-Navardzeti	m	1,470	1470	0	1470	100.00%
Giorgadze area	m	1,540	1450	0	1450	100.00%
Total Laid Pipe	m	97,306	97,306	0	97,306	100.00%
House Connection	n	8,457	8,457	0	8,457	100%
Crossings	n	10	0	0	0	100%
Hydraulic Chambers	m3	1,219	1219	0	1219	100%
Hydrants	n	205	205	0	205	100%

20. The Cumulative Progress of Structures Chiatura is given in the Table 7 below.

Table 7: Cumulative Progress of Structures Chiatura

Cumulative Progress	Up to Previous Month				Up to 31 Dec 2023			
	Civil	Mech	Elec	SCADA	Civil	Mech	Elec	SCADA
Wellfield	100%	100%	100%	100%	100%	100%	100%	100%
Sachkhere Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
Bisi - New Reservoir	98%	100%	100%	100%	100%	100%	100%	100%
Bisi - Old Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
CPS	95%	100%	100%	100%	100%	100%	100%	100%
Lezhubani Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
Perevisi Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
Rustaveli Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
Tekhisa Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
Memorial Reservoir	100%	100%	100%	100%	100%	100%	100%	100%
Perevisi PS	100%	100%	100%	100%	100%	100%	100%	100%
Lezhubani PS	100%	100%	100%	100%	100%	100%	100%	100%
Memorial PS	100%	100%	100%	100%	100%	100%	100%	100%
New Memorial PS	100%	100%	100%	100%	100%	100%	100%	100%

21. The cumulative total physical progress is given in the Table 8 below.

Table 8: Cumulative Total Physical Progress under CHI-01 sub-project

Location	Previous Month	Current Month
Wellfield	100%	100%
Sachkhere Reservoir	100%	100%
Bisi – New Reservoir	99%	100%
CPS	99%	100%
Lezhubani Reservoir	100%	100%
Perevisi Reservoir	100%	100%
Tekhisa Reservoir	100%	100%
Memorial Reservoir	100%	100%

2.3.2 Construction progress under MAR-01 project, Construction of Water Supply and Waste Water Systems in Marneuli and Construction of Collector in Bolnisi (MAR-01/LOT-01/LOT-02/LOT-03/LOT-06)

22. The physical progress of construction activities under MAR-01 (LOT-01, LOT-02, LOT-03 and LOT-06) sub-project as done by China Geo-engineering Corporation (CGC) is presented in the Table 9, 10, 11 and 12 below.

Table 9: Progress of Physical Works, LOT-01

MAJOR ITEMS	As per BOQ	to date	% executed	Remaining
PE pipes supply & install, m	6068	5575	91.88%	493
Fire hydrant, Nos	186	9	4.84%	177
Valves, Nos	119	20	16.81%	99
House connections, Nos	1705	1436	84.22%	269
Pressure testing meter length	4558	35906	787.76%	-31348
Flushing in meters	39469	21000	53.21%	18469

Table 10: Progress of Physical Works, LOT-02

MAJOR ITEMS	As per BOQ	this period	% executed	Remaining
Provide and lay HDPE sewer pipes	4027	123	3538	87.86%
Provide and lay water supply pipes	320	471	471	147.19%
Fire Hydrant	40163	0	0	0.00%
Valves	2	0	0	0.00%
Manhole	56	0	0	0.00%
Inspection shafts	40163	0	45662.57	113.69%
Water supply House	40163	0	45662.57	113.69%

MAJOR ITEMS	As per BOQ	this period	% executed	Remaining
connection				
water meter in apartment blocks, Nos	320	471	147.19%	-151
Pressure testing meter length	40163	0	0.00%	40163
Pumping station	2	0	0.00%	2
Crossings	56	0	0.00%	56
Sewer pipesCCTV	40163	0	113.69%	-5499.57
cleaning of sewer pipes	40163	0	113.69%	-5499.57

Table 11: Progress of Physical Works, LOT-03

MAJOR ITEMS	As per BOQ	to date	% executed	Remaining
Provide and lay HDPE sewer pipes	49642	22525	45.37%	27117
Provide and lay water supply pipes	46360	38617	83.30%	7743
Fire Hydrant	295	113	38.31%	182
Valves	230	129	56.09%	101
Manhole	1200	511	42.58%	689
Inspection shafts	1428	316	22.13%	1112
House connection	2010	1010	50.25%	1000
water meter in apartment blocks, Nos	320	224	70.00%	96
Pumping station	1	0	0.00%	1
Crossings	12	0	0.00%	12
Sewer pipesCCTV	59206	21262.83	35.91%	37943.17
cleaning of sewer pipes	59206	0	21262.83	35.91%

Table 12: Progress of Physical Works, LOT-06

MAJOR ITEMS	As per BOQ	to date	% executed	Remaining
Transmission Lines DCI pipe, m	18513	15327	82.79%	3186
Crossings	8	2	25.00%	6
City Reservoir C30/37 concrete civil works, cum	2612	2654	101.61%	-42
Jandhary Reservoir C30/37 Concrete civil, cum	468	26	5.56%	442
Kolagiri Pump house civil	100%	90%	90.00%	10%
Mechanical works				
Kolagiri	100%	95%	95.00%	5%
City Reservoir	100%	90%	90.00%	10%
Jandhary Reservoir	100%	95%	95.00%	5%
Electrical				
City Reservoir	100%	80%	80.00%	20%
Jandhary Reservoir	100%	90%	90.00%	10%
Kolagiri Pump house	100%	90%	90.00%	10%
Kolagiri wellfield	100%	95%	95.00%	5%
SCADA	100%	75%	75.00%	25%

2.3.3. Construction progress under MAR-02 sub-project, Construction of Wastewater Treatment Plant in Marneuli (MAR-02)

23. The progress of construction works under MAR-02 sub-project is given table below.

Table 13: Cumulative Schedule wise Progress under MAR-02 Sub-project, up to June 2025

Cumulative Total Progress				
Schedule	Particulars	Up to Previous Month	Current Month	Total
(I)	Site Mobilization	100,0%	0,0%	100,0%
(II)	Excavation work	100,0%	0,0%	100,0%
(III)	Installation Civil work (incl.roads)	99,00%	0,5 %	99,50%
(III-1)	Installation Architectural work	99,49%	0,26%	99,75%
IV)	Supply of Equipments	99,25%	0,2%	99,45%
(V)	Installation Mechanical	99,00%	0,5%	99,50%
(VI)	Installation Electrical	97,00%	1,5%	98,50%

2. NVIRONMENTAL SAFEGUARD ACTIVITIES

2.1 General Description of Environmental Safeguard Activities

24. During the reporting period (January-June 2025), a total of 10 site visits were conducted under the USIIP/T6 program. These visits resulted in the identification of 25 non-compliances, leading to the issuance of 6 non-compliance notices to the contractor by the Environmental Specialists (ESs) of the Supervision Consultant (SC) and UWSCG/USIIP. Specifically, 2 non-compliances were identified under the MAR-02 sub-project and 4 under the MAR-01 sub-project. For further details, please refer to Table 14 and Annex C below.
25. In the previous reporting period (July-December 2024), 11 site visits were conducted under the USIIP/T6 program. These visits identified 43 non-compliances, and 10 non-compliance notices were issued to the contractor by the ESs of SC and UWSCG/USIIP. Of these, 8 non-compliances were recorded under the MAR-02 sub-project, resulting in 3 non-compliance notices.
26. Environmental, H&S Specialist, Mr. Guram Tandilashvili hired by Contractor under the MAR-02 sub-project conducted the day-to-day monitoring of the Marneuli WWTP construction site and developed monthly monitoring reports and represented to SC / Hill.
27. Environmental Specialist, Mr. Guram Gvasalia hired by Contractor under the MAR-01/LOT-01/LOT-02/LOT-03/LOT-6 sub-project conducted the day-to-day monitoring of the Marneuli water supply and water systems construction sub-project and developed monthly monitoring reports and represented to SC / Hill.
28. During the reporting period Environmental Specialist (ES) Mr. Nikoloz Neparidze hired by SC/HILL for the implementation of the IEE/EMP/SEMPs requirements under USIIP/T6 develops quarterly monitoring reports for UWSCG/USIIP based on the monthly reports submitted by Contractor.
29. Environmental Specialist of UWSCG/IPMO, Ms. Ketevan (Kate) Chomakhidze performed monitoring of contractor's performance with the approved EMPs and SSEMPs, environmental standards and other environmental commitments of the contractor. ES of USIIP develops Semi-annual Environmental Monitoring Reports (SAEMR) for USIIP/T6 and submits to ADB based on the quarterly reports prepared by SC and monitoring results of construction sites.
30. The schedule of Joint inspection and summary of inspections/monitoring carried out under sub-projects during the reporting period January-June 2025 are provided in the Table 14 below. It should be noted also that the majority of non-compliances are improved by contractor during the reporting period, issues pending and need further improvement include Fencing and securing key water infrastructure, including reservoirs and pumping stations, as well as preventing measures of the sewer pipe crossing near PS N2 in Bolnisi.

Table 14. Summary of site inspections/monitoring for MAR-01 and MAR-02 sub-projects

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
	Name of Contract					
Continuously during reporting period (January-June 2025)	Toshiba Water Solutions Pvt. Ltd and IN-SI LLC MAR-02	Environmental, H&S Specialist of Contractor Mr. Guram Tandilashvili	Day to day monitoring of sites Compliance with Environmental and HES requirements	Environmental and Health and Safety issues on construction sites. Workers always should use complete set of PPE.	Prepare Monthly Environmental Monitoring Reports and send to SC	Completed
GPC Coordinates: X 44.840296 Y 41.465192		Environmental Specialist of UWSCG/USIIP Ms.Kate Chomakhidze Environmental Specialist of Supervision Consultant HILL Mr.Nikoloz Neparidze	Regular monitoring of construction sites	Site internally should be arranged properly and cleaned regularly, waste should be placed only at the proper waste containers (Photo N1)	Verbal instruction was given to contractor to immediately improve the situation.	Completed, May 2025, all construction waste is removed from the territory Photo N1
1 April 2025						

³ The USIIP/T6/MAR-01 subproject has several pending non-compliance, which are described in the subsection entitled: Pending issues under MAR-01 and MAR-02 sub-projects and Implemented Measures. INTERNAL. This information is accessible to ADB Management and staff. It may be shared outside ADB with appropriate permission.

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				 Construction waste should be timely removed from the construction site and disposed properly (Photo N2)  Workers without PPE,	Non-Compliance Notice was issued and is presented in Annex C of this report. (Photo-documentations are presented in Annex C, non-compliance note)	 Completed: Waste has been removed and waste bins have been cleaned (May 2025). Please see Photo N2.  Completed, April 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				helmets, gloves, and safety boots (Photo N3)  Adequate and sufficient quantity of Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of workers on construction site (Photo N4)		Completed, all tranches on the WWTP site is backfilled and closed, May 2025, Photo N3

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				 Avoid having cables on the ground where they can be a tripping hazard or exposed to water, dirt, and debris (Photo N5) 		 Completed, cables are removed from the construction territory, May 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				Oil spills should be cleaned up immediately to avoid pollution of the land (Photo N6) 		Completed, The area has been cleaned of oil residues and covered with an asphalt layer, May 2025, Photo N4 
20 May 2025	Toshiba Water Solutions Pvt. Ltd and IN-SI LLC MAR-02	Environmental Specialist of UWSCG/USIIP Ms.Kate Chomakhidze Environmental Specialist of Supervision Consultant HILL Mr.Nikoloz	Regular monitoring of construction sites	Site internally should be arranged properly and cleaned regularly, construction waste should be timely removed from the construction site and disposed properly, Photo No. 1	Verbal instruction was given to contractor to immediately improve the situation. Non-Compliance Notice was issued and is presented in Annex C of this report.	Completed, end of May 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
		Neparidze		 Workers without PPE, helmets, gloves, and safety boots, Photo No. 2  Adequate and sufficient quantity of Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident	(Photo-documentations are presented in Annex C, non-compliance note)	Completed, May 2025, Photo N2  Completed, May 2025, there are no open trenches on the construction site

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				of workers on construction site, Photo No. 3  Avoid having cables on the ground where they can be a tripping hazard or exposed to water, dirt, and debris, Photo No. 4  Hazardous waste should be timely removed from construction site and		Completed, cables are removed from the site, May 2025 Completed all hazardous waste is removed from the territory and adequately stored, Photo N3

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				disposed properly, Photo No. 5 		
Continuously during reporting period (January-June 2025)	China Geo-engineering Corporation (CGC) (Peoples Republic of China)	Environmental, H&S Specialist of Contractor Mr. Levan Inashvili	Regular Environmental monitoring of sites	Day to day monitoring of sites Compliance with Environmental and HES requirements	Prepare Monthly Environmental Monitoring Reports and send to SC	Performed monthly during the reporting period
1 April 2025	MAR-01 LOT-01, LOT-02, LOT-03 and LOT-06	Environmental Specialist of Supervision Consultant HILL Mr.Nikoloz Neparidze UWSCG/USIIP	Regular Environmental monitoring of sites	Adequate and sufficient quantity of Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of workers on construction site (Photo	Verbal instruction was given to contractor to immediately improve the situation. Non-Compliance	Completed, end of April 2025, Photo N1

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
		Environmental Specialist		N1)  Walls of the deep trenches (>1.5m) should be strengthened by adequate and sufficient quantity of boards to avoid landfall of the soil and accidents (workers damage) (Photo N2)	Notice was issued and is presented in Annex C of this report. (Photo-documentations are presented in Annex C non-compliance note) Corrective Action Plan has been developed by contractor and sent to SC and UWSCG	 Completed, April 2025

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
	Name of Contract			 Proper reinstatement of the roads should be carried out after the completion of the construction works to avoid causing disturbance to the population (Photo N3)		Partially completed, In the area where construction work is underway, the road surface will be restored after the completion of the construction work.

