Environmental Monitoring Report

Project Number: 42145

January-June 2025

Armenia: North-South Road Corridor Investment Program (Tranche 1 and 2)

Prepared by the "Road Department" Fund of the Ministry of Territorial Administration and Infrastructure of the Republic of Armenia for the Asian Development Bank.

Project Number: 42145

January-June 2025

Armenia: North-South Road Corridor Investment Program, Tranche 1 and 2

(Financed by the ADB)

Prepared by

Road Department Fund

Yerevan, Armenia

Table of Contents

Abbreviations

ADB	Asian Development Bank
CEMP	Contractor's Environmental Management Plan
EMP	Environmental Management Plan
EIA	Environmental Impact Assessment
IEE	Initial Environmental Examination
IES	International Environmental Specialist
NES	National Environmental Specialist
MOE	Ministry of Environment
MOTAI	Ministry of Territorial Administration and Infrastructure
MESCS	Ministry of Education, Science, Culture and Sport
SEMP	Site-Specific Environmental Management Plan
TMP	Traffic Management Plan
RD	Road Department Fund
EMR	Environmental Monitoring Report
EHSS	Environmental, Health and Safety Specialist
ES	Environmental Specialist
DDR	Due Diligence Report

1 INTRODUCTION

1.1 Preamble

This Semi-annual Environmental Monitoring Report covers the time period from January-June of 2025. The report was prepared jointly by "Road Department" Fund, the JV Egis International and Kocks Consult GMBH, the JV "A.A.B. Project LLC – M/s Dineshchandra R Agrawal Infracon Pvt. Ltd" and the J/V Levantina, Ingenieria y Contsruccion, S.L. & Obras Publicas y Regadios, S.A. (LIC-OPR).

1.2 Headline Information

Originally construction works were implemented by "Corsan Corviam Construction" S.A. Armenian Branch and its subcontractors. However, according to sub-clause 15.2(e) of GCC, the Employer terminated the Contract for Construction Works with the Contractor on July 18, 2019. Till 31.12.2019 the Program Management and Technical Supervision Consultant was a joint venture of French "SAFEGE" and Spanish "EPTISA" companies. After completion of the contract, the PMC/Engineer has proceeded with post-termination processes of the Contractor's contract for civil works. In 2020-2021 measures were taken to continue the implementation of Project through other contractor/contractors.

During the course of the work, it was determined that the Agarak Historical and Preservation Zone could be subject to potential impacts during construction. In order to address this, research and archaeological excavations were conducted. As a result of these investigations, it was confirmed that potential impacts are indeed possible. Subsequently, a decision was made to redesign the project, leading to the approval of a new 8-kilometer road section that avoids the archaeological sites discovered in the area. As a result, Construction is envisaged to be resumed in the following two sections:

- Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)
- Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500).

In the meantime, Road Department negotiated and signed Agreement on 10 August, 2020 with Mr. Viktor Bakhtamyan as IEE/EIA Consultant in order to provide services for review and update of Environmental and Social Impact Assessment document for tranche-2 8km (KM 29+600 - KM 37+600) section according to the new design project description and current activities. This IEE/EIA update requirement was based on RA Law on Environmental Impact Assessment and

Expertise and ADB safeguard requirements: (i) RA EIA&E law - (article 21, point 2- 2)) 2. the positive conclusion of expertise is considered expired if: 2) changes have been made in the design and baseline documents that may have an impact on the environment without informing the authorized body, (ii) ADB Safeguard requirements- 25. Crosscutting Issues- (iii) ensuring that safeguard plans are updated based on detailed engineering design and changes in scope. Updated IEE and EIA are submitted to ADB and RA MoE. Positive conclusion and approvals were received on 06.08.2021 and 26.08.2021 respectively. Local EIA and IEE documents were disclosed in RD Fund and RA MoE web sites.

In 2021, a new Engineer/Consultant was hired in the Project for the calculation of remaining quantities by the previous contractor, revise of existing designs, preparation of new bidding documents, as well as performing the duties of the Engineer during civil works. An appropriate contract was signed with the JV "Egis International" and "Kocks Consult Gmbh" on 25.02.2021.

For Task 1, RD signed contract with J/V A.A.B. Project LLC & Dineshchandra R. Agrawal Infracon Ltd. as a Construction Contractor on October 28, 2022.

For Task 2, RD signed contract with J/V Levantina, Ingenieria y Contsruccion, S.L. & Obras Publicas y Regadios, S.A. (LIC-OPR) as a Construction Contractor on 03 October 2023.

Taking into account that the positive conclusion has been declared invalid according to the law of RA Environmental Impact Assessment, negotiations have taken place between the Road Department and the Ministry of Environment (MoE) to review and update the Environmental Impact Assessment documents for Tranche-2 8km km 29+600 - km 37+600 and Environmental Impact Assessment document for Tranche-2 (which covers 34 km section, km 37+545 - km 71+500) . The MoE of RA has approved that there is no need for updating or reviewing the EIA for both projects.

1.3 Project Description

The RA has selected the Bavra-Yerevan-Agarak route as the North-South Road Corridor to be rehabilitated, reconstructed and expanded. The North-South Road Corridor Investment Program is implemented by "Road Department" SNCO (RD) of the Ministry of Territorial Administration and Infrastructure (MOTAI) to co-ordinate the work. The Program is funded by the Asian Development Bank (ADB) under a multi-tranche funding facility (MFF).

The MFF is designed to rehabilitate and upgrade national north-south roads to form a new, upgraded and expanded North-South highway. The main objective is to widen the existing 2-lane roads to become 4-lane divided roads along existing alignments wherever possible or to construct new alternate 2-lane roads where a single 4-lane road would not be feasible.

Tranche 1 Project is to improve two road sections of the North-South Corridor, namely, the M-1 section of road north from Yerevan to Ashtarak from km 18+370 to km 29+773 (Section 3 in the

contract with Contractor) and the M-2 section of road south from Yerevan to Ararat from km 9+312 to km 47+400 (Section 2 in the contract with Contractor).

The Tranche 2 Project starts at km 29+600 in Ashtarak and end at km 71+500 close to Talin (Section 1 in the contract with Contractor). Two bypasses will be constructed in Ujan from km 36+600 to km 40+300. The Project will also have a new road alignment (8.95 kilometres) at Katnagbyur starting from km 59+950 to km 68+900 that will be located on the left side of the existing highway to join the existing alignment in Talin.

Figure 1. Tranche1 and Tranche2 of North-South Road Corridor

The Tranche 2 project was subsequently divided into two parts. To avoid the important archaeological area at km 32+750 – 33+400, the decision was made to re-design the first 8 km (Task 1, km 29+600 – 37+600) around Agarak Community. The modified alignment passes through the following rural communities: Voskevaz, Agarak, and Aghdzk. Works on the remaining 34 km (Task 2) were only partially completed when the construction contract was terminated in July 2019. The commencement of civil works for the 8 km bypass was issued on January 16, 2023, and the

commencement for the completion of the construction of the 34 km was issued on November 13, 2023.

1.4 Project Contracts and Management

ADB carry out periodic Project reviews, inspections of the Project throughout the Project cycle in conformity with the principles and requirements embodied in the SPS 2009. ADB will aid the RD in managing the social and environmental impacts and risks, thus contributing to the promotion of the long-term sustainability of investments.

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Adress: V. Sargsyan street, Kamar business center, 7th floor,
0010 Yerevan, Republic of Armenia
Phone number:+374 10 512300,
Fax +374 10 546374
www.adb.org/armenia

RD Fund is implementing day-to-day management of project execution. The RD Fund includes a Social and Environmental staff whose responsibilities include the management of all environmental and social aspects of the project.

Contact information:
Adress: Government House 3, Republic Square,
0010 Yerevan, Republic of Armenia
Phone number: +374 10 511 391
Email: info@armroad.am
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The Supervision Consultant/Engineer JV "Egis International" and "Kocks Consult Gmbh" carries out all construction supervision activities and reporting of the project. Environmental Safeguards Unit of the Consultant is responsible for supervising the construction works in relation to environmental and archaeological impact and, in particular, for supervising and reporting on the Contractor's performance in the implementation of the EMP.

For Task 1 and Task 2:

Contact information:
Adress: 15, avenue du Centre -CS 20538
Guyancourt – 78286 Saint-Quentin-en-Yvelines cedex-France
Phone number: +33 139415070

Email: richard.thadani@egis.fr

For Task 1:

The Contractor J/V A.A.B. Project LLC Dineshchandra R. Agrawal Infracon Ltd. as a Construction is implementing construction works. Contractor's Environmental Unit is responsible for preparation and implementation of Contractors' EMPs, SSEMPs, monitoring of the construction activities and reporting.

Contact information:

Adress: Gevorg Vardanyan St., 1a Building,
0037 Yerevan, Republic of Armenia
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Email: info@aab.am
www.aabconstruction.com

For Task 2:

The Contractor J/V Levantina, Ingenieria y Contsruccion, S.L. & Obras Publicas y Regadios, S.A. (LIC-OPR) as a Construction is implementing construction works. Contractor's Environmental Unit is responsible for preparation and implementation of Contractors' EMPs, SSEMPs, monitoring of the construction activities and reporting.

Contact information:

Adress: C/ Ceramista Ramon Galdon, 10 PC. 46260
Alberic (Valencia) SPAIN
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Email: lic@lic-sl.com

RD Environmental and Social Staff

The Project Impact Management activities are undertaken by:

- Miss. Mariam Tatulyan - hired by RD Fund in April 2023 as Environmental Impact Specialist is responsible for Environmental management of the project and compliance with the national environmental legislation of the RA and safeguard policies of financing Donors during the preparation and implementation of the Projects, including design, construction, and supervision.
- Miss. Shushan Kocharyan – Head of Social Impact Management Service (HSIMS) is responsible for Social management of the project and compliance with the national legislation of the RA and safeguard policies of financing Donor during the implementation of the Projects, including construction, and supervision.

Consultant Environmental Safeguards Unit

Currently, for both ***Task 1*** and ***Task 2***, the Consultant Environmental Safeguard Unit

comprises:

- Mr. Arsen Hayriyan - Environmental/Health and Safety Specialist is responsible for the overall management of the environmental safeguards. He was replaced in December 2023. Since then, the Engineer has hired Ms. Karine Azatyan.
- Ms. Julietta Hakobyan-Social Specialist (SS), is responsible for the overall management of the social safeguards.
- Mr. Boris Gasparyan – Archaeology Specialist, is responsible for the overall management of the archaeology safeguards.