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
	Name of Contract			 No trenches shall be kept open in the night/after work hours to avoid accidents (Photo N4)		Completed immediately.

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				 No surplus soil should be left in public streets or spaces, it can cause traffic disruptions, pose safety risks to pedestrians. Surplus soil should be disposed of properly or stored in designated areas to minimize disruption (Photo N5)		Completed, April 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
						
20 May 2025		Environmental Specialist of Supervision Consultant HILL Mr.Nikoloz Neparidze UWSCG/USIIP Environmental Specialist	Regular Environmental monitoring of sites	Secure covers, safety tapes, trench-side barriers must be installed around deep open pits or reservoirs (ranging from 3 to 7 meters in depth) both inside the Pumping Station buildings and in the surrounding yard, to prevent accidents involving personnel. Immediate corrective action is required to address this serious safety hazard, Photo No. 1, Photo No. 2	Verbal instruction was given to contractor to immediately improve the situation. Non-Compliance Notice was issued and is presented in Annex C of this report. (Photo-documentations are presented in Annex C, non-compliance note)	Not completed, will be completed by the end of August 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				  The internal perimeter of the construction site must be cleaned, and all waste should be removed from the area (Photo No. 1) ;	Corrective Action Plan has been developed by contractor and sent to SC and UWSCG	Completed, May 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
						
10 June 2025		Environmental Specialist of UWSCG/USIIP Ms.Kate Chomakhidze Environmental Specialist of Supervision Consultant HILL Mr.Nikoloz Neparidze	Regular monitoring of construction sites	Works are being carried out in a completely unprotected deep trench See Photo N1	Verbal instruction was given to contractor to immediately improve the situation. Non-Compliance Notice was issued and is presented in Annex C of this report. (Photo-documentations are presented in Annex C, non-compliance note)	Completed Immediately, Photo N1 

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				 The work area is not demarcated by special barriers, their installation only began during the visit. There are no speed limit and warning signs installed on the adjacent highway, Photo N2 	Corrective Action Plan has been developed by contractor and sent to SC and UWSCG	Completed immediately 

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
19 June 2025		Environmental Specialist of UWSCG/USIIP Ms.Kate Chomakhidze Environmental Specialist of Supervision Consultant HILL Mr.Nikoloz Neparidze	Regular monitoring of construction sites	City Reservoir (MAR-01/LOT-06) The fence of the facility is almost completed and it is fenced with temporary barriers, although the materials for the final fence have already been stored in the area, Photo N1, Photo N2  Photo N2	Verbal instruction was given to contractor to immediately improve the situation. Non-Compliance Notice was issued and is presented in Annex C of this report. (Photo-documentations are presented in Annex C, non-compliance note) Corrective Action Plan has been developed by contractor and sent to SC and UWSCG	Not completed, will be completed by the end of July 2025

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	Implemented Actions	³ Implementation Status
				 The main entrance gate has not been installed		Not completed, will be completed by the end of July 2025

2.2 Issues Tracking (Based on Non-Conformance Notices)

31. As it was already mentioned above during the reporting period (January-June 2025), a total of 10 site visits were conducted under the USIIP/T6 program. These visits identified a total of 25 non-compliances, resulting in 6 non-compliance notices issued to the contractor by the ESs of SC and UWSCG/USIIP. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send photos of improvements, Corrective Action Plans were developed by contractors and sent to UWSCG/IPMO with improved photos of construction sites. Environmental team of HILL and UWSCG/USIIP monitored the improvements during the next monitoring visits. Corrective action plans were developed by contractors and improved photos of sites were send to SC and UWSCG.
32. A summary of the identified environmental issues for January-June 2025 under MAR-01 (LOT-01, LOT-02, LOT-03, LOT-04, LOT-05 and LOT-06) sub-project is presented in Table 15 below. There is still three open issues under Mar-01 sub-project: (i) Fencing of the Jandari and City reservoirs and installation of lockable gates; (ii) proper protection of open reservoirs at the inner and outer perimeters of Bolnisi pumping stations, and (iii) securing the sewer pipe crossing the river, near PS N2 in such a way that it cannot be used as a bridge by the local population. These non-compliances will be completed by the end of civil works in July 2025. All other non-compliances were corrected by contractor within the indicated deadlines.

Table 15: Summary of Issues Tracking Activity for Current Period MAR-01 (LOT-01, LOT-02, LOT-03, LOT-04, LOT-05 and LOT-06)

Total Number of Issues for Project	25
Issues Opened This Reporting Period	3
Issues Closed This Reporting Period	22
Percentage Closed	88%

33. A summary of the identified environmental issues for January-June 2025 under MAR-02 sub-project is presented in Table 16 below. All non-compliances were eliminated by contractor by the end of June 2025.

Table 16: Summary of Issues Tracking Activity for Current Period MAR-02

Total Number of Issues for Project	8
Issues Opened This Reporting Period	0
Issues Closed This Reporting Period	8
Percentage Closed	100%

2.3 Trends

34. Information from reports for the previous period (July-December 2024) and for the current period is used to determine trends in environmental issues opened and closed under the

USIIP/T6 sub-projects. The status of the main issues for the previous and current reporting periods is presented in Table 17 below.

35. Although the total number of non-compliance decreased from 43 (July-December 2024) to 33 during the reporting period (January-June 2025), the number of outstanding issues including both projects (MAR-01 and MAR-02) increased from 1% to 6% and mainly include the fencing of the construction areas - Jandari and City reservoirs Reservoirs, Protection of open pits/reservoirs inside and outside the PS in Bolnisi and ensuring the safety of the local population by blocking access to the sewer collector across the river.
36. A summary of identified trends for the MAR-01 and MAR-02 sub-projects for the previous reporting period July-December 2024 compared to January-June 2025 is presented in Table 17 below.

Table 17: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
July-December 2024	43	99%	1%
January-June	33	94%	6%

2.4 Unanticipated Environmental Impacts or Risks

37. Between May 25-26 2024, and again in January 2025, severe flooding caused by prolonged heavy rainfall led to significant damage to the newly installed sewerage collector under the MAR-01/LOT-05 sub-contract. Around 300 meters of the pipe, previously laid within a protective casing behind a gabion wall, was washed away. The primary causes were abnormal river level rises, excessive sand and gravel extraction, and resulting riverbank erosion. The United Water Supply Company of Georgia (UWSCG) is currently evaluating three alternative alignment options to relocate the pipeline further from the river to reduce future flood risk. A new tender will be announced, and the Supplementary Initial Environmental Examination (IEE) will be updated to reflect the final design and environmental considerations.

3. RESULTS OF ENVIRONMENTAL MONITORING

3.1 Overview of Monitoring Conducted during Current Period

38. During the reporting period Environmental measurements of Noise level and ambient air Quality were carried out three times - on 29 January 2025, 28 March 2025, and 30 May 2025 by contractor under MAR-02 sub-project.

39. Noise standards defined by IFC/WHO 1999, are presented in the Table 18 below.

Table 18: Noise Level Guidelines

Noise	dBA		dBA	
	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

40. Air pollution standards by IFC/WHO 1999, are presented in the Table 19 below.

Table 19: 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

41. Georgian Standards for noise level is presented in the table 20 below.

Table 20: Georgian Standards for Noise Levels

Purpose/use of area and premises	Allowable limits (A-Weighted Decibels (dBA))		
	L _{day}		23:00 – 08:00 L _{night} , Night
	08:00 - 19:00, Day	Evening 19:00-23:00	
Educational facilities and library halls	35	35	35
Medical facilities/chambers of medical institutions	40	40	40
Living quarters and dormitories	35	30	30
Hospital chambers	35	30	30
Hotel/motel rooms	40	35	35
Trading halls and reception facilities	55	55	55
Restaurant, bar, cafe halls	50	50	50
Theatre/concert halls and sacred premises	30	30	30
Sport halls and pools	55	55	55
Small offices (≤100m ³) – working rooms and premises without office equipment	40	40	40
Small offices (≤100m ³) – working rooms and premises without office equipment	40	40	40
Conference halls /meeting rooms	35	35	35
Areas bordering with houses residential, medical establishments, social service, and children's facilities (>6 story buildings)	55	50	45
The areas bordering with hotels, trade, service, sport, and public organizations	60	55	50

Note: in case noise generated by indoor or outdoor sources is impulse or tonal, the limit must be 5dBA less than indicated in the Table.

33. Table 21 shows the threshold values of the major air pollutants as defined by the GEO, IFC and EU legislation.

Table 21: Ambient Air Quality Standards

Parameter	Averaging Period	Limit (µg/m ³)		
		Maximum Permissible Concentration (MPC) in Georgia	IFC Guideline Value	EU Ambient Air Quality Guidelines
Nitrogen Dioxide (NO ₂)	30 minutes	200	-	-
	1 Hour	-	200	200
	24 Hours	40	-	-
	1 Year	-	40	40
Sulphur Dioxide (SO ₂)	10 minutes	-	500	-
	30 minutes	500	-	-
	1 Hour	-	-	350
	24 Hours	50	20	125
Carbon Monoxide (CO)	30 minutes	5,000	-	-
	24 Hours	3,000	-	-

Parameter	Averaging Period	Limit (µg/m³)		
		Maximum Permissible Concentration (MPC) in Georgia	IFC Guideline Value	EU Ambient Air Quality Guidelines
Total Suspended Particulates (TSP) / Dust	24 Hours	150	-	-
	30 minutes	500	-	-
PM10	1 year	40	20	40
	24 hours	50	50	50
PM2.5	1 year	25	10	25
	24 hours		25	-
Ozone	8-hour daily max.	120	100	120

34. The Georgian Standards for vibration are designed for human comfort. These are shown in Table 22 below. Note that no standards for building damage exist.

Table 22: Georgian vibration values

Average Geometric Frequencies of Octave Zones (Hz)	Allowable Values X0, Y0, Z0			
	Vibro-acceleration		Vibro-speed	
	m/sec ²	dB	m/sec 10 ⁻⁴	dB
2	4.0	72	3.2	76
4	4.5	73	1.8	71
8	5.6	75	1.1	67
16	11.0	81	1.1	67
31.5	22.0	87	1.1	67
63	45.0	93	1.1	67

Note: It is allowable to exceed vibration normative values during daytime by 5 dB during daytime. In this table of inconstant vibrations, a correction for the allowable level values is 10dB, while the absolute values are multiplied by 0.32. The allowable levels of vibration for hospitals and rest houses have to be reduced by 3dB.

35. Since no construction activities were undertaken within the CHI-01 sub-project during the reporting period, environmental quality measurements were not conducted under this sub-project.

Environmental Quality Measurement of noise, air quality, vibration under MAR-02 – Construction of WWTP in Marneuli Sub-project

36. During the reporting period environmental instrumental measurements of ambient air quality, noise and vibration within the framework of the MAR-02 subproject were carried out by the Contractor on 29 January 2025, 28 March 2025 and 30 May 2025. The measurement of noise, vibration and particulate matter was carried out continuously for two hours. The results of the measurement are presented in the Tables 23 and 30 below.

Environmental Quality Measurement of noise, air quality, vibration under MAR-02 Sub-project, 29 January 2025

37. The measurement was carried out in the area of the construction site and in the nearest residential building, which is located approximately 50 meters away from the construction site. At the time of measurement, construction works were being carried out with medium intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.

38. The measurement process was not affected by any weather conditions (rain, wind). The air temperature during the measurements was as follows:
- 2025/01/29 - 9 °C - Relative Humidity 40%⁴.
39. The concentration levels of noise, vibration and particulate matter were measured in line with the requirements of Georgian Legislation and International standards.
40. As a result of studying the existing situation, two points were determined as measurement locations. Below are the measurement points of environmental quality indicators:

Table 23: The measurement points of environmental quality indicators

Noise Measurement	Construction Site (Measurement Location N1)
	Yard of the residential building adjacent to the project area (measurement point N2)
Air Measurement	Construction Site (Measurement Location N1)
Vibration Measurement	The balcony of the residential building adjacent to the project area

41. The baseline measurements were performed to identify the levels of noise, vibration and major air pollutants.

Results of the Measurement of Noise and Vibration under MAR-02 sub-project on 29 January 2025
NOISE, MAR-02

42. As can be seen from the obtained data (please see Table 24 below), the noise level at point N1 is lower than the permissible norm of "NIOSH" (85 dBA) and is 42.6 dBA. The noise level recorded at point N2 (the area surrounding the house) is also lower than the permissible noise norm established by the legislation of Georgia and amounts to 42 dBA. As mentioned, during the measurement, construction works were being carried out with low intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.
43. According to the results of 5-minute intervals of noise measurement at measurement location N2 (near the residential house), noise exceeding the permissible norm was not recorded.
44. At point N2 (near the residential building), the peak noise level was recorded in the five-minute interval from 16:45 to 16:50, which was 45.7 dBA.
45. The vibration level is much lower (about 20 times lower) than the value of the DIN 4150-3 standard. During the measurement, the highest vibration result was recorded at 0.66 mm/s.
46. Noise and vibration measurement data N1 and N2 are presented in the table 24.

⁴ Source - <http://meteo.gov.ge/>.

Table 24: Result of Measurements

Measurement Parameter			Value	Source of Pollution
Noise dBA	Norm of Georgian legislation (Adjacent to Residential house)	Day	55	Construction Works
		Night	45	
	Norm of Georgian legislation (Commercial / Industrial Territory)	Day - Night	60	
	Recommendation of the “US National Institute for Occupational Safety and Health” (NIOSH)	8 Hour	85	
	Result - N1 Point (At the Construction site)	2 Hour	42.6	
	Result - N2 Point (At the Res. Buildint)	2 Hour	42	
Vibration mm/s	DIN 4150-3 Standard	5		
	Result (Maximum value recorded)	0.66 ⁵		

Results of the Measurement of Noise and Vibration under MAR-02 sub-project on 28 March 2025, NOISE, MAR-02

- 47.** As can be seen from the obtained data below, the noise level at point N1 is lower than the permissible norm of "NIOSH" (85 dBA) and is 46.3 dBA. The noise level at point N2 (near the house) is lower than the norm established by Georgian legislation and amounts to 42.5 dBA.
- 48.** A building (about 8-9 m high) is located between the point of construction works and the measurement points near the residential house, which is an obstacle (barrier) for noise propagation. Based on this, even during the period when the noise level recorded at the construction site was at its maximum level - 55.1 dBA, there was no significant change in the noise level in the vicinity of the residential house.
- 49.** Despite this, according to the results of 5-minute intervals of noise measurement, noise exceeding the permissible norm was not recorded.

⁵ The initial and final vibration data are relatively high, which is due to the touch of the device on and off button, as well as moving around the device. Therefore, the initial and the final data are not used in the assessment.

- 50.** The vibration level is much lower (about 20 times lower) than the value of the DIN 4150-3 standard. During the measurement, the highest vibration result was recorded at 0.37 mm/s. Noise and vibration measurement data are presented in the table 25 below.

Table 25: Result of Measurements

Measurement Parameter		Value	Source of Pollution
Norm of Georgian legislation (Adjacent to Residential house)	Day	55	Construction Works
	Night	45	
Norm of Georgian legislation (Commercial / Industrial Territory)	Day - Night	60	
Recommendation of the “US National Institute for Occupational Safety and Health” (NIOSH)	8 Hour	85	
Result - N1 Point (At the Construction site)	2 Hour	46.3	
Result - N2 Point (At the Res. Buildint)	2 Hour	42.5	
DIN 4150-3 Standard	5		
Vibration Result (Maximum value recorded)	0.37 ⁶		

AIR POLLUTION, MAR-02

Results of the measurement of the Air Pollution on 29 January 2025

- 51.** As can be seen from the measurement results, the levels of concentrations of particulate matter in the ambient air is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization.
- 52.** In the 20-minute measurement interval, the highest level of particulate matter was recorded as PM_{2.5} - 5 (µg/m³), and PM₁₀ - 16 (µg/m³).

⁶ The initial and final vibration data are relatively high, which is due to the touch of the device on and off button, as well as moving around the device. Therefore, the initial and the final data are not used in the assessment.

53. The highest concentration of particulate matter was observed in the sample taken at 17:31, which amounted to PM2.5 - 9 (µg/m³), and PM10 - 20 (µg/m³).
54. It should be noted here that the concentrations of particulate matter for the two-hour measurement period (and not for the 20-minute section) are PM2.5 - 6 (µg/m³), and PM10 - 14 (µg/m³).
55. Results of the measurement of the Air Pollution on 29 January 2025 is provided in the table 26 below.

Table 26: Results of the measurement of the Air Pollution, 29 January 2025

Measurement Parameter			Value	Source of Pollution
PM2.5 (µg/m ³)	Allowable Concentration	24 Hour	25	
	Resul	20 Minute	5	
PM10 (µg/m ³)	Allowable Concentration	24 Hour	50	
	Resul	20 Minute	16	

Results of the measurement of the Air Pollution on 28 March 2025

56. As can be seen from the measurement results, the level of concentrations of particulate matter in the ambient air is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization.
57. In the 20-minute measurement interval, the highest level of particulate matter was recorded as PM2.5 - 11 (µg/m³), and PM10 - 13 (µg/m³).
58. The highest concentration of particulate matter was observed in the sample taken at 10:52, which amounted to PM2.5 - 10 (µg/m³), and PM10 - 20 (µg/m³).
59. As determined from the measurement results, the level of carbon monoxide (CO) concentration is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization. The level of carbon monoxide (CO) concentration in a 20-minute interval was 0.7 µg/m³.
60. As determined from the measurement results, the nitrogen dioxide (NO₂) concentration level is lower than the norm established by the Georgian legislation and the norm/recommendation of the World Health Organization. The level of concentration of nitrogen dioxide (NO₂) in a 20-minute interval was 188 µg/m³.
61. As determined from the measurement results, the level of ground-level ozone (O₃) concentration is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization. The level of ground-level ozone (O₃) concentration in a 20-minute interval was 1 µg/m³.
62. As determined from the measurement results, the concentration level of volatile organic compounds (VOC) is lower than the World Health Organization norm/recommendation. The concentration level of volatile organic compounds (VOC) in a 20-minute interval was 264 µg/m³.

Table 27: Results of the measurement of the Air Pollution, 28 March 2025

PM2.5 (µg/m3)	Allowable Concentration	24 Hour	25
	Result	20 Minute	11
PM10 (µg/m3)	Allowable Concentration	24 Hour	50
	Result	20 Minute	13
NO2 (µg/m3)	Allowable Concentration	1 Hour	200
	Result	20 Minute	188
O3 (µg/m3)	Allowable Concentration	8 Hour	120
	Result	20 Minute	1
CO (µg/m3)	Allowable Concentration	8 Hour	10
	Result	20 Minute	0.7
VOC (µg/m3)	Allowable Concentration	-	1000
	Result	20 Minute	264

Results of the Measurement of Noise, Vibration and Air Pollution under MAR-02 sub-project on 30 May 2025

NOISE, MAR-02, 30 May 2025

63. The measurement was carried out in Marneuli, on the construction site of the sewage treatment plant and on the territory of the nearest residential house. The measurement was made on 30/05/2025, for two hours. The measurement of noise, vibration and particulate matter was carried out continuously for two hours.
64. The measurement was carried out in the area of the construction site and in the nearest residential building, which is located approximately 50 meters away from the construction site. At the time of measurement, construction works were being carried out with medium intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.
65. The measurement process was not affected by any weather conditions (rain, wind). The air temperature during the measurements was as follows:
 - 2025/05/30 - 27 °C - Relative Humidity 46%.¹
66. The concentration levels of noise, vibration and particulate matter were measured in line with the requirements of Georgian Legislation and the methodology and procedures developed by the Company.
67. As a result of studying the existing situation, two points were determined as measurement

locations. Below are the measurement points of environmental quality indicators:

Table 28: Measurement Locations

Noise Measurement	Construction Site (Measurement Location N1)
	Yard of the residential building adjacent to the project area (measurement point N2)
Air Measurement	Construction Site (Measurement Location N1)
Vibration Measurent	The balcony of the residential building adjacent to the project area

- 68.** As can be seen from the obtained data, the noise level at point N1 is lower than the permissible norm of "NIOSH" (85 dBA) and is 50.1 dBA. The noise level recorded at point N2 (the area surrounding the house) is also lower than the permissible noise norm established by the legislation of Georgia and amounts to 49.5 dBA. As mentioned, during the measurement, construction works were being carried out with medium intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.
- 69.** At measurement location N2 (the area adjacent to the residential building), the results of 5-minute noise measurement intervals showed no exceedance of the permissible noise level.
- 70.** At point N2 (near the residential building), the peak noise level was recorded in the five-minute interval from 12:30 to 12:35, which was 52.9 dBA.
- 71.** The vibration level is much lower (about 15 times lower) than the value of the DIN 4150-3 standard. During the measurement, the highest vibration result was recorded at 0.38 mm/s.

Table 29: Results of the Measurement

Measurement Parameter			Value	Source of Pollution
Noise dBA	Norm of Georgian legislation (Adjacent to Residential house)	Day	55	Construction Works
		Night	45	
	Norm of Georgian legislation (Commercial / Industrial Territory)	Day - Night	60	
	Recommendation of the "US National Institute for Occupational Safety and Health" (NIOSH)	8 Hour	85	
	Result - N1 Point (At the Construction site)	2 Hour	50.1	

Measurement Parameter			Value	Source of Pollution
	Result - N2 Point (At the Res. Buildint)	2 Hour	49.5	
Vibration mm/s	DIN 4150-3 Standard	5		
	Result (Maximum value recorded)	0.38 ⁷		

72. As can be seen from the measurement results, the levels of concentrations of particulate matter in the ambient air is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization.
73. In the 20-minute measurement interval, the highest level of particulate matter was recorded as PM2.5 - 17 (µg/m3), and PM10 - 26 (µg/m3).
74. The highest concentration of particulate matter was observed in the sample taken at 11:11, which amounted to PM2.5 - 17 (µg/m3), and PM10 - 26 (µg/m3).
75. It should be noted here that the concentrations of particulate matter for the 24 hour measurement period are PM2.5 - 25 (µg/m3), and PM10 - 50 (µg/m3).

Table 30: Results of the measurement of the Air Pollution

Measurement Parameter			Value	Source of Pollution
PM2.5 (µg/m3)	Allowable Concentration	24 Hour	25	
	Resul	20 Minute	17	
PM10 (µg/m3)	Allowable Concentration	24 Hour	50	
	Resul	20 Minute	26	

76. As a conclusion, it can be stated that in none of the cases were any values (noise, vibration, air pollution) recorded above the permissible limits.

Use Measuring Device Noise, vibration, Air Pollution under MAR-02 sub-project

Noise Level Measurements

77. The noise level measurements were implemented in accordance with the British Standard BS 7445-2:2003 'Description and measurement of environmental noise'. The dust concentration measurements in the ambient air were conducted in accordance to the EU standards.
78. The monitoring points were selected, to represent the impact of the construction on local population as realistically as possible.