Contractor Environmental Safeguards Unit

For Task 1, the Contractor Environmental Safeguard Unit comprises:

- Mr. Mikael Tevosyan - Environmental Specialist (ES), is responsible for the compliance of the Contractor's activities to environmental part of the ADB Safeguard.
- Mr. Arman Khachatryan – Social Specialist (SS), is responsible for the compliance of the Contractor's activities to social part of the ADB Safeguard.
- Mr. Davit Ghambaryan – Health and Safety Specialist (HSS), is responsible for the compliance of the Contractor's activities to health and safety part of the ADB Safeguard Policy Statement. The specialist assumed his responsibilities on October 1, 2024.
- Mr. Hayk Haydosyan – Archaeology specialist, is responsible for protection of historical, cultural and archaeological monuments from negative impacts of the construction activities within framework of the EMP implementation.

For Task 2, the Contractor Environmental Safeguard Unit comprises:

- Mr. Mikael Tevosyan - Environmental and Social Safeguard Specialist (ESS), is responsible for the compliance of the Contractor's activities to environmental and social part of the ADB Safeguard.
- Mr. Sergey Khachatryan – Health and Safety Specialist (HSS), is responsible for the compliance of the Contractor's activities to health and safety part of the ADB Safeguard Policy Statement.
- Mr. Hayk Haydosyan – Archaeology specialist, is responsible for protection of historical, cultural and archaeological monuments from negative impacts of the construction activities within framework of the EMP implementation.

1.5 Project Activities During Current Reporting Period

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

During the reporting period, the following construction works were implemented:

1. Relocation of water pipelines
2. Installation of barriers, signal columns and signs
3. Hot asphalt pavement works

As of June 30, the Contractor employed 87 workers during the reporting period. The workforce consists of approximately 9.37% women and 90.63% men.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

During the reporting period, the following construction works were implemented:

1. Common and Rock Excavation
2. Construction of metal pipes
3. Hot asphalt pavement works
4. Street Lightning
5. Drainage works
6. Road markings, signals, posters and guardrails

The total number of workers employed by the Contractor during the reporting period as of June 30 is 178. The staff is composed of approximately 96.44% men and 3.56% women.

Photos from conducted works for both Tasks are provided in ANNEX A.

1.6 Description of Any Changes to Project Design

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

For Task 1, a design change was introduced concerning the bypass of the existing highway. This design change was prompted by safety concerns. Specifically, at km 0+340 to 0+380 on the left side, the radius of the first curve in the bypass was adjusted from 60 meters to 120 meters. This alteration was made to prevent car collisions and to ensure the safety of the building located in that area.

There were no design changes during the reporting period.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, the Employer required the 'T'-junction at Nor Edesia (41+300) be upgraded to a full interchange. This required design of an additional overpass and new access roads. These new field

roads are needed for communities whose access will be disrupted or severed by the new highway. All mentioned design changes are included in the Environmental and Archaeological Due Diligence Report.

There were no design changes during the reporting period.

1.7 Description of Any Changes to Agreed Construction methods

No any significant changes to the agreed construction methods recorded during the reporting period.

2 ENVIRONMENTAL SAFEGUARD ACTIVITIES

2.1 General Description of Environmental Safeguard Activities

The revised IEE/EIA reports for the Tranche-2 8km section (KM 29+600 to KM 37+600) were submitted to the ADB and RA MoE. Positive conclusions and approvals were obtained on 06.08.2021 and 26.08.2021 respectively. The local EIA and IEE documents were made available on the RD SNCO and RA MoE websites for public access.

Considering that the positive conclusion has been declared invalid according to the law of RA Environmental Impact Assessment, negotiations have taken place between the Road Department and the Ministry of Environment (MoE) to review and update the Environmental Impact Assessment documents for Tranche-2 Tranche-2 8km km 29+600 - km 37+600 and Environmental Impact Assessment document for Tranche-2 (which covers 34 km section, km 37+545 - km 71+50. The MoE of RA has approved that there is no need for updating or reviewing the EIA for both projects.

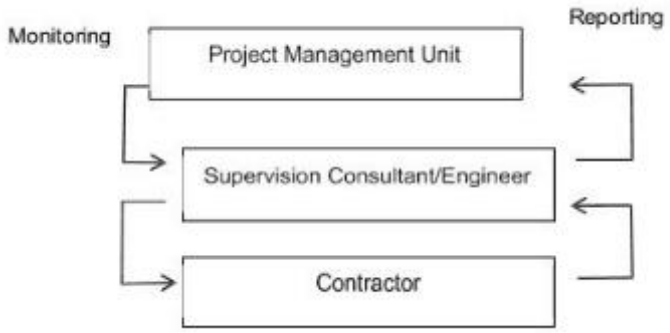
For ***Task 1***, the CEMP was approved on April 24, 2023, with the condition of updating the Tree Management Plan. The TMP was provided on November 7, 2024. The document was reviewed and approved by the Engineer on November 11, 2024

Following the new design changes, ADB requested a Due Diligence Report for ***Task 2***, which was prepared, approved, and disclosed in October 2024. After that, the SSEMP was updated according to the DD report and is waiting for approval.

Road Department Fund is implementing day-to-day management of project execution. The RD Fund includes a Social and Environmental staff whose responsibilities include the management of all social and environmental aspects of the project.

The Supervision Consultant/Engineer carries out all construction supervision activities and reporting of the project. Environmental Safeguards Unit of the Consultant is responsible for supervising the construction works in relation to environmental and archaeological impact and, in particular, for supervising and reporting on the Contractor's performance in the implementation of the EMP.

Contractors are implementing construction works. Contractor's Environmental Unit is responsible for preparation and implementation of Contractors' EMPs, SSEMPs, monitoring of the construction activities and reporting.



2.2 Site Audits

For both *Task 1* and *Task 2* site audits are conducted in accordance with the developed monitoring program, which is based on ADB Safeguards and EMP requirements.
Typically, the following site monitoring activities were undertaken:

1. *Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)*

For Task 1, the Client's environmental specialist, along with the Engineer's and Contractor's environmental specialists, conducted site visits. Detailed information is documented in approved checklists and submitted in Monthly Progress Reports.

Table 1. Site visits conducted for Task 1

Environmental Staff	Activities	Status
Contractor's ESS	Regular monitoring site visits are conducted on a weekly basis, and the findings are reported weekly using an approved checklist format. Monthly reporting to the Engineer Participation in Engineer's site visit, held on January 08, 16, 22 and 27, February 05, 12, 19, 25, March 07, 14, 20, 27, April 03, 10, 16, 22, May 02, 08, 14, 22 and 29 and June 03, 12, 18 and 27.	To be continued in the next reporting period.
Supervision Engineer's EHSS	Regular monitoring site visits are conducted on a monthly basis, and the findings are reported monthly using an approved checklist format.	To be continued in the next reporting period.

	Monitoring site visits on January 22, February 19, March 14, April 16, May 8 and June 27.	
Employer's ES	Monthly monitoring and inspection site visits. Semi-annually reporting to ADB. Monitoring site visits on March 14, April 16, 30 and June 30.	To be continued in the next reporting period.
ADB ES	ADB inspection joint site visit held on April 16.	To be continued in the next reporting period.

During April 14-22, 2025 review mission was held by ADB. On April 16, 2025, a joint site visit was conducted with representatives from the Client, the Engineer, the Contractor, and ADB. During the visit, participants toured various construction sites, including the Contractor's construction camp and concrete plant. They engaged in on-site discussions regarding potential or existing environmental, social, archaeological, health, and safety issues that could arise during the construction process. The post-construction audit and handover processes were also discussed. Additionally, the availability of related documentation and compliance with social, health, safety, and environmental requirements were reviewed.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, the Client's environmental specialist, along with the Engineer's and Contractor's environmental specialists, conducted site visits. Detailed information is documented in approved checklists and submitted in Monthly Progress Reports.

Table 2. Site audits conducted for Task 2

Environmental Staff	Activities	Status
Contractor's ESS	Regular monitoring site visits are conducted on a weekly basis, and the findings are reported weekly using an approved checklist format. Monthly reporting to the Engineer Participation in Engineer's site visit, held on January 08, 16, 22, 27, February 05, 12, 19, 25, March 07, 14, 20, 27, April 03, 10, 16, 22, May 02, 08, 14, 22, 29 and June 03, 08, 14, 22 and 29.	To be continued in the next reporting period.
Supervision Engineer's EHSS	Regular monitoring site visits are conducted on a monthly basis, and the findings are reported monthly using an approved checklist format.	To be continued in the next reporting period.

	Monitoring site visits on January 22, February 19, March 14, April 16, May 8 and June 27.	
Employer's ES	Monthly monitoring and inspection site visits. Semi-annually reporting to ADB. Monitoring site visits on March 14, April 16, 30 and June 30.	To be continued in the next reporting period.
ADB ES	ADB inspection joint site visit held on April 16.	To be continued in the next reporting period.

During April 14-22, 2025 review mission was held by ADB. On April 16, 2025, a joint site visit was conducted with representatives from the Client, the Engineer, the Contractor, and ADB. During the visit, participants toured various construction sites, including the Contractor's construction camp. They engaged in on-site discussions regarding potential environmental, social, archaeological, health, and safety issues that could arise or already exist during the construction process. Two major issues were discussed:

- Archaeological site damage in Nerqin Sasnashen: The RD instructed the contractor to clean and restore the site. Partial cleaning was done, but full restoration is pending.
- Grievance on vibration impacts: One property was missed in the pre-construction survey due to its location between Lot 1 and Lot 2. The mission requested a survey of the unassessed property, implementation of vibration monitoring, and adjustment of construction methods if necessary.

ADB requests ongoing monitoring and reporting of these issues in the next SAEMR.

2.3 Issue Tracking

For ***Task 1***, the total number of tracked issues during this period is presented in Table 3.

Table 3. Summary of tracked issues of Task 1 as of 30 June, 2025

Summary Tables			
Total number of issues tracked during the reporting period	**15**	**Issues by Category**	
		Environment	**6**
Number of Issues Open during the reporting period	**5**	**Social**	**2**
Number of Issues Closed during the reporting period	**9**	**Health**	**3**

Number of Open Issues at the end of the reporting period	6	Safety	2
Percentage Closed from tracked issues	60%	Other	2

Information regarding ***Task 2*** is presented below (Table 4).

Table 4. Summary of tracked issues of Task 2 as of 30 June, 2025

Summary Tables			
Total number of issues tracked during the reporting period	20	Issues by Category	
		Environment	5
Number of Issues Open during the reporting period	4	Social	7
Number of Issues Closed during the reporting period	15	Health	2
Number of Open Issues at the end of the reporting period	5	Safety	3
Percentage Closed from tracked issues	75%	Other	3

For both Task 1 and Task 2, a detailed summary of compliance and non-conformances is presented in Table 5.

Table 5. The summary of compliance/non-conformance of Task 1 and Task 2 as of 30 June, 2025

Month	Fully compliant	Partly compliant	Non-conformity	Non-conformities corrected (F/P)	Non-conformities not corrected
TASK 1					
2024					
January	35	13	3	1/0	2
February	36	12	3	1/0	2
March	34	14	3	1/0	2
April	38	10	3	1/0	2

May	40	8	3	1/0	2
June	41	7	3	1/1	1
July	34	13	4	2/0	2
August	44	2	5	2/3	0
September	45	3	3	1/0	2
October	46	1	4	1/0	3
November	44	4	3	1/0	2
December	46	0	5	3/2	0
2025					
January	36	2	8	0/0	8
February	38	0	7	4/0	3
March	37	1	10	3/1	6
April	36	2	6	1/0	5
May	36	2	8	1/0	7
June	37	1	7	1/0	6
TASK 2					
2024					
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April	-	-	-	-	-
May	-	-	-	-	-
June	-	-	-	-	-
July	38	10	3	1/0	2
August	36	12	3	1/0	2
September	34	14	3	1/0	2
October	45	3	3	1/0	2
November	46	3	2	1/0	2
December	41	7	3	1/0	2
2025					

January	33	2	3	0/0	3
February	35	0	6	1/0	5
March	33	2	6	3/0	3
April	34	1	7	1/0	6
May	33	2	7	4/0	3
June	33	2	6	1/0	5

Both for ***Task 1*** and ***Task 2,*** the Contractor's EHS team organized verbal discussions on EHS for workers and foremen. During the reporting period, discussions with drivers focused on the use of covers and with foremen on their safety responsibilities, particularly public safety. As a result, the Contractor's foremen, drivers, and workers were reminded about driving and traffic control measures and rules. They were also briefed on the main safety hazards during construction activities, such as working on scaffolding, using ladders, working in trenches, and wearing PPE. Workers and subcontractor staff were provided with the necessary PPE.

Corrective actions regarding **Task 1** and **Task 2** are presented in *Annex C*.

2.4 Trends

For ***Task 1***, a total of 77 issues have been identified since the commencement of the project. As of the end of the reporting period, 9 issues remain open and 68 issues have been closed. This means that approximately 88% of the identified issues have been successfully closed.
For **Task 2**, a total of 69 issues have been identified since the commencement of the project. As of the end of the reporting period, 5 issues remain open. This means that approximately 93% of the identified issues have been successfully closed.

2.5 Unanticipated Environmental Impacts or Risks

No any unanticipated environmental impacts or risks were identified in the current period both for ***Task 1*** and ***Task 2***.

3 RESULTS OF ENVIRONMENTAL MONITORING

3.1 Overview of Monitoring Conducted during Current Period

Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

For Task 1, the baseline and periodic instrumental measurements of dust, noise and vibration for the reconstruction of about 8.0 km of highway M1 Yerevan-Gyumri-Bavra, near Agarak community (from km 29+600 to km 37+545) Project was implemented by a specialized entity based on the contract signed between A.A.B. Project LLC – M/s Dineshchandra R Agrawal Infracon Pvt. Ltd. and Consecoard LLC. The objective of this measurements was to collect the baseline information about noise and vibration levels, as well as dust concentration at sensitive points and assess noise and vibration levels, dust concentration at sensitive points before and during the construction (working conditions) and to report the study results. The detailed methodology and equipment, as well as measurements points and their description are presented in SEMP.

Map 1. Points for the instrumental measurements for Task 1

The following points were selected for baseline and routine instrumental measurements for about 8.0 km of highway M1 Yerevan-Gyumri-Bavra, near Agarak community:

1. Sampling point № 1 – 439669.91 m E, 4460351.22 m N, located near the Voskevaz Wine Factory (distance - about 150m).
2. Sampling point № 2 – 436247.00 m E, 4460322.00 m N, located in the section from Ujan to Agarak, in the direction of dilapidated, asphalted road (distance from residential area – about 190m).
3. Sampling point № 3 – 437863.00 m E, 4460255.00 m N, located in the section from Ujan to Agarak, near the barns.
4. Sampling point № 4 – 441617.46 m E, 4461001.61 m N, located in the beginning, near the gas station (distance about – 230m).
5. Sampling point № 5 - 435700.35 m E, 4460485.93 m N, located in construction works camp area (batching plant).
6. Sampling point № 6 (Water) - 438631.00 m E, 4460179.00 m N, located 50m up from construction works area (Shahverd River).
7. Sampling point № 7 (Water) - 438630.00 m E, 4460025.00 m N, located 50m down from construction works area (Shahverd River).

Table 6. Dust measurement categories of Task 1

№	Name of substance	Maximum Permissible Concentration (mg/m³)		
		National Max	National Daily average	WHO/IFC 24 hour
1	PM2.5	0.16	0.035	0.025
2	PM10	0.3	0.06	0.05

Table 7. Noise level measurement categories of Task 1

№	Premises and territories	Threshold limit values (TLV), dBA		
		National		WHO
		Equivalent to sound level	Maximum sound level	One hour equivalent to soud level
1	Workplace	80		85
2	Areas near the hotels and dormitories	60	75	
3	Territories adjacent to residential buildings, clinics, ambulatories, rest houses, care homes, disabled persons homes, libraries, kinder gardens, schools and other educational facilities	55	70	45/55

Table 8. Vibration level measurement categories of Task 1

№	Whole-body vibration	TLV for corrected and equivalent corrected values	
		m/sec²	dB
1	Transport-technological (2nd category)	0.28	109
2	Technological (3rd category a)	0.1	100
3	Technological (3rd category b)	0.04	92
4	Technological (3rd category g)	0.014	83
5	Residential buildings, clinics, rest houses	0.004	72

As all the points are located close or not far from residential areas, results in the tables below are compared to the national and international standards for residential areas (for example 55/70 for noise). The details are presented below:

Table 9. Geographical location of measurements points of Task 1

Point	GPS coordinates	Sensitive receptors	Device location from the nearest sensitive receptor, m
N1	439669.91 m E 4460351.22 m N	Voskevaz Wine Factory	About 150m from Voskevaz Wine Factory
N2	436247.00 m E 4460322.00 m N	Residential area	About 190m from residential area
N3	437863.00 m E 4460255.00 m N	Road section	Near the barns
N4	441617.46 m E 4461001.61 m N	Gas station	About 230m from gas station
N5	435700.35 m E 4460485.93 m N	Batching plant	In construction works camp area
N6	438631.00 m E 4460179.00 m N	Shahverd River	50m up from construction works area
N7	438630.00 m E 4460025.00 m N	Shahverd River	50m down from construction works area

The results of baseline survey for dust, noise and vibration conducted on ***04 of April 2023*** are presented below:

Table 10. Dust (PM 2,5) measurement points and measurement results recognized as baseline on the about 8.0 km of highway M1 Yerevan-Gyumri-Bavra, near Agarak community.

Point №	PM2.5 dust actual concentration, mg/m³				Maximum permissible concentration, mg/m³		
	1st measurement	2nd measurement	3rd measurement	Average value	National		IFC standard
					Maximum value	Daily average	Daily average
1	0.06	0.14	0.08	0.09	0.16	0.035	0.025
2	0.07	0.06	0.08	0.07			

3	0.05	0.07	0.04	0.05			
4	0.08	0.09	0.06	0.08			
5	0.04	0.09	0.07	0.07			

Table 11. Dust (PM 10) measurement points and measurement results recognized as baseline on the about 8.0 km of highway M1 Yerevan-Gyumri-Bavra, near Agarak community

Point №	PM10 dust actual concentration, mg/m³				Maximum permissible concentration, mg/m³		
					National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Maximum value	Daily average	Daily average
1	0.07	0.18	0.08	0.11	0.3	0.06	0.05
2	0.07	0.06	0.09	0.07			
3	0.05	0.09	0.04	0.06			
4	0.08	0.13	0.07	0.09			
5	0.04	0.12	0.08	0.08			

Table 12. Noise level measurement points and measurement results recognized as baseline on the about 8.0 km of highway M1 Yerevan-Gyumri-Bavra, near Agarak community

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 1							
1	54.0	55.0	61.0	64.4	55	70	45/55
2	57.5		64.0				
3	53.5		68.2				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound	Average Value	Maximum sound	Average Value	Equivalent to sound level	Maximum sound level	

	level, LAeq		level, LAmax				
Point 2							
1	40.3	42.1	48.1	48.5	55	70	45/55
2	44.0		49.4				
3	42.1		47.9				
Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 3							
1	46.1	42.6	52.2	48.1	55	70	45/55
2	43.9		49.0				
3	37.7		43.3				
Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 4							
1	55.1	61.0	63.2	68.8	80		85
2	66.7		74.0				
3	61.3		69.4				
Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 5							
1	53.9	56.3	59.3	62.7	80		85
2	52.8		58.8				
3	62.3		70.2				

Table 13. Vibration level measurement points and measurement results recognized as baseline on the about 8.0 km of highway M1 Yerevan-Gyumri-Bavra, near Agarak community

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 1			
1	0.07	0.10	0.28
2	0.15		
3	0.08		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 2			
1	0.05	0.07	0.28
2	0.07		
3	0.10		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 3			
1	0.10	0.08	0.28
2	0.06		
3	0.09		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 4			
1	0.02	0.04	0.28
2	0.03		
3	0.06		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 5			
1	0.04	0.05	0.28
2	0.08		
3	0.03		

Summary of the measurements is following:

Dust:

1. Dust particles actual concentrations in the measuring point in different daytime periods did not exceed maximum permissible concentrations. As it is shown in the tables the baseline actual concentrations of dust particles exceed the daily average MPC's (both the national and IFC standards).