⁷ The initial and final vibration data are relatively high, which is due to the touch of the device on and off button, as well as moving around the device. Therefore, the initial and the final data are not used in the assessment.

Noise Measurement Equipment

79. According to the above-mentioned standard, the following equipment was used during the noise level measurement activities:

- Rion NL-52, First class noise measurement device;
- Windscreen, WS-16;
- Tripod;
- SD Card;



Noise measuring device



Windscreen WS-16

3.2 Trends

80. During the reporting period, the Contractor consistently implemented Corrective Action Plans (CAPs) in response to Non-Compliance Notices issued by UWSCG/USIIP and the Supervision Consultant, in accordance with the requirements of the IEE, EMP, and Site-Specific EMPs (SEMPs) for the MAR-01 and MAR-02 sub-projects. However, under the MAR-01/LOT-06 sub-project, three additional mitigation measures remain outstanding. These include: (i) fencing of the Jandari and City reservoirs, (ii) securing deep pits/reservoirs located inside and outside the Pumping Station (PS) in Bolnisi, and (iii) Ensuring adequate protection measures are in place to prevent potential injuries to the local community caused by the unprotected sewerage collector crossing the river near PS #2.

3.3 Summary of Monitoring outcomes

81. Dust and Noise levels during the construction period under MAR-02 sub-project was not exceeded the existing standards of IFC/WHO, and therefore no additional measures are required. It should also be noted that measurements carried out at construction sites, were temporary and conducted during the daytime and no complaints were received from the local community during the reporting period.

3.4 Material resources Utilization

4.4.1 Current Period

MAR-02

82. There were no civil works carried out under the MAR-01/LOT-01 and MAR-01/LOT-04/LOT-05. During the reporting period (January-June 2025), active civil works were conducted only under the MAR-01/ LOT-03, and LOT-06 and MAR-02 sub-projects. As a result, material resource utilization is reported only for these projects. Please refer to Table 31 below for details on the MAR-02 sub-project.

Table 31: Quantity of Materials Received on MAR 02, January-June 2025

No.	Material	Quantity	Unit
1	Cement	1.2	t
2	Sand	130	m ³
3	Gravel (Quarry Kariani)	250	m ³

4.4.1 Cumulative Resources Utilization

83. Cumulative resources utilization of electricity, water and fuel for whole project life under MAR-01/LOT-03/LOT-06 is presented in the Table below.

Table 32: Cumulative Resources Utilization under MAR-01/LOT-03/LOT-06 Sub-project, June 2025

N	Utilized Resources	Monthly	Measurement
January-June 2025			
1	Consumption of Water	3020	M3
2	Electricity	7200	kwt
3	Gus	1367	L
July-December 2024			
1	Consumption of Water	960	M3
2	Electricity	2100	kwt
3	Gus	750	L
Total Whole Project Life			
1	Consumption of Water	4050	M3
2	Electricity	9900	kwt
3	Gus	2317	L

3.5 Waste Management

3.5.1 Current Period

MAR-01 (LOT-03 and LOT-06)

84. CC for MAR-01 and MAR-02 sub-projects developed a Waste Management Plans and agreed with the MoEPA. The Contractor has signed an agreement with the Marneuli Municipality regarding provision of the waste containers, collection and transportation of household waste. In addition to that the contractor has signed an agreement with the licensed company „Sanitary” Ltd for collection, transportation and treatment of the hazardous waste. Temporary hazardous waste storage area has been arranged at the WWTP construction site. Different types of hazardous waste are kept in the restricted area (fenced and roofed) before transporting by the licensed waste transportation/treatment company. Information regarding the generation of waste during reporting period under the MAR-01 sub-project is given in the Table 33 below, relevant agreements are provided in Annex E to this report.

Table 33: Waste generated under the MAR-01 sub-project during the reporting period, January-June 2025

#	Domestic, hazardous Waste & Sewage	Estimated Volume	Storage Area	Licensed Company
1.	Household waste	1.5M ³	Bolnisi Municipality household	Bolnisi Municipality Cleaning
2	Printer toner	0.2 Kg	Final storage will be at private Company „Sanitary” Ltd but temporary they will be stored in temporary hazardous	Private Company „Sanitary” Ltd
3	Medical Wastes	0,3 kg/Liter	Final storage will be at private Company „Sanitary” Ltd but temporary they will be stored in temporary hazardous	Private Company „Sanitary” Ltd

MAR-02

85. Information regarding the generation of waste during reporting period under the MAR-02 sub-project is given in the Table 29 below:

Table 34: Waste generated under the MAR-02 sub-project during the reporting period, January-June 2025

Information about waste generated & disposed under MAR 02 Contract for the period January-June 2025				
#	Domestic/Hazardous Waste & Sewage	Estimated Volume	Storage Area	Name of Licensed Company
1	Household waste	5m ³	WWTP construction sites	Marneuli Municipality
	Hazardous Waste	5 m3	WWTP construction sites	Private Company „Sanitary” Ltd
3	Used tires	A negligible amount	Temporary waste storage area at the Workshop	
4	Hydraulic and used oil	A negligible amount	Temporary waste storage area at the Workshop	
5	Oil drums	A negligible amount	Temporary waste storage area at the Workshop	
6	Printer tonner	A negligible amount	Temporary waste storage area at the Workshop	
7	Medical Waste	A negligible amount	Temporary waste storage area at the Workshop	

4.5.2 Cumulative Waste Generation

86. Cumulative waste generation under the MAR-02 project for whole project life is provided in the Table below.

Table 35: Cumulative Waste generated under the MAR-02 sub-project

January-June 2025			
#	Domestic/Hazardous Waste	Estimated Volume	Unit
1	Household waste	35	m ³
2	Hazardous Waste	70	m ³
July-December 2022			
1	Household waste	30	m ³
2	Hazardous Waste	15	m ³
January-June 2022			
1	Household waste	15	m ³
2	Hazardous Waste	8	m ³
July-December 2021			
1	Household waste	10	m ³
2	Hazardous Waste	3	m ³
July-December 2023			
1	Household waste	15	m ³
2	Hazardous Waste	37	m ³
January-June 2024			
1	Household waste	13	m ³
2	Hazardous Waste	37	m ³
July-December 2024			
1	Household waste	11	m ³

January-June 2025			
2	Hazardous Waste	28	m ³
Total			
1	Household waste	129	m ³
2	Hazardous Waste	207	m ³

3.6 Health and Safety

3.6.1 Community Health and Safety

87. **No community incidents** have been reported by SC during reporting period under MAR-01 and MAR-02 sub-projects.

3.6.2 Worker Health and Safety

MAR-01/LOT-01, LOT-02, LOT-03 and LOT-06

88. ESHS Specialists of contractor under MAR-01 and MAR-02 sub-projects - Mr. Giorgi Gvasalia and Mr. Guram Tandilashvili were performing day-to-day monitoring of ESHS on the Sites and press the Contractor to improve the provision of trench barriers in roads and to provide suitable work PPE for the labour force.
89. The Following Workers Health and Safety problems were identified during the site visits under MAR-01 (LOT-01, LOT-02, LOT-03 and LOT-06) sub-project by UWSCG/IPMO/USIIP and SC during the reporting period:
- The walls of the deep trenches (>1.5m) by boards should be strengthened
 - Workers at high altitudes on the reservoir do not wear safety helmets or safety belts

Tragic Incident Occurred at the MAR-01/Lot-03 Construction Site

Summary of the Incident:

42. On May 9, 2025, a tragic incident occurred at the MAR-01/Lot-03 construction site, located in the Javaxisvili Street area between manholes #550 and #551. This event resulted in the unfortunate death of one worker and injuries to another.
43. The incident took place during an official public holiday. As work was not expected on this date, the Engineer's Team was not informed by the Contractor that activities would proceed on-site. Consequently, no representatives from the Engineer's Team were present at the time. This absence of oversight may have affected both the monitoring of safety conditions and the immediate response to the emergency.

44. Upon the occurrence of the accident, emergency services were promptly contacted. The injured worker received immediate medical attention, while the family of the deceased was notified. Relevant authorities were also informed, and appropriate support measures have been initiated.
45. Preliminary observations indicate that the Contractor began work on the site without notifying the Engineer's Team or securing the necessary approvals for holiday operations. Additionally, the absence of site supervision may have contributed to the severity of the incident or delayed critical interventions.
46. As part of this process, the Levan Samkharauli National Forensics Bureau (a Legal Entity of Public Law) has been officially engaged to conduct a forensic examination to establish the primary cause of the worker's death. Their findings will play a critical role in determining the exact circumstances surrounding the incident.
47. In addition, the Ministry of Internal Affairs of Georgia is actively involved, and a criminal investigation is currently underway to assess whether any violations of labor safety regulations, negligence, or other legal breaches contributed to the fatality. The results of this investigation will complement the technical and procedural assessments carried out by the SC and UWSCG.
48. Once the forensic and criminal investigations are concluded, the Supervision Consultant will prepare a Final Incident Report summarizing all findings, expert evaluations, and observations. The report will assess whether required health, safety, and communication protocols were properly followed.
49. Based on these findings, a set of corrective actions will be developed and enforced to prevent the recurrence of such incidents. These may include updated safety protocols, mandatory site supervision during all operations (including holidays), and improved communication procedures between contractors, supervision teams, and project stakeholders.
50. Going forward, the UWSCG will implement enhanced oversight measures and stricter communication protocols across all project sites to ensure full compliance with national labor safety standards and the project's environmental and social safeguards.
51. In addition UWSCG's H&S team — Mr. Aleksandre Kakhnishvili, Levan Elizbaridze (UWSCG) and Ucha Uchaneshvili (H&S Consultant for International Projects under UWSCG) arrived on site ASAP. They met with the contractor and the supervision consultant and provided instructions in accordance with the SEMP, H&S requirements and National Regulations. In addition, to help prevent similar incidents, the contractor has hired an external company Ltd. "Labor Safety Systems" (LSS) which provided on-the-job training to the contractor in accordance with H&S requirements and Georgian legislation.
52. The first training session was held on 17 May 2025 and was attended by the Contractor's and SC staff.

53. All construction activities at the incident site were immediately suspended following the fatal accident. The works remained halted until formal approval for resumption was granted by the Labor Inspection Service, which operates as a Legal Entity under Public Law (LEPL) within the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Protection of Georgia. Permission to resume construction was officially issued on 4 June 2025, following a detailed inspection and review process. The decision to proceed was also coordinated and agreed with the ADB Project Team. A copy of the official letter from the Labor Inspection Service authorizing the continuation of works is attached to this report (see Annex F).
54. On June 9, 2025, after prior notification from the supervision company HILL, representatives of the United Water Supply Company of Georgia (UWSCG) visited a construction site on Javakhishvili Street in Marneuli. The purpose of the visit was to oversee the safe completion and formal closure of the site where a recent incident resulted in a worker's death.
55. The UWSCG was represented by Ketevan Chomakhidze, USIIP/SDP/Environmental Specialist, and Ucha Uchaneshvili, Health and Safety Specialist for international projects. From the supervisory company HILL, Andre Gaio, Team Leader and Environmental Specialist, and Nikoloz Nephadze participated. Representatives from the contractor's side, including a health and safety specialist, were also present.
56. Following the connection of the sewer pipe to a manhole, the trench was backfilled, and the site area was leveled and graveled.
57. A chronological photo documentation of the works on June 9, 2025, is provided below.

Pre-Construction Meeting:

58. Representatives of UWSCG, the Supervision Consultant (SC), and the Construction Contractor (CC) held a preliminary discussion on the upcoming works, Photo No 1



Site Fencing

59. The area was securely fenced prior to the commencement of civil works, Photo No 2



Installation of Trench Boxes/Shields

60. Trench protection systems were delivered and prepared on site before excavation and pipe installation began, Photo No 3



Backfilling Activities:

61. Following the pipe connection, the trench was properly backfilled, Photo No 4



Site Leveling:

62. The surface was leveled and gravel was applied to stabilize the area, Photo No 5



Note:

63. After a certain period, the area will be leveled and graveled again, pending final road restoration works by the municipal authorities.