Noise:

2. As a result of noise level measurements conducted during the different daytime periods in the measuring point the equivalent and maximum sound levels were within the TLVs set by sanitary norms.
3. It is worth do mention, that sound level in Points 5 & 4 is mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned points are located just near the highway), so the sound levels are always high.

Vibration:

1. The results of vibration measurements are within the permissible levels set by sanitary norms.

The quality of surface ***water*** in the RoA is monitored in accordance with the principles of EU water framework directive. This system is defined by the RA Government Decree No 75-N (dated 27.01.2011) and applied since January 2013. The classification scheme that envisaged 5 classes for each parameter of surface water quality has been elaborated. These 5 classes are: excellent (class I), good (class II), average (class III), poor (class IV) and bad (class V) and vary depend on the intended purpose of surface water.

Table 14. Surface water quality classes depend on the water use purposes of Task 1

Purpose	Notes	Classes				
		Class I, excellent	Class II, good	Class III average	Class IV, poor	Class V, bad
National water reserve		√	√	√	√	√
Preservation of water flows/ streams		√	√	-	-	-
Eco-systems, fish breeding/ preservation	Salmons	√	√	-	-	-
	Carps	√	√	√	-	-
Irrigation		√	√	√	√	-
Industrial water usage		√	√	√	√	√

Purpose	Notes	Classes				
		Class I, excellent	Class II, good	Class III average	Class IV, poor	Class V, bad
Energy generation		√	√	√	√	√

The water sampling from the Shahverd River before the construction activities were performed by the Performer's measurement engineer on 07.07.2023. The chemical analysis of the sampled water was conducted by the laboratory of the Environmental Impact Monitoring Center. The obtained results were assessed and compared with water quality norms set by the RA Government Decree №75-N dated 27.01.2011. The water quality norms/parameters are defined for 14 surface water basins, including Kasagh river basin (Shahvar River). The quality parameters of Kasagh River basin are given in accordance with the RA Government Decree №75-N are summarized on Table 16.

Table 15. Kasagh River basin water quality parameters

Quality parameters	Category					Unit
	I	II	III	IV	V	
BOD	3	5	9	18	>18	mgO_2/l
COD	10	25	40	80	>80	$mgO/_L$
Mineralization	95,8	191,6	1000	1500* *for irrigation 1000	>1500	mg/l
Stiffness	1,07	10	20	40	<40	mg-eq/l
Specific Electrical Conduction (EC)	148,4	296,8	1000	1500* *for irrigation 1000	>1500	$\mu S/cm^2$
Total Suspended Solids (TSS)	8,1	9,8	16,3	32,6	>32,6	mg/l
Phosphat ion	0,060	0,1	0,2	0,4	>0,4	mg/l
Sulphate ion	15,3	30,6	150	250	> 250	mg/l
Chloride ion	3,5	7,0	150	200	> 200	mg/l
Nitrate ion	0,272	2,5	5,6	11,3	>11,3	mg/l
Nitrite ion	0,011	0,06	0,12	0,3	>0,3	mg/l
Ammonium ion	0,033	0,4	1,2	2,4	> 2,4	mg/l
Magnesium	3,3	50	100	200	>200	mg/l
Calcium	18,5	100	200	300	>300	mg/l

pH	not defined
Turbidity / transparency	not defined

Water quality measurement results and evaluation (recognized as baseline) of Task 1

The water sampling from the Shahverd River before the construction activities were performed by the Performer's measurement engineer on ***07.07.2023*** on the Points N6 and N7. The results of chemical analysis of water sampled from the Shahverd River presented on Table 17.

Table 16. The results of chemical analysis of water sampled from the Shahverd River

N	Measured indicator	Unit of measurement	Measured value		Standard method used
			Point 6	Point 7	
1	Total Suspended Solids (TSS)	mg/l	1.5	5.2	ISO 11923
2	Stiffness	mg/l	1.08	2.37	Computational
3	BOD_5	mgO_2/l	1.56	1.07	ISO 5815-1
4	COD	mgO/l	15	25	ISO 6060
5	Specific Electrical Conduction (EC)	mg/l	145	378	ISO 7888
6	Mineralization	mg/l	94	246	
7	Sulphate ion	mg/l	6.103	12.662	ISO 10304-1
8	Chloride ion	mg/l	5.455	24.90	
9	Nitrate ion	mg/l	0.771	1.288	
10	Phosphat ion	mg/l	0.154	0.432	ISO 6878
11	Nitrite ion	mg/l	0.0660	0.797	ISO 6777
12	Ammonium ion	mg/l	0.089	0.151	ISO 7150-1
13	Magnesium	mg/l	5.285	12.15	ISO 17294-2
14	Calcium	mg/l	12.75	27.19	

Conclusion:

The chemical analysis of the sampled water was conducted by the laboratory of the Environmental Impact Monitoring Center and the results were assessed and compared with water quality norms set by the RA Government Decree №75-N dated 27.01.2011. The category of Shahverd water quality is waving between II and III. In case of II category, the several indicators exceed the standard values given in the RA Government Decree №75-N in particularly:

- Phosphat ion (Points N6 and N7)
- Nitrite ion (Points N6 and N7)
- Mineralization (Point N7)
- Specific Electrical Conduction (EC) (Point N7)
- Chloride ion (Point N7)

In case of III category, only phosphat ion indicator exceed the standard values given in the RA Government Decree №75-N in Point N7. It is worth to mention, that construction activities will not have any influence on mentioned indicator, since no activities are conducted near the water source.

The following points were selected for periodic instrumental measurements conducted on **January 24, 2025**, at point **N5**:
The following machineries were operating near the measurement point during the measurements (Table 17):

Table 17. Type of machinery worked on site during measurements on Task 1

Point №	1st measurement	2nd measurement	3rd measurement
5	one truck, one excavator	-	one truck, one excavator

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
5	12:40	13:35	14:05

Table 18. Results of dust (PM2.5) measurements made on January 24, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m^3	Maximum permissible concentration, mg/m^3

						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
5	0.12	0.12	0.14	0.13	0.07	0.16	0.035	0.025

Table 19. Results of dust (PM10) measurements made on January 24, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m³					Maximum permissible concentration, mg/m³		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
5	0.20	0.20	0.23	0.21	0.08	0.3	0.06	0.05

Table 20. Results of noise measurements made on January 24, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	61.2	56.3	66.7	62.7	80		85
2	51.8		59.6				
3	62.4		68.1				

Table 21. Results of vibration measurements made on January 24, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

	Vibration levels and average values, m/sec^2	

Measurement №	Vibration levels, m/sec^2	Average value, m/sec^2	Baseline value, m/sec^2	TLV for corrected and equivalent corrected values
Point 5				
1	0.09	0.08	0.05	0.28
2	0.07			
3	0.09			

Conclusions:

- The monitoring results of dust show that maximum permissible concentrations remain within the limits established by national standards, with no exceedances recorded. However, daily average values have shown exceedances in relation to both national and IFC standards. In response, appropriate mitigation measures have been implemented, including an increased frequency of watering and adjustments to the operation schedule of heavy machinery at sensitive locations. Weather conditions, particularly strong winds recorded across different regions of Armenia, including near Agarak settlement, have also contributed to the dispersion and localized increase of dust concentrations. Taking these factors into account, the Contractor has duly applied the necessary mitigation measures, as noted above.
- As a result of noise level measurements conducted during different daytime periods in all points, the maximum sound levels mainly were within the TLVs set by sanitary norms. In comparison with previous measurements and baseline values, significant changes were not identified. It is also worth to mention, that sound levels in Point N5 are mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned point is located just near the highway), so the sound levels are often high.
- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **February 28, 2025**, at point **N5**:
The following machineries were operating near the measurement point during the measurements (Table 22):

Table 22. Type of machinery worked on site during measurements on Task 1

Point №	1st measurement	2nd measurement	3rd measurement
5	one truck, one excavator	-	one truck, one excavator

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
5	12:35	13:20	14:05

Table 23. Results of dust (PM2.5) measurements made on February 28, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
5	0.10	0.09	0.11	0.10	0.07	0.16	0.035	0.025

Table 24. Results of dust (PM10) measurements made on February 28, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
5	0.14	0.14	0.16	0.13	0.08	0.3	0.06	0.05

Table 25. Results of noise measurements made on February 28, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	

Point 5							
1	51.9	56.3	60.4	62.7	80		85
2	50.3		58.9				
3	54.6		61.1				

Table 26. Results of vibration measurements made on February 28, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec^2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec^2	Average value, m/sec^2	Baseline value, m/sec^2	
Point 5				
1	0.10	0.09	0.05	0.28
2	0.09			
3	0.08			

Conclusions:

- Dust monitoring results show that maximum permissible concentrations remain within national standards, with no exceedances recorded. However, daily averages exceeded both national and IFC standards. Mitigation measures, including more frequent watering and adjusted machinery operations, have been implemented. Strong winds, particularly near Agarak, also contributed to localized increases, which the Contractor has addressed accordingly.
- As a result of noise level measurements conducted during different daytime periods in all points, the maximum sound levels mainly were within the TLVs set by sanitary norms. In comparison with previous measurements and baseline values, significant changes were not identified. It is also worth to mention, that sound levels in Point N5 are mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned point is located just near the highway), so the sound levels are often high.
- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **March 25, 2025**, at points **N1** and **N5**.

The following machineries were operating near the measurement point during the measurements (Table 27):

Table 27. Type of machinery worked on site during measurements on Task 1

Point №	1st measurement	2nd measurement	3rd measurement
1	two trucks	-	two trucks
5	two trucks, two excavators	-	two trucks, two excavators

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
1	12:25	13:20	14:15
5	12:50	13:45	14:50

Table 28. Results of dust (PM2.5) measurements made on March 25, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m³					Maximum permissible concentration, mg/m³		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
1	0.10	0.08	0.08	0.09	0.09	0.16	0.035	0.025
5	0.10	0.10	0.11	0.10	0.07			

Table 29. Results of dust (PM10) measurements made on March 25, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m³	Maximum permissible concentration, mg/m³	
		National	IFC standard

	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
1	0.14	0.09	0.10	0.11	0.07	0.3	0.06	0.05
5	0.16	0.14	0.20	0.17	0.08			

Table 30. Results of noise measurements made on March 25, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 1							
1	55.7	55.0	64.3	64.4	55	70	45/55
2	51.6		60.1				
3	56.8		65.7				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	59.8	56.3	67.3	62.7	80		85
2	59.4		66.1				
3	61.2		68.6				

Table 31. Results of vibration measurements made on March 25, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec^2		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec^2	Baseline value, m/sec^2	
Point 1			

1	0.11	0.10	0.28
2	0.10		
3	0.12		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Baseline value, m/sec²	
Point 5			
1	0.10	0.05	0.28
2	0.08		
3	0.10		

Conclusions:

1. Dust particles actual concentrations in all points in different daytime periods did not exceed maximum permissible concentrations. As it is shown in the tables the baseline actual concentrations of dust particles exceed the daily average MPC's (both the national and IFC standards). In comparison with baseline vales and previous measurements, significant changes are not identified.
2. As a result of noise level measurements conducted during different daytime periods in all points, the maximum sound levels were within the TLVs set by sanitary norms. In comparison with previous measurements and baseline values, significant changes were not identified. It is also worth to mention, that sound levels in Point N5 are mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned point is located just near the highway), so the sound levels are often high.
3. The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **April 14, 2025**, at points **N3** and **N5**:
The following machineries were operating near the measurement point during the measurements (Table 32):

Table 32. Type of machinery worked on site during measurements on Task 1

Point №	1st measurement	2nd measurement	3rd measurement
3	two excavators, one truck	-	two excavators, one truck
5	two excavators	-	two excavators

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
3	12:30	13:25	14:20
5	12:55	13:50	14:55

Table 33. Results of dust (PM2.5) measurements made on April 14, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
3	0.06	0.05	0.05	0.05	0.05	0.16	0.035	0.025
5	0.08	0.08	0.10	0.09	0.07			

Table 34. Results of dust (PM10) measurements made on April 14, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
3	0.10	0.06	0.08	0.08	0.06	0.3	0.06	0.05
5	0.14	0.14	0.16	0.15	0.08			

Table 35. Results of noise measurements made on April 14, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards
	Equivalent to sound	Baseline Value	Maximum sound	Baseline Value	Equivalent to sound level	Maximum sound level	

	level, LAeq	(04.04.2023)	level, LAmax	(04.04.2023)			night/ day
Point 3							
1	44.7	42.6	53.2	48.1	55	70	45/55
2	43.4		51.8				
3	46.8		55.6				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	57.3	56.3	66.4	62.7	80		85
2	57.1		66.0				
3	58.4		67.1				

Table 36. Results of vibration measurements made on April 14, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 3				
1	0.07	0.07	0.08	0.28
2	0.07			
3	0.08			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 5				
1	0.08	0.08	0.05	0.28
2	0.08			
3	0.07			

Conclusions:

1. Dust particles actual concentrations in all points in different daytime periods did not exceed maximum permissible concentrations. As it is shown in the tables the baseline actual concentrations of dust particles exceed the daily average MPC's (both the national and IFC

standards). In comparison with baseline vales and previous measurements, significant changes are not identified.

2. As a result of noise level measurements conducted during different daytime periods in all points, the maximum sound levels were within the TLVs set by sanitary norms. In comparison with previous measurements and baseline values, significant changes were not identified. It is also worth to mention, that sound levels in Point N5 are mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned point is located just near the highway), so the sound levels are often high.
3. The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **May 22 2025**, at **points N4** and **N5**:
The following machineries were operating near the measurement point during the measurements (Table 37):

Table 37. Type of machinery worked on site during measurements on Task 1

Point №	1st measurement	2nd measurement	3rd measurement
4	one truck, one excavator	-	one truck, one excavator
5	one truck, one excavator	-	one truck, one excavator

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
4	12:30	13:25	14:20
5	12:55	13:50	14:55

Table 38. Results of dust (PM2.5) measurements made on May 22, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
4	0.07	0.05	0.06	0.06	0.05	0.16	0.035	0.025

5	0.10	0.08	0.10	0.09	0.08			

Table 39. Results of dust (PM10) measurements made on May 22, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
4	0.10	0.10	0.09	0.10	0.06	0.3	0.06	0.05
5	0.12	0.11	0.16	0.13	0.09			

Table 40. Results of noise measurements made on May 22, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	61.1	61.0	67.4	68.8	80		85
2	59.7		66.1				
3	62.4		68.6				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	58.4	56.3	66.4	62.7	80		85
2	57.1		64.8				

3	61.2		68.5				

Table 41. Results of vibration measurements made on May 22, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Baseline value, m/sec²	
Point 4			
1	0.09	0.04	0.28
2	0.09		
3	0.10		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Baseline value, m/sec²	
Point 5			
1	0.08	0.05	0.28
2	0.08		
3	0.12		

Conclusions:

1. Dust particles actual concentrations in all points in different daytime periods did not exceed maximum permissible concentrations. As it is shown in the tables the baseline actual concentrations of dust particles exceed the daily average MPC's (both the national and IFC standards). In comparison with baseline vales and previous measurements, significant changes are not identified.
2. As a result of noise level measurements conducted during different daytime periods in all points, the maximum sound levels were within the TLVs set by sanitary norms. In comparison with previous measurements and baseline values, significant changes were not identified. It is also worth to mention, that sound levels in Points N4 & N5 are mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned point is located just near the highway), so the sound levels are often high.
3. The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **June 13 2025**, at **points N4** and **N5**:
The following machineries were operating near the measurement point during the measurements (Table 42):

Table 42. Type of machinery worked on site during measurements on Task 1

Point №	1st measurement	2nd measurement	3rd measurement
4	two trucks	-	two trucks
5	one truck, one excavator	-	one truck, one excavator

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
4	12:25	13:20	14:15
5	12:50	13:45	14:45

Table 43. Results of dust (PM2.5) measurements made on June 13, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
4	0.08	0.06	0.06	0.07	0.05	0.16	0.035	0.025
5	0.12	0.08	0.10	0.10	0.08			

Table 44. Results of dust (PM10) measurements made on June 13, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (04.04.2023)	Maximum value	Daily average	Daily average
4	0.12	0.11	0.11	0.11	0.06	0.3	0.06	0.05
5	0.14	0.11	0.16	0.14	0.09			

Table 45. Results of noise measurements made on June 13, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	62.1	61.0	68.3	68.8	80		85
2	60.7		67.6				
3	62.4		68.6				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (04.04.2023)	Maximum sound level, LAmax	Baseline Value (04.04.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	61.1	56.3	68.8	62.7	80		85
2	57.5		64.2				
3	59.4		66.5				

Table 46. Results of vibration measurements made on June 13, 2025 compared with dust baseline measurements made on 04.04.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec^2		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec^2	Baseline value, m/sec^2	
Point 4			
1	0.08	0.04	0.28
2	0.08		
3	0.09		

Measurement №	Vibration levels and average values, m/sec^2	TLV for corrected and equivalent corrected values

	Vibration levels, m/sec^2	Baseline value, m/sec^2	
Point 5			
1	0.12	0.05	0.28
2	0.10		
3	0.10		

Conclusions:

1. Dust particles actual concentrations in all points in different daytime periods did not exceed maximum permissible concentrations. As it is shown in the tables the baseline actual concentrations of dust particles exceed the daily average MPC's (both the national and IFC standards). In comparison with baseline vales and previous measurements, significant changes are not identified.
2. As a result of noise level measurements conducted during different daytime periods in all points, the maximum sound levels were within the TLVs set by sanitary norms. In comparison with previous measurements and baseline values, significant changes were not identified. It is also worth to mention, that sound levels in Points N4 & N5 are mainly impacted by Yerevan-Gyumri highway intensive traffic (mentioned point is located just near the highway), so the sound levels are often high.
3. The results of vibration measurements are within the permissible levels set by sanitary norms.

Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For completion of construction of about 34.0 km of highway M1 Yerevan-Gyumri-Bavra (from KM 37+545 to KM 71+435) the instrumental measurements for baseline data collection on dust, noise & vibration is executed at the 10 locations. The measurement points were indicated based on the available documentation and sensitive receptor's locations. The baseline measurements, data collection and analysis were implemented by Consecoard LLC. The detailed methodology and equipment, as well as measurements points and their description are presented in SEMP.

The following points were selected for baseline and routine instrumental measurements:

1. Sampling point № 1 – 40°17'9.45"N, 44°13'3.27"E, located in close vicinity (10-15m) to residential buildings and about 120m from re-fuelling station.
2. Sampling point № 2 – 40°16'58.97"N, 44°11'45.43"E, located in the Ujan settlement territory, near to residential area and gardens (distance from nearest building – about 40m).
3. Sampling point № 3 – 40°17'2.56"N, 44°10'30.15"E, located near the Kosh's Big Khachkar and other small khachkar (distance - about 120m from Kosh's Big Khachkar and about 30m from small khachkar).

4. Sampling point № 4 – 40°17'16.18"N, 44° 9'50.54"E, located in the Kosh settlement territory, near to the Kosh cemetery and residential area (distance - about 50m from cemetery and about 80m from nearest residential building).
5. Sampling point № 5 - 40°17'39.09"N, 44° 8'43.26"E, located in the Kosh settlement territory, near to residential area (distance - about 55m nearest building).
6. Sampling point № 6 - 40°17'43.61"N, 44° 7'21.39"E, located near the residential area and gardens (distance – about 70m from nearest building).
7. Sampling point № 7 - 40°17'49.97"N, 44° 5'57.53"E, located in the settlement territory, near to the cemetery and residential area (distance - about 90m from cemetery and about 220m from nearest residential building).
8. Sampling point № 8 - 40°18'20.92"N, 44° 4'32.80"E, located in construction works camp area.
9. Sampling point № 9 - 40°21'8.16"N, 43°57'21.12"E, located in the Davtashen settlement territory (distance – about 180m from nearest building and about 80m from small khachkar).
10. Sampling point № 10 - 40°23'38.26"N, 43°53'42.35"E, located in the Talin settlement territory (distance – about 60m from nearest residential building and about 220m from gas re-fuelling station).

Map 2. Points for the instrumental measurements on Task 2 (Part I)

Map 3. Points for the instrumental measurements on Task 2 (Part II)

Map 4. Points for the instrumental measurements on Task 2 (Part III)

Map 5. Points for the instrumental measurements on Task 2 (Part IV)

Map 6. Points for the instrumental measurements on Task 2 (Part V)

Measurements categories are presented on Tables 47, 48, 49.