3.6.3 Community Health and Safety

MAR-01 and MAR-02 sub-projects

90. There were no community health and safety issues under MAR-01 and MAR-02 during the reporting period.

3.7 Training

91. During the reporting period, a series of on-site environmental and health & safety (H&S) safeguard trainings were conducted for the Contractor's environmental teams involved in the MAR-01 and MAR-02 sub-projects. These trainings were regularly facilitated by Environmental Specialists from UWSCG/USIIP and SC/HILL. The Contractor's environmental staff were introduced to the core safeguard requirements of the ADB Safeguard Policy Statement (SPS 2009), along with relevant national regulations and project-specific SEMP provisions.
92. On-the-job training sessions were specifically conducted on 1 April and 20 May 2025 by Ms. Ketevan Chomakhidze (Environmental Specialist, UWSCG/USIIP) and Mr. Nikoloz Neparidze (Environmental Specialist, SC/HILL), following inspections of construction works under the MAR-01 and MAR-02 sub-projects. Key issues raised during these sessions included the requirement to strengthen the walls of deep trenches (deeper than 1.5 meters) using proper shoring systems (e.g., trench boxes), and the need for workers operating at heights to wear safety helmets and use safety harnesses. The trainings were attended by representatives of both the Contractor and Supervision Consultant teams responsible for environmental protection and H&S.
93. Following the site visits, the Contractors prepared and submitted Corrective Action Plans (CAPs) to both the Supervision Consultant and UWSCG to address the identified non-conformities. The CAPs outlined specific measures, timelines, and responsible personnel for implementation and compliance.
94. As part of the corrective actions and in response to the fatal incident that occurred on 9 May 2025 under the MAR-01/LOT-03 sub-project which resulted in the tragic death of a worker due to inadequate trench safety measures the Contractor engaged an external occupational safety consulting firm, Ltd. "Labor Safety Systems" (LSS). LSS conducted an intensive on-the-job training session for construction site personnel on 17 May 2025, covering requirements of Georgian labor safety legislation and project-specific H&S standards. The training was attended by both Contractor and Supervision Consultant staff (please see photo N1 below).

Photo N1: training session under MAR-01 sub-project



4. FUNCTIONING OF THE SEMP

4.1 SEMP Review (prepared and updated under USIIP/T6, including CHI-01, MAR-01 and Mar-02 sub-projects)

95. The SEMP for Chiatura's water supply network was prepared and approved in January 2020 and further updated and approved during the reporting period, in August 2020 due to changes in the project design.
96. The following SEMP's 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);
 - SEMP for Chiatura Water Supply components (Avarioni&Sapari) (Approved in 10 August 2020)
97. The following SEMP's 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)

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 (approved May 2019)

MAR-02 sub-project:

- SEMP for MAR-02 (approved in March 2020)
- During the current reporting period, a Draft SEMP was prepared for sewerage by-pass under Marneuli WWTP, which will be to be finalized in July 2025 and reflected in the next reporting period, July-December 2025.

Updated SEMP's under MAR-01 sub-project

- SEMP for MAR-01 (LOT-01/LOT-02/LOT-03 and LOT-06) (September 2022)
- SEMP for MAR-01 (LOT-04/LOT-05) (September 2022)

98. All SEMPs were prepared by Contractor, endorsed by SC and approved by UWSCG. SEMPs were reviewed/commented by the ADB.

5. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

5.1 Good Practice

- 99.** Throughout the reporting period, collaboration among UWSCG/IPMO/USIIP, supervision consultants, contractors, and local communities was strengthened to minimize future discrepancies in the USIIP/T6 subprojects. At the Marneuli WWTP construction site, the Contractor consistently ensures that all visitors are equipped with personal protective gear, including safety vests and helmets.

5.2 Opportunities for Improvement

- 100.** During the reporting period, IPMO improved tracking of corrective actions. Close monitoring, guidance and communication between PIU, SC and CC has been improved to avoid inconsistencies and improve the current situation. Issues identified during the previous SAEMR, July-December 2024 were taken into account by UWSCG/USIIP and SC/HILL.

6. SUMMARY AND RECOMMENDATIONS

6.1 Summary

101. During the reporting period (January–June 2025), a total of 10 environmental monitoring site visits were conducted under the USIIP/T6 program. These visits were carried out both individually and jointly by the Environmental Specialists of UWSCG/USIIP, Ms. Ketevan Chomakhidze and Environmental Specialist of the Supervision Consultant (SC/HILL), Mr. Nikoloz Neparidze.
102. As a result of the monitoring, 25 environmental and health and safety non-compliances were identified, leading to the issuance of 6 official non-compliance notices to the Contractor by the Environmental Specialists of the Supervision Consultant and UWSCG/USIIP. Specifically, 2 non-compliances were registered under the MAR-02 sub-project and 4 under the MAR-01 sub-project. The contractor was required to address the identified issues within specified timeframes. While most of the non-compliances have been rectified, a few outstanding issues still require corrective action.
103. Environmental instrumental measurements of ambient air quality, noise, and vibration under the MAR-02 sub-project were conducted by the Contractor on 29 January, 28 March, and 30 May 2025. Measurements of noise, vibration, and particulate matter were carried out continuously for two hours during each monitoring session. The results confirmed that in all cases, the recorded values remained within the permissible limits.
104. Table 36 below provides detailed information about the recommendations to address the environmental, social, and health & safety non-compliances identified during the January-June 2025 reporting period under the USIIP/T6 sub-projects.

6.2 Recommendations

- 105.** During the reporting period, January-June 2025, the USIIP/T6 was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.
- 106.** A final Environmental Due Diligence Report (EDDR) will be prepared for the Chiatura Water Supply sub-project in the next reporting period.
- 107.** The supplementary Initial Environmental Examination (IEE) for the MAR-01/LOT-04/LOT-05 (Bolnisi sewage collector rehabilitation sub-project) will be updated during the July-December 2025.
- 108.** Recommendations for the implementation of USIIP/T6 during the next reporting period July-December 2025 are provided in the Table 36 below:

Table 36: Recommendations to Address Environmental Issues under USIIP/T6 sub-projects

Recommendations under MAR-01	
Recommendations MAR-01 (LOT-01/LOT-02/LOT-03/LOT-04/LOT-05/LOT-06)	Implementation Status and Date
Fencing of the Jandari and City reservoirs and installation of lockable gates	Instruction are given to contractor to conduct relevant mitigation measures As Soon As Possible max. deadline end September 2025
Proper protection of open reservoirs at the inner and outer perimeters of Bolnisi pumping stations	
Securing the sewer pipe crossing the river, near PS N2 in such a way that it cannot be used as a bridge by the local population.	

- 109.** Conduct bi-annual quality measurements monitoring of Noise and Air quality under MAR-02 project at the WWTP construction site and nearest sensitive receptors. The schedule of environmental quality measurements to be carried out during the next reporting period, until the end of December 2025 is presented in the Table 37 below.

Table 37: Conduct Monitoring of Environmental Quality under MAR-02 sub-project

Parameters	Quarterly measurement
Dust	September 2025
PM _{2.5} and PM ₁₀	September 2025
Vibration	September 2025
Carbon monoxide	September 2025
Nitrogen dioxide	September 2025
Noise	September 2025

-
- 110.** The Post-construction Environmental Audit Report to be prepared for MAR-02 sub-project in December 2025
- 111.** The Post-construction Environmental Audit Report to be conducted in September 2025 under MAR-01 sub-project.

ANNEXES

ANNEX A: PHOTOS OF SITES

MAR-02, CONSTRUCTION OF WWTP IN MARNEULI

Marneuli WWTP

Photo N1



Photo N2



Photo N3



Photo N4



PHOTO N5 – MAR-01 – (LOT-01, LOT-02, LOT-03 and LOT-06)

Photo N1 – City Reservoir



Photo N3 – MAR-01, LOT-06 Construction of Colagery wellfileds



Consstruction of sewerage network:

Photo N4 – MAR-01, LOT-03



ANNEX B: ENVIRONEMNTAL QUALITY MEASUREMENTS OF NOISE, VIBRATION AND AIR POLLUTION

MEASUREMENTS DATA, 29 JANAURY 2025

The measurement was carried out in Mameuli, on the construction site of the sewage treatment plant and on the territory of the nearest residential house. The measurement was made on 29/01/2025, for two hours. The measurement of noise, vibration and particulate matter was carried out continuously for two hours.

The measurement was carried out in the area of the construction site and in the nearest residential building, which is located approximately 50 meters away from the construction site. At the time of measurement, construction works were being carried out with low intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.

The measurement process was not affected by any weather conditions (rain, wind). The air temperature during the measurements was as follows:

- 2025/01/29 - 9 °C - Relative Humidity 45%.¹

The concentration levels of noise, vibration and particulate matter were measured in line with the requirements of Georgian Legislation and the methodology and procedures developed by the Company.

As a result of studying the existing situation, two points were determined as measurement locations. Below are the measurement points of environmental quality indicators:

Noise Measurement	Construction Site (Measurement Location N1)
	Yard of the residential building adjacent to the project area (measurement point N2)

¹ Source - <http://meteo.gov.ge/>.

Air Measurement	Construction Site (Measurement Location N1)
Vibration Measurent	The balcony of the residential building adjacent to the project area

Figure N7.1 below show the measurement points.

Figure N7.1: Measurement Locations



The baseline measurements were performed to identify the levels of noise, vibration and major air pollutants. The detailed data of the gained results are given in annexes:

- Annex N1: Photos of the conducted measurements;
- Annex N2: Noise measurement results;
- Annex N3: Graphical data for noise measurement;
- Annex N4: Vibration Measurement Results (Protocol);
- Annex N5: Air measurement results;
- Annex N6: Certificates of expert participating in the measurement;
- Annex N7: Device Calibration forms;
- Annex N8: ISO standard certificate issued to the company participating in the measurement.

For the average values of the conducted measurements see in Table N7.1.

Table 7.1: Result of Measurements

Measurement Parameter			Value	Source of Pollution
Noise dBA	Norm of Georgian legislation (Adjacent to Residential house)	Day	55	Construction Works
		Night	45	
	Norm of Georgian legislation (Commercial / Industrial Territory)	Day - Night	60	
	Recommendation of the "US National Institute for Occupational Safety and Health" (NIOSH)	8 Hour	85	
	Result - N1 Point (At the Construction site)	2 Hour	42.0	
	Result - N2 Point (At the Res. Buildint)	2 Hour	42	
Vibration mm/s	DIN 4150-3 Standard		5	
	Result (Maximum value recorded)		0.00 ²	

² The initial and final vibration data are relatively high, which is due to the touch of the device on and off

Measurement Parameter			Value	Source of Pollution
PM2.5 ($\mu\text{g}/\text{m}^3$)	Allowable Concentration	24 Hour	25	
	Result	20 Minute	5	
PM10 ($\mu\text{g}/\text{m}^3$)	Allowable Concentration	24 Hour	50	
	Result	20 Minute	16	

As can be seen from the obtained data, the noise level at point N1 is lower than the permissible norm of "NIOSH" (85 dBA) and is 42.6 dBA. The noise level recorded at point N2 (the area surrounding the house) is also lower than the permissible noise norm established by the legislation of Georgia and amounts to 42 dBA. As mentioned, during the measurement, construction works were being carried out with low intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.

According to the results of 5-minute intervals of noise measurement at measurement location N2 (near the residential house), noise exceeding the permissible norm was not recorded.

At point N2 (near the residential building), the peak noise level was recorded in the five-minute interval from 16:45 to 16:50, which was 45.7 dBA.

The vibration level is much lower (about 20 times lower) than the value of the DIN 4150-3 standard. During the measurement, the highest vibration result was recorded at 0.66 mm/s.

As can be seen from the measurement results, the levels of concentrations of particulate matter in the ambient air is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization.

In the 20-minute measurement interval, the highest level of particulate matter was recorded as PM2.5 - 5 ($\mu\text{g}/\text{m}^3$), and PM10 - 16 ($\mu\text{g}/\text{m}^3$).

The highest concentration of particulate matter was observed in the sample taken at 17:31, which amounted to PM2.5 - 9 ($\mu\text{g}/\text{m}^3$), and PM10 - 20 ($\mu\text{g}/\text{m}^3$).

It should be noted here that the concentrations of particulate matter for the two-hour measurement period (and not for the 20-minute section) are PM2.5 - 6 ($\mu\text{g}/\text{m}^3$), and PM10 - 14 ($\mu\text{g}/\text{m}^3$).

MEASUREMENTS DATA, 29 MAY 2025

The measurement was carried out in Marneuli, on the construction site of the sewage treatment plant and on the territory of the nearest residential house. The measurement was made on 30/05/2025, for two hours. The measurement of noise, vibration and particulate matter was carried out continuously for two hours.

The measurement was carried out in the area of the construction site and in the nearest residential building, which is located approximately 50 meters away from the construction site. At the time of measurement, construction works were being carried out with medium intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.

The measurement process was not affected by any weather conditions (rain, wind). The air temperature during the measurements was as follows:

- 2025/05/30 - 27 °C - Relative Humidity 46%.¹

The concentration levels of noise, vibration and particulate matter were measured in line with the requirements of Georgian Legislation and the methodology and procedures developed by the Company.

As a result of studying the existing situation, two points were determined as measurement locations. Below are the measurement points of environmental quality indicators:

Noise Measurement	Construction Site (Measurement Location N1)
	Yard of the residential building adjacent to the project area (measurement point N2)
Air Measurement	Construction Site (Measurement Location N1)
Vibration Measurent	The balcony of the residential building adjacent to the project area

Figure N7.1 below show the measurement points.

¹ Source - <http://meteo.gov.ge/>.

The baseline measurements were performed to identify the levels of noise, vibration and major air pollutants. The detailed data of the gained results are given in annexes:

- Annex N1: Photos of the conducted measurements;
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For the average values of the conducted measurements see in Table N7.1.

Table 7.1: Result of Measurements

Measurement Parameter			Value	Source of Pollution
Noise dBA	Norm of Georgian legislation (Adjacent to Residential house)	Day	55	Construction Works
		Night	45	
	Norm of Georgian legislation (Commercial / Industrial Territory)	Day - Night	60	
	Recommendation of the "US National Institute for Occupational Safety and Health" (NIOSH)	8 Hour	85	
	Result - N1 Point (At the Construction site)	2 Hour	50.1	
	Result - N2 Point (At the Res. Buildint)	2 Hour	49.5	
	DIN 4150-3 Standard	5		

Measurement Parameter		Value	Source of Pollution
Vibration mm/s	Result (Maximum value recorded)	0.38 ²	
PM2.5 (µg/m3)	Allowable Concentration	24 Hour	
	Result	20 Minute	
PM10 (µg/m3)	Allowable Concentration	24 Hour	
	Result	20 Minute	

As can be seen from the obtained data, the noise level at point N1 is lower than the permissible norm of "NIOSH" (85 dBA) and is 50.1 dBA. The noise level recorded at point N2 (the area surrounding the house) is also lower than the permissible noise norm established by the legislation of Georgia and amounts to 49.5 dBA. As mentioned, during the measurement, construction works were being carried out with medium intensity. During the measurement period, self-loading and loading vehicles moved on the construction site.

At measurement location N2 (the area adjacent to the residential building), the results of 5-minute noise measurement intervals showed no exceedance of the permissible noise level.

At point N2 (near the residential building), the peak noise level was recorded in the five-minute interval from 12:30 to 12:35, which was 52.9 dBA.

The vibration level is much lower (about 15 times lower) than the value of the DIN 4150-3 standard. During the measurement, the highest vibration result was recorded at 0.38 mm/s.

As can be seen from the measurement results, the levels of concentrations of particulate matter in the ambient air is lower than the norm established by the legislation of Georgia and the norm/recommendation of the World Health Organization.

In the 20-minute measurement interval, the highest level of particulate matter was recorded as PM2.5 - 17 (µg/m3), and PM10 - 26 (µg/m3).

The highest concentration of particulate matter was observed in the sample taken at 11:11, which amounted to PM2.5 - 17 (µg/m3), and PM10 - 26 (µg/m3).

It should be noted here that the concentrations of particulate matter for the two-hour measurement period (and not for the 20-minute section) are PM2.5 - 16 (µg/m3), and PM10 - 22 (µg/m3).

Persons responsible for the measurements:

Archil Revazishvili

Signature

LTD "Eco-Spectri"

David Kaviladze

Signature

LTD "Eco-Spectri"

² The initial and final vibration data are relatively high, which is due to the touch of the device on and off button, as well as moving around the device. Therefore, the initial and the final data are not used in the assessment.

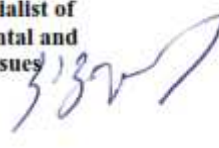
217 000

Urban Services Investment Improvement Programme (USIIP), Tranche 6 – Construction of Wastewater Treatment Plant in Marneuli - Monthly Progress Report No. 66 May 2025

Head of
Examination
Laboratory



Senior specialist of
Environmental and
Social Issues



Archil Revazishvili

David Kaviladze

LTD “Eco-Spectri”

Signature

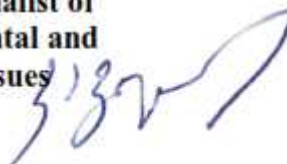
**Head of
Examination
Laboratory**



LTD “Eco-Spectri”

Signature

**Senior specialist of
Environmental and
Social issues**



5.2 Fencing of WWTP towards Sabirkendi habitation

Fencing will be done as per contract as decided by Employer in September 2024.

ANNEX C: NON-COMPLIANCE NOTICES

NON-COMPLIANCE NOTICE, MAR-01, 1 APRIL 2025

Non-Compliance Notice, UWSCG

Site Visit: 1 April 2025

Project: USIIP/T6	Non-Compliance Notice CONSTRUCTION OF WATER SUPPLY AND SEWERAGE SYSTEMS IN MARNEULI AND SEWERAGE SYSTEM AND COLLECTOR IN BOLNISI; USIIP/T6/CW/2022/MAR-01
Contract No: LOT-01, LOT-02, LOT-03 and LOT-06	
Contractor: China Geo-engineering Corporation (CGC) (Peoples Republic of China)	
Supervisor Consultant: HILL	
Reference: "CONSTRUCTION OF WATER SUPPLY AND SEWERAGE SYSTEM IN MARENULI"	
This notice is to advice you, the Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented urgently .	
NON-COMPLIANCE	
- Adequate and sufficient quantity of Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of workers on construction site (Photo N1) - Walls of the deep trenches (>1.5m) should be strengthened by adequate and sufficient quantity of boards to avoid landfall of the soil and accidents (workers damage) (Photo N2) - Proper reinstatement of the roads should be carried out after the completion of the construction works to avoid causing disturbance to the population (Photo N3, Photo N4) - No trenches shall be kept open in the night/after work hours to avoid accidents (Photo N5) - No surplus soil should being left in public streets or spaces, it can cause traffic disruptions, pose safety risks to pedestrians. Surplus soil should be disposed of properly or stored in designated areas to minimize disruption (Photo N6)	
General Notes:	
- Informing all residents and businesses about the nature and duration of any work well in advance so that they can make necessary preparations if needed - Overpasses should be provided for local residents to have easy access to homes and businesses	
Photos of MAR-01 sub-project	
Photo N1	Photo N2

	
Photo N3 	Photo N4 
Photo N5 	Photo N6 

All these conditions have to be remedied Urgently by Contractor and Supervisor

Date of site visit: 1 April 2025

Kate Chomakhidze, Environmental Consultant
UWSCG/USIIP

NON-COMPLIANCE NOTICE, MAR-01, 20 MAY 2025

Non-Compliance Notice, UWSCG

Site Visit: 20 May, 2025

Project: USIIP	Non-Compliance Notice CONSTRUCTION OF WATER SUPPLY AND SEWERAGE SYSTEMS IN MARNEULI AND SEWERAGE SYSTEM AND COLLECTOR IN BOLNISI; USIIP/T6/CW/2022/MAR-01
Contract No: MAR-01/LOT-04, LOT-05	
Contractor: POLAT Yol Yapi Sanayi ve Ticaret Anonim Sirkei (Turkey)	
Supervisor Consultant: HILL	
Reference: "CONSTRUCTION OF SEWERAGE SYSTEM IN BOLNISI"	

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

Construction of Sewerage Network and Pumping Stations in Bolnisi/LOT-04

1. **Secure covers, safety tapes, trench-side barriers** must be installed around deep open pits or reservoirs (ranging from 3 to 7 meters in depth) both inside the Pumping Station buildings and in the surrounding yard, to prevent accidents involving personnel. Immediate corrective action is required to address this serious safety hazard (Photo No. 1, Photo No. 2);
2. The internal perimeter of the construction site must be cleaned, and all waste should be removed from the area (Photo No. 1) ;
3. The grass should be mowed from the entrance and the yard of the PS to allow personnel to move safely and protect from reptiles (Photo No. 3);
4. Proper Warning and information signs should installed at the entrance gate (Photo No. 4);
5. The unfenced and unsecured pipeline crossing the river near residential areas, which children may use as a playground or bridge, poses a threat to the local population and should be properly fenced and secured (Photo No. 5).

Photos of Bolnisi Waste Water Collector and Pumping Stations

PS#1

Photo No.1



Photo No.2



Photo No.3



PS#1
Photo No. 4



PS#1, WW Collector
Photo No. 5



All these conditions have to be remedied immediately

Date of site visit: 20 May 2025

Site Monitoring was carried out by:
Kate Chomakhidze, Environmental Consultant of
UWSCG/USIIP

NCN is prepared by Kate Chomakhidze,
Environmental Consultant, UWSCG/USIIP

NON-COMPLIANCE NOTICE, MAR-02 – WWTP, 1 APRIL 2025

Non-Compliance Notice, UWSCG

Site Visit: 1 April 2025

Project: USIIP	Non-Compliance Notice CONSTRUCTION OF WASTE WATER TREATMENT PLANT IN MARNEULI
Contract: UWSCG-ICB-MAR-02	
Contractor: Toshiba Water Solutions Pvt. Ltd	
Supervisor Consultant: Hill International N.V. (Netherlands)	
Reference: "CONSTRUCTION OF WASTE WATER TREATMENT PLANT IN MARENULI"	
This notice is to advice you, the Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented within 5 working days.	
<u>NON-COMPLIANCE IN MARNEULI (MAR-02)</u>	
Construction of WWTP in Marneuli	
• Site internally should be arranged properly and cleaned regularly, waste should be placed only at the proper waste containers (Photo N1); • Construction waste should be timely removed from the construction site and disposed properly (Photo N2); • Workers without PPE, helmets, gloves, and safety boots (Photo N3); • Adequate and sufficient quantity of Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of workers on construction site (Photo N4) • Avoid having cables on the ground where they can be a tripping hazard or exposed to water, dirt, and debris (Photo N5) • Oil spills should be cleaned up immediately to avoid pollution of the land (Photo N6)	
Photos of Marneuli WWTP	
Photo N1 	Photo N2 

Photo N3



Photo N4



Photo N5



Photo N6



All these conditions must be addressed by both the CC and SC within 5 working days, by April 7, 2025.

Date of site visit: 1 April 2025

Kate Chomakhidze, Environmental Consultant
UWSCG/USIIP

NON-COMPLIANCE NOTICE, MAR-02 – WWTP, 20 MAY 2025

Non-Compliance Notice, UWSCG

Site Visit: 20 May 2025

Project: USIIP	Non-Compliance Notice CONSTRUCTION OF WASTE WATER TREATMENT PLANT IN MARNEULI
Contract: UWSCG-ICB-MAR-02	
Contractor: Toshiba Water Solutions Pvt. Ltd	
Supervisor Consultant: Hill International N.V. (Netherlands)	
Reference: "CONSTRUCTION OF WASTE WATER TREATMENT PLANT IN MARENULI"	

This notice is to advise you, the Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented within 5 working days.

NON-COMPLIANCE IN MARNEULI (MAR-02)

Construction of WWTP in Marneuli

- Site internally should be arranged properly and cleaned regularly, construction waste should be timely removed from the construction site and disposed properly (Photo No. 1);
- Workers without PPE, helmets, gloves, and safety boots (Photo No. 2);
- Adequate and sufficient quantity of Safety/warning signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of workers on construction site (Photo No. 3)
- Avoid having cables on the ground where they can be a tripping hazard or exposed to water, dirt, and debris (Photo No. 4)
- Hazardous waste should be timely removed from construction site and disposed properly (Photo No. 5 and No. 6)

Photos of Marneuli WWTP

Photo No. 1



Photo No. 2



Photo No. 3



Photo No. 4



Photo No. 5



Photo No. 6



All these conditions must be addressed by both the CC and SC within 5 working days, by Amy 26, 2025.

Date of site visit: 20 May 2025

Kate Chomakhidze, Environmental Consultant
UWSCG/USIIP

[illegible][illegible]



Հայկական Դպրոցի Կենտրոնը

References

[illegible][illegible]

Styphodon sp.

gratias agere debemus.