Table 47. Dust measurement categories of Task 2

№	Name of substance	Maximum Permissible Concentration (mg/m³)		
		National Max	National Daily average	WHO/IFC 24 hour
1	PM2.5	0.16	0.035	0.025
2	PM10	0.3	0.06	0.05

Table 48. Noise level measurement categories of Task 2

		Threshold limit values (TLV), dBA		
		National		WHO
		Equivalent to sound level	Maximum sound level	One hour equivalent to soud level
1	Workplace	80		85
2	Areas near the hotels and dormitories	60	75	
3	Territories adjacent to residential buildings, clinics, ambulatories, rest houses, care homes, disabled persons homes, libraries, kinder gardens, schools and other educational facilities	55	70	45/55

Table 49. Vibration level measurement categories of Task 2

№	Whole-body vibration	TLV for corrected and equivalent corrected values	
		m/sec²	dB
1	Transport-technological (2nd category)	0.28	109
2	Technological (3rd category a)	0.1	100
3	Technological (3rd category b)	0.04	92
4	Technological (3rd category g)	0.014	83
5	Residential buildings, clinics, rest houses	0.004	72

As all the points are located close or not far from residential areas, results in the tables below are compared to the national and international standards for residential areas (for example 55/70 for noise). The details are presented below:

Table 50. Geographical location of measurements points of Task 2

Point	GPS coordinates	Sensitive receptors	Device location from the nearestsensitive receptor, m
N1	40°17'9.45"N 44°13'3.27"E	Residential area and re-fuelling station (Ujan settlement)	In close vicinity (10-15m) to residential buildings and about 120m from re-fuelling station
N2	40°16'58.97"N 44°11'45.43"E	Residential area and gardens (Ujansettlement)	About 40m from nearest building
N3	40°17'2.56"N 44°10'30.15"E	Kosh's Big Khachkar and other small khachkar	About 120m from Kosh's Big Khachkar and about 30m from small khachkar
N4	40°17'16.18"N 44° 9'50.54"E	Kosh Cemetery and residential area (Kosh settlement)	About 50m from cemetery and about 80m from nearest residential building
N5	40°17'39.09"N 44° 8'43.26"E	Residential area (Kosh settlement)	About 55m from nearest building
N6	40°17'43.61"N 44° 7'21.39"E	Residential area and gardens	About 70m from nearest building
N7	40°17'49.97"N 44° 5'57.53"E	Cemetery and residential area	About 90m from cemetery and 220m from nearest building
N8	40°18'20.92"N 44° 4'32.80"E	In construction works camp area	In construction works camp area
N9	40°21'8.16"N 43°57'21.12"E	Residential area (Davtashen settlement) and small khachkar	About 170m from nearest building and about 80m from small khachkar
N10	40°23'38.26"N 43°53'42.35"E	Residential area (Talin settlement)and gas re-fuelling station	About 220m from gas re-fuelling station and 60m from nearest building

The results of baseline survey for dust, noise and vibration conducted on **25 of November 2023** are presented below:

Table 51. Dust (PM 2,5) measurement points and measurement results recognized as baseline on the completion of construction of about 34.0 km of highway M1 Yerevan-Gyumri-Bavra (from KM 37+545 to KM 71+435)

Point №	PM2.5 dust actual concentration, mg/m^3				Maximum permissible concentration, mg/m^3		
					National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Maximum value	Daily average	Daily average
1	0.016	0.016	0.018	0.017	0.16	0.035	0.025
2	0.020	0.018	0.018	0.019			
3	0.035	0.032	0.034	0.034			
4	0.034	0.032	0.032	0.033			
5	0.030	0.028	0.032	0.030			
6	0.034	0.030	0.030	0.031			
7	0.018	0.016	0.018	0.017			
8	0.014	0.012	0.012	0.016			
9	0.010	0.008	0.012	0.010			
10	0.012	0.010	0.010	0.011			

Table 52. Dust (PM 10) measurement points and measurement results recognized as baseline on the completion of construction of about 34.0 km of highway M1 Yerevan-Gyumri-Bavra (from KM 37+545 to KM 71+435)

Point №	PM10 dust actual concentration, mg/m^3				Maximum permissible concentration, mg/m^3		
					National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Maximum value	Daily average	Daily average
1	0.032	0.026	0.028	0.029			
2	0.034	0.032	0.032	0.033			

3	0.064	0.058	0.060	0.061	0.3	0.06	0.05
4	0.060	0.058	0.058	0.059			
5	0.050	0.048	0.052	0.050			
6	0.056	0.052	0.052	0.053			
7	0.032	0.030	0.026	0.030			
8	0.020	0.014	0.016	0.017			
9	0.014	0.010	0.014	0.013			
10	0.018	0.010	0.016	0.015			

Table 53. Noise level measurement points and measurement results recognized as baseline on the completion of construction of about 34.0 km of highway M1 Yerevan-Gyumri-Bavra (from KM 37+545 to KM 71+435)

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 1							
1	54.3	56.0	60.9	62.1	55	70	45/55
2	58.4		63.9				
3	55.2		61.5				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 2							
1	61.4	64.4	67.6	73.9	55	70	45/55
2	63.2		73.0				
3	68.7		81.1				

	Sound levels, dBA	Threshold limit values, dBA	
		National	

Measurement №	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	IFC standards night/ day
Point 3							
1	62.4	62.1	71.2	70.9	55	70	45/55
2	59.7		68.4				
3	64.3		73.0				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 4							
1	61.2	60.1	68.7	67.3	55	70	45/55
2	59.8		67.0				
3	59.4		66.1				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 5							
1	62.4	62.4	69.8	69.8	55	70	45/55
2	60.7		68.2				
3	64.1		71.3				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 6							
1	57.8	57.6	66.3	66.1	55	70	45/55
2	54.2		62.8				
3	60.8		69.2				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 7							
1	44.7	43.8	56.2	55.8	55	70	45/55
2	41.2		54.1				
3	45.6		57.0				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 8							
1	55.8	53.9	66.4	64.4	55	70	45/55
2	51.2		62.7				
3	54.7		64.1				

	Sound levels, dBA	Threshold limit values, dBA	
		National	

Measurement №	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	IFC standards night/ day
Point 9							
1	59.8	60.1	67.4	67.8	55	70	45/55
2	58.3		66.2				
3	62.1		69.8				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Average Value	Maximum sound level, LAmax	Average Value	Equivalent to sound level	Maximum sound level	
Point 10							
1	59.8	59.3	68.5	68.7	55	70	45/55
2	57.3		66.7				
3	60.8		70.9				

Table 54. Vibration level measurement points and measurement results recognized as baseline on the completion of construction of about 34.0 km of highway M1 Yerevan-Gyumri-Bavra (from KM 37+545 to KM 71+435)

Measurement №	Vibration levels and average values, m/sec^2		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec^2	Average value, m/sec^2	
Point 1			
1	0.07	0.08	0.28
2	0.10		
3	0.06		

Measurement №	Vibration levels and average values, m/sec^2	TLV for corrected and equivalent corrected values

	Vibration levels, m/sec²	Average value, m/sec²	
Point 2			
1	0.10	0.09	0.28
2	0.07		
3	0.11		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 3			
1	0.08	0.09	0.28
2	0.08		
3	0.10		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 4			
1	0.12	0.12	0.28
2	0.10		
3	0.13		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent correctedvalues
	Vibration levels, m/sec²	Average value, m/sec²	
Point 5			
1	0.10	0.10	0.28
2	0.07		
3	0.12		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 6			
1	0.12	0.11	0.28
2	0.10		
3	0.10		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 7			
1	0.10	0.09	0.28
2	0.08		
3	0.10		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 8			
1	0.12	0.11	0.28
2	0.10		
3	0.12		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 9			
1	0.14	0.12	0.28
2	0.10		

3	0.13		

Measurement №	Vibration levels and average values, m/sec²		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec²	Average value, m/sec²	
Point 10			
1	0.10	0.09	0.28
2	0.08		
3	0.10		

Summary of the measurements is following:

Dust:

1. Dust particles actual concentrations in the measuring points in different daytime periods did not exceed maximum permissible concentrations. As it is shown in the tables the baseline actual concentrations of dust particles (PM 2,5 and PM10) are close to or exceed the daily average MPC's (both the national and IFC standards) in Points from N3 to N6. It is worth to mention, that all MP's are located close to operating M1 highway (except Point N7) and are highly impacted by road traffic. In other Points (N1, N2 and from N7 to N10) the dust particles actual concentrations did not exceed daily average MPC's.

Noise:

2. The Equivalent to sound level are close to or exceed TVL in all measurement points (except of N7 and N8). The Maximum sound level are exceeding or close to TVL only in Points N2 and N3.

3. It is worth to mention, that sound levels in all MP's are mainly impacted by Yerevan- Gyumri-Bavra M1 highway intensive traffic, so the sound levels are always high.

Vibration:

The results of vibration measurements are within the permissible levels set by sanitary norms.

The quality of surface ***water*** in the RoA is monitored in accordance with the principles of EU water framework directive. This system is defined by the RA Government Decree No 75-N (dated 27.01.2011) and applied since January 2013. The classification scheme that envisaged 5 classes for each parameter of surface water quality has been elaborated. These 5 classes are: excellent (class I),

good (class II), average (class III), poor (class IV) and bad (class V) and vary depend on the intended purpose of surface water.

Table 55. Surface water quality classes depend on the water use purposes

Purpose	Notes	Classes				
		Class I, excellent	Class II, good	Class III average	Class IV, poor	Class V,bad
National water reserve		√	√	√	√	√
Preservation of water flows/streams		√	√	-	-	-
Eco-systems, fish breeding/preservation	Salmons	√	√	-	-	-
	Carps	√	√	√	-	-
Irrigation		√	√	√	√	-
Industrial water usage		√	√	√	√	√
Energy generation		√	√	√	√	√

Based on the available documentation and implemented site surveys, there are no affected water resources in the immediate vicinity of the Project implementation territory. Taking into account before-mentioned, the water quality monitoring will not be implemented. The only water resource near the Project implementation territory is reservoir near Talin settlement, which is located about 140m far from Project territory. The samplers will be taken from mentioned reservoir, if needed (based on recommendations from Engineer).