Abstract



14 A.politikovskaya str., 0156, Tbilisi, Georgia. Tel.: (+995 32) 438 8560

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[illegible]

10.12.2012

[illegible][illegible]

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It is important to remember that the use of technology is not an end in itself. The goal is to use technology to enhance the learning experience and to make learning more effective and efficient.

Figure 3. Effect of the concentration of the polymer on the swelling ratio.

1. *Staphylococcus aureus* (Gram positive)
2. *Streptococcus pneumoniae* (Gram positive)
3. *Escherichia coli* (Gram negative)
4. *Salmonella enteritidis* (Gram negative)
5. *Shigella flexneri* (Gram negative)

[illegible]

31. <http://www.fishbase.org>

12. *Explain the importance of the following factors in the design of a research study:*

134. Կոմիտասը լուսավորող դերն ու հայտնի դարձավ հիմնականում իր երգերով:

[illegible]

doi:10.1371/journal.pone.0142894.g004

2.1. Topologie. Eine topologische Dimension ist eine Funktion $\dim$ auf der Menge aller abgeschlossenen Teilmengen A eines topologischen Raumes X , die die folgenden Eigenschaften erfüllt:

4.2. Գործընկեր ընդգրկվելու հնարավոր ամեն մանրամասնությամբ անհետ անհայտի ինքնանկարագրությունը պետք է ներկայացվի:

4.3. Գործընկերները պետք է ներկայացնեն նաև իր անհատական ինքնագրության մեկնաբանությունը և հարկային պարտավորությունները:

4.4. Գործընկերները պետք է ներկայացնեն իրենց հետո մնալի անհատական տնտեսական իրավունքները և պարտավորությունները:

Քիմուհի 5. Կազմակերպության անհատական ինքնագրություն

5.1. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

5.2. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

Քիմուհի 6. Կազմակերպության անհատական ինքնագրություն

6.1. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

Քիմուհի 7. Կազմակերպության անհատական ինքնագրություն

7.1. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

7.2. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

7.3. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

Քիմուհի 8. Կազմակերպության անհատական ինքնագրություն

Քիմուհի 9. Կազմակերպության անհատական ինքնագրություն

9.1. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

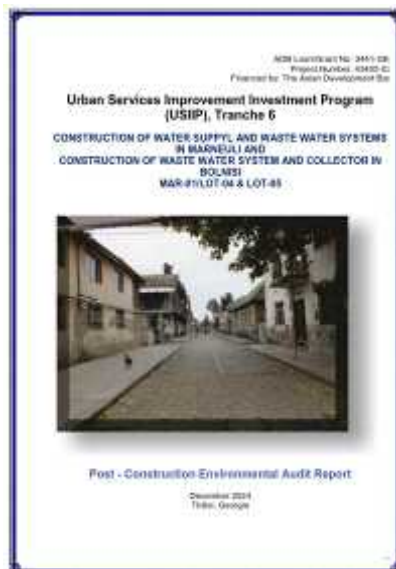
Քիմուհի 10. Կազմակերպության անհատական ինքնագրություն

Քիմուհի 11. Կազմակերպության անհատական ինքնագրություն

11.1. Կազմակերպության անհատական ինքնագրությունը պետք է ներկայացվի միայն իր անհատական ինքնագրության մեկնաբանությամբ:

Քիմուհի 12. Կազմակերպության անհատական ինքնագրություն

ANNEX E: INITIAL POST CONSTRUCTION ENVIRONMENTAL AUDIT REPORT, MAR-01/LOT-04 AND LOT-05, PREARED IN DECEMBER 2024



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ABBREVIATIONS

ADB	Asian Development Bank
DEPRP	Department of Management of Projects Financed by Donor Organizations
DMPSA	Department of Permit, Environmental Protection and Social Affairs
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP	Environmental Management Plan Site-Specific Environmental Management Plan
ES	Environmental Specialist
GoG	Government of Georgia
GMC	Grievance Mediation Committee
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IPMO	Investment Program Management Office
IEE	Initial Environmental Examination
MFP	Multi-Residue Monitoring Facility
MEPA	Ministry of Environmental Protection and Agriculture
MRDI	Ministry of Regional Development & Infrastructure
NEA	National Environmental Agency
QJSC	Open Joint Stock Company
PCEAR	Post Construction Environmental Audit Report
SC	Supervision Consultant
USIP	Urban Sector Improvement Investment Program
UWSCG	United Water Supply Company of Georgia
WS	Water Supply
WSS	Water Supply & Sewerage
WMP	Waste Management Plan
WS	Water Supply

I. INTRODUCTION

- This document represents the Post Construction Environmental Audit Report (PCEAR) for the Construction of Waste Water System and Collector in Bolnisi (MAR-01/ LOT-04 and LOT-05) under the Urban Services Improvement Investment Program (USIP).
- Contract No. P43405-JOB-MAR-01 for the implementation of the MAR-01 sub-project: "Construction of Water Supply and Waste Water Systems in Mamuli and Construction of Waste Water System and Collector in Bolnisi" was signed on November 20, 2018, with "Azotik Group OJSC" (Azerbaijani). The original completion date for the contract was March 29, 2021. The contractor proposed an extension of 210 days, and the revised completion date was set for December 2021. However, the contractor failed to complete the project within the revised timeline. The progress had been deteriorating since the September 2020, finally, the contractor stopped all work on the site on June 14, 2021 and the contract was terminated.
- In light of the above, it was decided to announce a new tender and divide the MAR-01 sub-project into six lots. Lots 04 and 05 were designated for the construction of the wastewater system and collector in Bolnisi. More detailed information about the MAR-01 sub-project can be found in Chapter II – Project Description below.
- The contract for the implementation of Lot-04 and Lot-05 under MAR-01 sub-project has been awarded to POLAT Yel Yapı Sanayi ve Ticaret Anonim Şirketi (Turkey). Physical works has started in lot 4 and lot 5 in October 2022. Project completion date was March 2024. Construction works have not been completed by the March 2024 and were continued until the end of November 2024, remaining works were implemented under the government financing as MFP was closed in March 2024.
- This Post Construction Audit Report is being prepared to comply with the 2009 ADB's SPS and Georgian legislation, including safeguards requirement and aims to identify past and present concerns from the production and business activities of Project Company that related to impacts on environment. The specific objectives of the audit can be summarized as follows:
 - Determine and verify whether all environmental requirements, criteria and constraints, prescribed in IEEEMP and GSEMPs have been adhered to during the construction phase.
 - Determine and verify whether the mitigation actions and rehabilitation requirements contained in the IEEEMP and

GSEMPs have been appropriate and successful to prevent or control environmental pollution and/or damage.

- Ensure that an appropriate environmental monitoring and control program exists to follow up on mitigation and rehabilitation works completed during the construction phase.
- To identify any shortcomings in the GSEMP and CMS system implemented during the construction phase and to recommend alterations to the EMS applicable to the operational phase.

6. PROJECT DESCRIPTION

6.1 URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (USIP)

6. The Urban Services Improvement Investment Program was developed as the Government's response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is related to urban social and economic development in selected urban areas through improved urban water and sanitation services, and is financed by the ADB through its Multi-branch Financing Facility (MFF). The Ministry of Regional Development and Infrastructure is the Co-financing Agency and the United Water Supply Company of Georgia, LLC is the implementing Agency of the Investment Program. UWSICO is a 100% ADB-owned company.

7. The Investment Program improves infrastructure through the development, design and implementation of a series of sub-projects, each providing improvements in a particular sector (water supply and/or sanitation) in one town. Sub-projects rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements include water supply systems and related works, pumping systems, treatment facilities, transmission and distribution network, and sewerage improvement works include sewer network, pumping stations, main collectors and waste water treatment plants.

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-LOT/8/LOT-02/LOT-03/LOT-04/LOT-05 and LOT-06).
- Construction of Waste Water Treatment Plant for Marneuli and Bolnisi in Marneuli (MAR-02).
- Construction of Water Supply System in Chikara (CH-01).

6.2 DESCRIPTION OF THE MAR-02/LOT-06 LOT-06 SUB-PROJECT

8. Construction of Water Supply and Sewerage System in Marneuli and Sewerage System and Collector in Bolnisi. Lot 4 and Lot 6. Brief Description of LOT-04, LOT-05 and scope of works are presented below:

9. Lot 4: It covers sewer network in Bolnisi city. Bolnisi is directly adjacent to Marneuli and is about 25 km from Marneuli. New sewer lines are to be laid under LOT-04. Earlier test sewer lines by AKELER GROUP GUSC were laid and need to be tested and commissioned. The components of the subproject that will involve civil works under LOT-04 are as follows:

- Construction of new sewer lines (25.0 km)

- Rehabilitation of existing sewer lines (7.3 km)

10. Lot 6: Sewerage Interceptor (Collector) from Bolnisi to Marneuli. It involves the sewerage pumping station to be laid. Earlier test sewer lines by AKELER GROUP GUSC were also laid and need to be tested and commissioned. The works under LOT-05 comprise mostly the following items:

- Construction of new sewerage lines (15.9 km)
- Rehabilitation of existing sewer lines (7.2 km)

11. The contract No. 010010-03-0001 for the implementation of the MAR-01 sub-project, including LOT-04 and LOT-05 was signed on November 28, 2018 with Akel Group OJSC (Akoskani). The original completion date of the contract was March 20, 2021, present extension by condition is 2/3 years. Revised completion date was December 2021.

12. Since the progress of contractor was very slow, contractor didn't manage to start several works in parallel, such as foundation pit, Groundwater Tablewater Valve (GTV) inspection of laid sewer lines, hydraulic testing of sewer lines, MSE works, pipe crossing works under lot, etc. and and ongoing (mainline, house connections etc. The progress deteriorated further from the last week of December 2020. Finally, the contract was stopped all works on the site from June 14, 2021 and the contract was terminated.

13. Based on the above mentioned, the new contract for realization of MAR-01/LOT-04 and LOT-05 sub-project has been awarded to EKAT for the "Sewer and Water Supply System (Turkey). Physical works have started on 4 and on 5 in October 2022. The initial project completion date was set for March 2023. However, since the construction works have not been completed by the end of March 2024, the project is continuing under government financing, as the ADB/MFF was closed in March 2024.

10.1 SCOPE OF PROJECT

14. Based on the existing ADB Environmental Safeguards Policy (2005), this Project falls under ADB's project Category B. According to ADB 1994 2008 project can be classified as Category B due to the following reasons:

- adverse environmental impacts are less adverse than those of category A projects;
- some impacts are site-specific, few if any of them are irreversible; and
- in most cases mitigation measures can be designed more readily than for category A projects.

10.2 MAIN STAKEHOLDERS OF THE PROJECT

15. The main institutions that are involved in implementation of the DMP are:

- **Executing agency (EA)** - United Water Supply Company of Georgia (UWSICO) LLC
- **Supervision Consultant (SC)** - Supervision Consultant: HIL International N.V. (Netherlands) has an Environmental Specialist Mr. Aleksandr Nepritsin
- **The PMO has an Environmental Specialist** - Mr. Mikheil Chikhradze who is responsible for management of the environmental aspects of USIP, Tranche 6.
- **The Construction Contractor** - "Pobedyo Yapi Sanayi ve Ticaret" Branch in Georgia (SAJ - partner) (Turkey/Georgia) and Investment Program Management Office (PMO), established within UWSICO is responsible for the day-to-day management of the project including implementation of the DMP. The CC also has an Environmental Specialist Mr. Sandro Akhmetidze

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

Table 1. List of contractors under the Project.