The following points were selected for periodic instrumental measurements conducted on **January 24, 2025**, at points **N1**, **N4** and **N8**:

The following machineries were operating near the measurement point during the measurements (Table 56):

Table 56. Type of machinery worked on site during measurements on Task 2

Point №	1st measurement	2nd measurement	3rd measurement
1	one excavator	-	one excavator
4	one crane, one excavator	-	one crane, one excavator
8	-	-	-

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
1	11:45	13:10	14:40
4	12:25	13:35	15:10
8	12:50	14:05	15:45

Table 57. Results of dust (PM2.5) measurements made on January 24, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m³					Maximum permissible concentration, mg/m³		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
1	0.044	0.040	0.050	0.045	0.017	0.16	0.035	0.025
4	0.050	0.050	0.052	0.051	0.033			
8	0.050	0.046	0.050	0.049	0.016			

Table 58. Results of dust (PM10) measurements made on January 24, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m³					Maximum permissible concentration, mg/m³		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
1	0.078	0.080	0.084	0.081	0.029	0.3	0.06	0.05
4	0.085	0.080	0.090	0.085	0.059			
8	0.086	0.078	0.091	0.085	0.017			

Table 59. Results of noise measurements made on January 24, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

	Sound levels, dBA	Threshold limit values, dBA

Measurement №					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 1							
1	47.4	56.0	56.3	62.1	55	70	45/55
2	41.8		49.4				
3	48.6		56.9				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	58.9	60.1	66.4	67.3	55	70	45/55
2	56.7		64.1				
3	60.1		67.8				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 8							
1	50.1	53.9	58.1	64.4	55	70	45/55
2	46.7		54.6				
3	48.5		53.7				

Table 60. Results of vibration measurements made on January 24, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec2		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Baseline value, m/sec2	
Point 1			
1	0.10	0.08	0.28

2	0.10		
3	0.10		

Measurement №	Vibration levels and average values, m/sec2		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Baseline value, m/sec2	
Point 4			
1	0.10	0.12	0.28
2	0.10		
3	0.09		

Measurement №	Vibration levels and average values, m/sec2		TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Baseline value, m/sec2	
Point 8			
1	0.09	0.11	0.28
2	0.10		
3	0.09		

Conclusions:

- As it is shown in the tables, dust particles actual concentrations in the measuring points in different daytime periods exceed the daily average MPC's (both the national and IFC standards). As it is shown in the tables, the dust particles actual concentrations in all points in different daytime periods are significantly high, which is probably caused by construction activities. Taking into account the above-mentioned, the Contractor was instructed to organize the construction activities (heavy vehicle activities, transportations, etc.) in a strict manner in order to reduce the possible dust emissions as much as possible. In comparison with previous measurements, changes are not identified.
- As a result of noise level measurements conducted during the different daytime periods in the measuring points, the noise equivalent levels do not exceed the TLV's in points N1 and N8 (in point N4 the noise equivalent levels exceed the equivalent TLV's, because the mentioned point is located just near the M1 highway). The maximum sound levels in all points are within the permissible levels set by sanitary norms. In comparison with baseline values significant changes are not identified.
- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **February 28, 2025**, at points **N4, N5** and **N8**.

The following machineries were operating near the measurement point during the measurements

(Table 61):

Table 61. Type of machinery worked on site during measurements on Task 2

Point №	1st measurement	2nd measurement	3rd measurement
4	one excavator, one crane	-	one excavator, one crane
5	one crane, one excavator, two trucks	-	one crane, one excavator, two trucks
8	-	-	-

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
4	11:45	13:10	14:40
5	12:25	13:35	15:10
8	12:50	14:05	15:45

Table 62. Results of dust (PM2.5) measurements made on February 28, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
4	0.032	0.030	0.030	0.031	0.033	0.16	0.035	0.025
5	0.026	0.026	0.026	0.026	0.030			
8	0.028	0.026	0.025	0.026	0.016			

Table 63. Results of dust (PM10) measurements made on February 28, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point	PM10 dust actual concentration, mg/m^3	Maximum permissible concentration, mg/m^3	
		National	IFC standa

№								rd
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily averag e
4	0.052	0.050	0.054	0.052	0.059	0.3	0.06	0.05
5	0.046	0.046	0.044	0.045	0.050			
8	0.044	0.042	0.042	0.042	0.017			

Table 64. Results of noise measurements made on February 28, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	54.4	60.1	66.2	67.3	55	70	45/55
2	57.0		65.8				
3	59.6		67.1				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	60.6	62.4	67.4	69.8	55	70	45/55
2	60.1		66.9				
3	59.4		66.1				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 8							

1	45.0	53.9	53.9	64.4	55	70	45/55
2	44.3		53.3				
3	46.4		55.1				

Table 65. Results of vibration measurements made on February 28, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 4				
1	0.10	0.10	0.12	0.28
2	0.10			
3	0.10			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 5				
1	0.08	0.08	0.10	0.28
2	0.07			
3	0.10			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 8				
1	0.08	0.08	0.11	0.28
2	0.07			
3	0.08			

Conclusions:

- As it is shown in the tables, dust particles actual concentrations in the measuring points in different daytime periods exceed the daily average MPC's (both the national and IFC standards). As it is shown in the tables, the dust particles actual concentrations in all points in different daytime periods are decreased in comparison with previous measurements. In comparison with baseline values, significant changes are not identified.
- As a result of noise level measurements conducted during the different daytime periods in the measuring points, the noise equivalent levels do not exceed the TLV's in point N8 (in points N4 and N5 the noise equivalent levels exceed the equivalent TLV's, because the mentioned points are located just near the M1 highway). The maximum sound levels in all

points are within the permissible levels set by sanitary norms. In comparison with baseline values significant changes are not identified.

- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **March 25, 2025**, at points **N1, N3, N4** and **N8**.

The following machineries were operating near the measurement point during the measurements (Table 66):

66. Type of machinery worked on site during measurements on Task 2

Point №	1st measurement	2nd measurement	3rd measurement
1	two trucks, one excavator	-	two trucks, one excavator
3	one excavator, on truck	-	one excavator, on truck
4	three trucks, two graders, two excavators	-	three trucks, two graders, two excavators
8	-	-	-

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
1	11:25	13:10	14:30
3	11:55	13:25	14:55
4	12:25	13:40	15:20
8	12:50	14:05	15:55

Table 67. Results of dust (PM2.5) measurements made on March 25, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
1	0.016	0.014	0.018	0.016	0.017			

3	0.008	0.008	0.010	0.009	0.034	0.16	0.035	0.025
4	0.008	0.006	0.008	0.007	0.033			
8	0.006	0.004	0.005	0.005	0.016			

Table 68. Results of dust (PM10) measurements made on March 25, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m^3					Maximum permissible concentration, mg/m^3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
1	0.032	0.030	0.032	0.031	0.029	0.3	0.06	0.05
3	0.014	0.014	0.016	0.015	0.061			
4	0.018	0.016	0.016	0.017	0.059			
8	0.008	0.008	0.010	0.009	0.017			

Table 69. Results of noise measurements made on March 25, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standard s night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 1							
1	53.8	56.0	61.2	62.1	55	70	45/55
2	53.4		61.0				
3	55.8		63.4				

	Sound levels, dBA	Threshold limit values, dBA	
		National	IFC

Measurement №	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	standard s night/ day
Point 3							
1	59.4	62.1	66.8	70.9	55	70	45/55
2	57.8		65.1				
3	60.2		67.7				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standard s night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	60.1	60.1	67.8	67.3	55	70	45/55
2	58.4		65.1				
3	61.3		68.4				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standard s night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 8							
1	46.0	53.9	54.7	64.4	55	70	45/55
2	45.4		54.1				
3	46.4		55.3				

Table 70. Results of vibration measurements made on March 25, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 1				
1	0.11	0.11	0.08	0.28

2	0.09			
3	0.12			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 3				
1	0.12	0.12	0.09	0.28
2	0.12			
3	0.11			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 4				
1	0.10	0.10	0.12	0.28
2	0.09			
3	0.12			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 8				
1	0.09	0.09	0.11	0.28
2	0.07			
3	0.10			

Conclusions:

- As it is shown in the tables, dust particles actual concentrations in the measuring points in different daytime periods did not exceed the daily average MPC's (both the national and IFC standards). As it is shown in the tables, the dust particles actual concentrations in all

points in different daytime periods are decreased in comparison with previous measurements. In comparison with baseline values, significant changes are not identified.

- As a result of noise level measurements conducted during the different daytime periods in the measuring points, the noise equivalent levels do not exceed the TLV's in points N8 & N1 (in points N3 and N4 the noise equivalent levels exceed the equivalent TLV's, because the mentioned points are located just near the M1 highway). The maximum sound levels in all points are within the permissible levels set by sanitary norms. In comparison with baseline values significant changes are not identified.
- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **April 22, 2025**, at points **N4, N5** and **N8**.

The following machineries were operating near the measurement point during the measurements (Table 71):

Table 71. Type of machinery worked on site during measurements on Task 2

Point №	1st measurement	2nd measurement	3rd measurement
4	one excavator, three trucks	-	one excavator, three trucks
5	two trucks, two excavators	-	two trucks, two excavators
8	-	-	-

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
4	11:55	13:25	14:55
5	12:25	13:40	15:20
8	12:50	14:05	15:55

Table 72. Results of dust (PM2.5) measurements made on April 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average

4	0.006	0.004	0.006	0.005	0.033	0.16	0.035	0.025
5	0.008	0.006	0.008	0.007	0.030			
8	0.004	0.004	0.005	0.004	0.016			

Table 73. Results of dust (PM10) measurements made on April 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
4	0.012	0.010	0.010	0.011	0.059	0.3	0.06	0.05
5	0.016	0.016	0.015	0.016	0.050			
8	0.007	0.007	0.08	0.007	0.017			

Table 74. Results of noise measurements made on April 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	59.8	60.1	67.2	67.3	55	70	45/55
2	58.4		66.3				
3	61.2		69.6				

	Sound levels, dBA	Threshold limit values, dBA	
		National	IFC

Measurement №	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	standard s night/ day
Point 5							
1	58.6	62.4	66.1	69.8	55	70	45/55
2	57.2		64.8				
3	60.4		67.8				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standard s night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 8							
1	47.8	53.9	56.7	64.4	55	70	45/55
2	45.6		54.8				
3	48.4		57.2				

Table 75. Results of vibration measurements made on April 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 4				
1	0.10	0.10	0.12	0.28
2	0.10			
3	0.11			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 5				

1	0.11	0.11	0.10	0.28
2	0.10			
3	0.12			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 8				
1	0.12	0.10	0.11	0.28
2	0.08			
3	0.10			

Conclusions:

- As it is shown in the tables, dust particles actual concentrations in the measuring points in different daytime periods did not exceed the daily average MPC's (both the national and IFC standards). As it is shown in the tables, the dust particles actual concentrations in all points in different daytime periods are decreased in comparison with previous measurements. In comparison with baseline values, significant changes are not identified.
- As a result of noise level measurements conducted during the different daytime periods in the measuring points, the noise equivalent levels do not exceed the TLV's in point N8 (in points N3 and N4 the noise equivalent levels exceed the equivalent TLV's, because the mentioned points are located just near the M1 highway). The maximum sound levels in all points are within the permissible levels set by sanitary norms. In comparison with baseline values significant changes are not identified.
- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **May 22, 2025**, at points **N5** and **N8**.