Organization	Name of main staff and Environmental Specialist	Contact data (including phone and web site) and address of the organization
Asian Development Bank	ADB Country Environmental Fund	Heidi E. Fawcett Email: heidi.fawcett@adb.org
	ADB RETA International Environmental Consultant	Kat. Dzhordzhia Tel: +995 577 22007 Email: kate.dzhordzhia@adb.org
UWSICO	Regional Office, Georgia Resident Mission Asian Development Bank	Nina Nishchuk Tel: +995 565 07442 Email: nina.nishchuk@adb.org
	UWSICO Department of Animal, Environmental Protection and Forest Affairs, Head	Mr. Aleksandr Nepritsin Tel: +995 585 12929 Email: n.pritsin@uwsico.ge
UWSICO/PMO	Department of Management of Projects, Payment to Service Organization, District Head	Mr. Nodar Nishchuk Tel: +995 581 18111 Email: n.nishchuk@uwsico.ge
	Environmental Specialist	Mr. Mikheil Chikhradze Tel: +995 577 36089 Email: mikheil.chikhradze@uwsico.ge

8
km

8
km

Figure 1: Location Map of the Project



8
km

8
km

Organization	Name of main staff and Environmental Specialist	Contact data (including phone and web site) and address of the organization
Supervision Consultant: HIL International N.V. (Netherlands)		Mr. Aleksandr Nepritsin Tel: +995 585 146031 E-mail: n.nepritsin@hilsupervision.nl
PMO - Policy and Management Consulting Group and JSC Georgian Water Project (Georgia)	Environmental Specialist	Mr. Mikheil Chikhradze Tel: +995 585 150390 E-mail: mikheil.chikhradze@gmail.com

IV. SUMMARY OF PREVIOUS ENVIRONMENTAL INSPECTIONS

- 33 In 2020-2022, regular environmental monitoring of the "Construction of Waste Water System and Collector in Borzoi" system was carried out by several organizations:
- "Ecolyst" (Ecolyst LLC) - Branch in Georgia (Tbilisi/Georgia), due to city monitoring
 - Supervision Consultant, weekly monitoring
 - UNWCO-PMO, monthly monitoring
 - ADB, semi-annual environmental safeguard missions

34 Non-compliance notices were issued by RS of SC and UNWCO-PMO after monitoring of construction sites if necessary, and sent to the contractor. The sample NCM issued following the site visit on December 12 are attached to this report (Please see Annex H1). Corrective Action Plans were required from contractor, along with updated photos showing improvements at the sites. The most identified non-compliances can be categorized into the following areas:

- 1) Deep trenches/berms/drainage wells - safety shields had to be used. During reworking hours, a special tape or net had to be kept. Warning lighting had been necessary to install at night - 22 cases (26.2%).
- 2) After the work, the soil should have been removed or fenced non-erectable materials and ground waste and not have left tools in the area - 10 cases (20.0%).
- 3) The use of Personal Protective Equipment had been necessary - 16 cases (21.3%).
- 4) Roads had to have been temporarily closed during the works. Speed limits and warning signs had to have been installed - 10 cases (10.2%).
- 5) Hazardous waste had to have been removed with a special authorized and transferred to a hazardous waste container - 9 cases (10.0%).
- 6) C&M Site should be properly cleaned and organized and construction materials should be segregated and construction waste removed on the daily basis (1%).
- 7) Construction area of Pumping Station (3-PS) should be fenced (2%).
- 8) Proper fencing and information signs should be installed on entrance gate (2%).
- 9) Un-fenced/unsecured pipeline across river near residential areas, where vehicles may use it as a playground, stone threats to local population and should be adequately fenced and protected (2%).
- 10) Clearly visible signposts along roads, trench side banks or proper cover should be installed around deep open excavations (3-Tier) to avoid accidents with working personnel and visitors of the Pumping Station (2%).
- 11) Construction waste should be removed from the territory of the Pumping Station (1%).

V. SUMMARY OF OBSERVATIONS OF THE SITE DURING THE POST CONSTRUCTION ENVIRONMENTAL AUDIT

- 35 The Post Construction Environmental Audit of "Construction of Waste Water System and Collector in Borzoi" sub-project, was conducted on 13 December 2024 by Environmental Specialist of Supervision Consultant PLL and PMO - Policy and Management Consulting Group, Mr. Tskitshi, Niyazov and Environmental Specialist of UNWCO-PMO Mr. Kate Chomachidze.

36 During the visit the following construction sites have been visited: (1) Waste Water Network in the city of Borzoi (2) Waste Water Collector construction sites (3) Waste Water Pumping Station in Borzoi (3 units).

37 All Pumping Stations are fenced and it is impossible for strangers to enter the site. Access to enter the sites (see below and after photos in Figures 1-3 below).

Fig.1. Borzoi Pumping Station No.1



Fig.2. Borzoi Pumping Station No.2



38 C&M Site was properly cleaned and organized after completion of construction works, all machines, equipment and construction materials were removed on the daily basis (please see below and after photos in Figures 3-4 below).

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Fig.3: Construction CAMP during the Construction



Fig.4: Construction CAMP after completion of Construction Works



39 The temporary roads were restored in a timely manner after completion of the construction works (please see before and after Photos in Figures 5-6 below).

Fig.5: Roads during construction of Waste Water Network



Fig.6: Roads after completion of construction Works



40 All surplus waste was removed from the construction area (please see before and after photos in Figures 7-8 below).

Fig.7: Surplus soil on the road



Fig.8: Removed Surplus Soil



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VI. GRIEVANCE REDRESS MECHANISM

1. The Grievance Redress Mechanism was developed under USAPTS and for the implementation of the Borzoi WW sub-project. In case of any suggestions/complaints arise from the local community it was planned to implement the GRM system established under USAPTS.
2. For the effective implementation of a GRM system under the USAP, UNWCO issued special order #122, signed by the Director of UNWCO for "Establishment of GRM within the Framework of the Asia Development Bank Project", on 16 April 2014, which was further regulated by Order # 196, on October 2019 (see Annex 3). The aforementioned Order gave clear instructions to every involved stakeholder how to act when affected people are impacted by the project. In November 2021, Order #420 was issued to amend Order #196, which included a change in paragraph 5 of Order #196, defining the composition of the GRM committee.
3. Based on the above GRM System an affected person can apply to a UNWCO Local Service Center in Marneuli (UNWCO has 53 service centers and 8 Regional Branches across Georgia, a different municipality through different ways, either by going to the service Center, sending a letter to the Service Center, or calling a hotline. The operators of the Service Center can respond by going directly to the affected person if they are allowed to get the written grievance from them. These AP's complaints are registered by the operator of the service center and AP get a unique number.

Fig. 9: AP gets unique registration number at Local Service center



4. It should be mentioned also that complaints log is available at each construction site and any affected person may file the complaint log (please see Annex 4) and submit to the contractor directly.
5. At first stage of grievance redress, an authorized representative of Customer's Resident District/Customer Service Office of local service Center/Regional Branch of United Water Supply Company of Georgia, LLC, be obliged to facilitate the complaint with the content of the complaint, to register the complaint in the form approved by Annex #4 of this report and to submit it to Grievance Redress Committee (hereinafter the Committee), which will consider the submitted complaint within the two weeks period.
6. In case the problem raised in the complaint is not solved within the two weeks period at the first stage of grievance redress, the individual concern can address the GRM Committee,

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which will make decision within two weeks period.

7. In case the problem raised in the complaint is not solved within two weeks of the second stage of grievance redress, the individual concerned can address the Permanent Representative of the Asian Development Bank to Georgia.
8. It should be emphasized that there are no unresolved complaints from the local population under the Borzoi WW sub-project. All issues have been addressed during the project implementation, and there are no outstanding complaints under the project.

25. The construction of the Waste Water Systems and Collector in Dobos, under the MAPR-01-LOI-946-OT-455 sub-project, is complete. The system will start with operations and the collection of the Waste Water System (MAPR-01-LOI-918-OT-000-OT-457-086) and the Waste Water Treatment Plant in Matamoros (MAPR-02) subprojects are finished, which is expected by the end of March 2023. As mentioned previously, physical works for Lot A and Lot B began in October 2022, with the original project completion date set for March 2024. However, the construction works were not completed by the end of March 2024. The project was not completed by November 2024. In March 2024, these works were being finished by the Government's state budget, as the MRF was closed in March 2024.

25 As already noted, most of the impacts are associated with the removal and disposal of construction materials, proper disposal of construction waste, protection of the deep trenches with proper barriers and shields, preventing public access to the pumping station, as well as fencing and enclosing the RS area with warning signs and information.

23. This Post-construction Environmental Audit was conducted on December 12, 2024 by the Environmental Specialist of UWSG/GRAND Mr. Kate Chornikowicz and ES of SCHILL MARIKOWSKI Associates to address a number of mitigation measures and potential problems, to proper and timely implementation of the construction actions will significantly reduce the associated negative future impact.

22. Table 2 below provides a summary of the non-compliances identified during the Pre-Construction Environmental Audit conducted on December 12, December 2014 as well as the required corrective actions, the responsible organizations, and status of implementation of the non-compliances.

No.	Deficiency	Responsible B.O.	Target Date of completion	Rating	Status
Basins Pumping Station					
1	There are no engineering and information signs on industrial gates of the Pumping Station (Photo R1)	Photo R1 Information signs should be installed on entrance gate	End of February 2024	SWCS	Not yet completed
2	Deep and ungrouted pits, such as one (Photo R2) and outside Photo R3 of the pumping station building	Photo R2 Clearly visible ungrouted pits in concrete roads side of pits to be judged never should be installed Photo R3 Deep open pits must be covered with grates or lids to avoid accidents with entering personnel and reduce the risk of Pumping Station	Mid of January 2025	SWCS	Not yet completed
3	A small amount of construction waste remains on the site, both inside (Photo R4) and outside	Photo R4 Construction waste should be removed from the territory and disposed appropriately	End of December 2024	SWCS	Completed, instead, end of December 2023
					Completed

Key observations	Environment	Contaminants	Type of assessment	Project lead	Status
The pumping station is old		Photo A5			Reviewed, and at December 2024 Photo B1
Construction of Waste Water Collector in Bafra					
Uncovered hazardous pipeline could drain from rural residential areas prior to PG K2, Photo H5	The sewage collector across the river should be properly located not as pipeline may use the pipeline as a playground or bridge, posing a potential health risk.	Photo H5	2024 January 2024	UWRC	Not yet completed

[illegible]

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Nov 1997 18 December 2000

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The author is grateful to the Committee on the Information Content of the following publications and the members of the Institute of the Russian Academy of Sciences for their support.

The author(s) of *Democracy, Networks and Managing What we Collect* did

1. Please identify and attach the signs should include on company site (Photo 1).
2. In the background, indicate the area over the training area, where student may do it in a program (Photo 2) in the background and should be indicating the area (Photo 3).
3. Finally, attach a photo of the sign, which will be in the area where should be located around the program (Photo 4) in the background with writing (Photo 5) in the background (Photo 6).

PHASE 12: 2004-2005 WITH THOMAS, JILL; PENDING MATRONS, 1982 AND 1990



All these concerns have to be remedied immediately.

Date of site visit: 12 December 2004

Bite Monitoring was carried out by:
Kate Chorakidze, Environmental Consultant of
JSC "Geostandart"

NCN is prepared by Kala Chornakidze, Environmental Consultant, UWSCG/USAP.

ANNEX F: OFFICIAL LETTER FROM THE LABOUR INSPECTION SERVICE AUTHORIZING THE CONTINUATION OF WORKS



სსიპ შრომის
ინსპექციის სამსახური

156 მიხეილ თამარაშვილის ქუჩა
0177 თბილისი, საქართველო
1575
info@moish.gov.ge

03 ივნისი 2025



უსფ „ჩაინა ჯეო-ინჟინერინგ ქორფორეიშენ“-ის
დირექტორს ჩენგოუ ჰეს

ასლი შპს „ჯიბი-აი კონტრაქტორს“-ის
დირექტორს გიორგი ყურაშვილს
ელ-ფოსტა: info@iss.ge

თქვენი 2025 წლის 29 მაისის N586207 წერილის პასუხად, გაცნობებთ, რომ სსიპ შრომის
ინსპექციის სამსახურის თანამშრომლების მიერ მოხდა უსფ „ჩაინა ჯეო-ინჟინერინგ
ქორფორეიშენ“-ის (ს/კ 400221069; მის: მარნეულის მუნიციპალიტეტი, მარნეული,
გოგებაშვილის ქუჩა N18-ის მიმდებარედ) გადამოწმება, გადამოწმების შედეგად,
დადგინდა რომ N013534 სამართალდარღვევის ოქმით გათვალისწინებული კრიტიკული
შეუსაბამოებები გამოსწორებულია.

ზემოაღნიშნულიდან გამომდინარე, გეძლევათ საქმიანობის განახლების უფლება.

პატივისცემით,

შრომის ინსპექციის სამსახურის ხელმძღვანელი -
მთავარი შრომის ინსპექტორი
ბექა ფერაძე

ხელმოწერა/
შტამპი/სამართალი
მლაშრონა