The following machineries were operating near the measurement point during the measurements (Table 76):

Table 76. Type of machinery worked on site during measurements on Task 2

Point №	1st measurement	2nd measurement	3rd measurement
5	one truck, two excavators	-	one truck, two excavators
8	-	-	-

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
5	12:25	13:25	14:25
8	12:55	13:40	14:50

Table 77. Results of dust (PM2.5) measurements made on May 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
5	0.008	0.007	0.008	0.008	0.030	0.16	0.035	0.025
8	0.008	0.008	0.010	0.009	0.016			

Table 78. Results of dust (PM10) measurements made on May 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
5	0.014	0.012	0.015	0.014	0.050	0.3	0.06	0.05
8	0.009	0.007	0.010	0.009	0.017			

Table 79. Results of noise measurements made on May 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	56.2	62.4	63.4	69.8	55	70	45/55
2	54.1		61.6				
3	57.8		65.0				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 8							
1	50.3	53.9	55.7	64.4	55	70	45/55
2	48.9		54.6				
3	51.2		57.2				

Table 80. Results of vibration measurements made on May 22, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 5				
1	0.11	0.10	0.10	0.28
2	0.10			
3	0.10			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 8				
1	0.10	0.10	0.11	0.28
2	0.11			
3	0.09			

Conclusions:

- As it is shown in the tables, dust particles actual concentrations in the measuring points in different daytime periods did not exceed the daily average MPC's (both the national and IFC standards). As it is shown in the tables, the dust particles actual concentrations in all points in different daytime periods are decreased in comparison with previous measurements. In comparison with baseline values, significant changes are not identified.
- As a result of noise level measurements conducted during the different daytime periods in the measuring points, the noise equivalent levels do not exceed the TLV's in point N8 (in point N5 the noise equivalent levels exceed the equivalent TLV's, because the mentioned points are located just near the M1 highway). The maximum sound levels in all points are within the permissible levels set by sanitary norms. In comparison with baseline values significant changes are not identified.
- The results of vibration measurements are within the permissible levels set by sanitary norms.

The following points were selected for periodic instrumental measurements conducted on **June 13, 2025**, at points **N4**, **N5** and **N8**.

The following machineries were operating near the measurement point during the measurements (Table 81):

Table 81. Type of machinery worked on site during measurements on Task 2

Point №	1st measurement	2nd measurement	3rd measurement
4	one truck, two excavators	-	one truck, two excavators
5	one truck, two excavators, one grader	-	one truck, two excavators, one grader
8	-	-	-

Measurement Results and Evaluation

The time table of measurements presented below:

Point №	1st measurement	2nd measurement	3rd measurement
4	11:45	13:20	14:35
5	12:20	13:40	15:00
8	12:55	14:05	15:35

Table 82. Results of dust (PM2.5) measurements made on June 13, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM2.5 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
4	0.006	0.006	0.008	0.007	0.033	0.16	0.035	0.025
5	0.006	0.005	0.006	0.006	0.030			
8	0.007	0.007	0.008	0.007	0.016			

Table 83. Results of dust (PM10) measurements made on June 13, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

Point №	PM10 dust actual concentration, mg/m3					Maximum permissible concentration, mg/m3		
						National		IFC standard
	1st measurement	2nd measurement	3rd measurement	Average value	Baseline Value (25.11.2023)	Maximum value	Daily average	Daily average
4	0.010	0.012	0.012	0.011	0.059	0.3	0.06	0.05
5	0.010	0.008	0.010	0.009	0.050			
8	0.007	0.007	0.008	0.007	0.017			

Table 84. Results of noise measurements made on Jume 13, 2025 compared with dust baseline measurements made on 25.11.2023 and Maximum permissible concentration

		Threshold limit values, dBA

Measurement №	Sound levels, dBA				National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 4							
1	57.5	60.1	65.1	67.3	55	70	45/55
2	57.4		65.4				
3	59.2		67.6				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 5							
1	61.2	62.4	67.0	69.8	55	70	45/55
2	58.6		65.4				
3	60.7		66.8				

Measurement №	Sound levels, dBA				Threshold limit values, dBA		
					National		IFC standards night/ day
	Equivalent to sound level, LAeq	Baseline Value (25.11.2023)	Maximum sound level, LAmax	Baseline Value (25.11.2023)	Equivalent to sound level	Maximum sound level	
Point 8							
1	46.9	53.9	52.1	64.4	55	70	45/55
2	46.1		51.7				
3	48.7		54.5				

Table 85. Results of vibration measurements made on June 13, 2025 compared with vibration baseline measurements made on 25.11.2023 and Maximum permissible concentration

	Vibration levels and average values, m/sec2	

Measurement №	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	TLV for corrected and equivalent corrected values
Point 4				
1	0.09	0.09	0.12	0.28
2	0.08			
3	0.10			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 5				
1	0.12	0.11	0.10	0.28
2	0.10			
3	0.12			

Measurement №	Vibration levels and average values, m/sec2			TLV for corrected and equivalent corrected values
	Vibration levels, m/sec2	Average value, m/sec2	Baseline value, m/sec2	
Point 8				
1	0.10	0.10	0.11	0.28
2	0.10			
3	0.11			

Conclusions:

- As it is shown in the tables, dust particles actual concentrations in the measuring points in different daytime periods did not exceed the daily average MPC's (both the national and IFC standards). As it is shown in the tables, the dust particles actual concentrations in all points in different daytime periods are decreased in comparison with previous measurements. In comparison with baseline values, significant changes are not identified.
- As a result of noise level measurements conducted during the different daytime periods in the measuring points, the noise equivalent levels do not exceed the TLV's in point N8 (in points N4 & N5 the noise equivalent levels exceed the equivalent TLV's, because the mentioned points are located just near the M1 highway). The maximum sound levels in all

points are within the permissible levels set by sanitary norms. In comparison with baseline values significant changes are not identified.

- The results of vibration measurements are within the permissible levels set by sanitary norms.

3.2 Topsoil Management

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

For Task 1, during the reporting period, no topsoil was generated.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, during the reporting period topsoil not generated.

3.3 Waste Management

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

For Task 1, approximately 19,933 m³ of non-hazardous materials unsuitable for construction were generated during the reporting period and transported to approved dump sites. Since the project's commencement, a total of 248,580 m³ of such materials have been properly disposed of at approved locations.

Throughout the Project's implementation, the Contractor has used nine dumping sites: Agarak 2 (under contract with the Talin community) and Agarak 4, Agarak 5, Agarak 6, Agarak 7, Agarak 8, Agarak 9, Agarak 10, and Agarak 11 (all under contracts with private owners). As of June 30, only two sites—Agarak 8 and Agarak 10—are still in use; the remaining seven have been handed over.

During the reporting period, no hazardous asphalt waste was generated.

Solid/domestic waste (garbage) was collected in bins installed at construction site near construction camp, Ashtarak community communal service transferring garbage from the construction camp on a weekly basis.

The bio toilet was installed at the construction site, as well as the Contract agreement was signed with "Payl Service" LLC to ensure the sanitary and epidemiological conditions of bio toilets. The Contract agreement is presented.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, during the reporting period, no significant quantity of non-hazardous materials unsuitable for construction was generated. Additionally, no hazardous waste was produced. Since commencement, a total of 79,931.4 m³ of materials unsuitable for construction has been generated. Currently, the Contractor occupies seven dumping sites: Talin 1 and Talin 2 (under contract with the Talin community), Shamiram 1 (Shamiram community), Kosh 1 and Kosh 2 (Ashtarak community), Kosh 3 (Anania Khachatryan), and Kosh 4 (Arakel Haroyan). The signings for dumping sites were installed.
Solid/domestic waste (garbage) was collected in bins installed at construction site area and Talin community communal service transferring garbage from the construction camp on a weekly basis.

3.4 Tree Cutting/Planting Process

1. *Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)*

For Task 1, the updated TMP was submitted to the Engineer for review on November 7, 2024, and officially approved on November 11, 2024. No trees or shrubs were cut or removed during the reporting period. Planting activities were carried out in November 2024. The Employer received a proposal from an NGO to donate 200–300 oak trees for the project. A separate discussion will be initiated to assess the integration of this activity into the Contractor's current scope of work, including the associated additional costs. Subject to necessary contract amendments, the TMP will be updated to reflect the proposed tree planting. This will involve identifying planting locations and obtaining consent from relevant community representatives. The planting is tentatively scheduled for Autumn 2025, most likely in October.

2. *Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)*

For Task 2, it is worth mentioning that no tree cutting activities are planned during the implementation of the Project. In previous years, all tree cutting activities were carried out by the previous Contractor. Additionally, tree planting activities will be performed if the Contractor removes trees that have not been compensated by LARP during Project implementation.

3.5 Health and Safety

3.5.1 Community Health and Safety

No complaints regarding community health and safety were received for both **Task 1** and **Task 2** during the reporting period.

3.5.2 Public Consultations and Communication

1. *Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)*

For Taks 1, pre-construction public awareness meeting was organized and conducted on 04 April, 2023 at Agarak, Aghdzk and Ujan villages. During the meetings the upcoming road construction works, environmental concerns and proposed mitigation measures was made available to the public, the relevant authorities and other interested parties.
Constant communication with members of the Ashtarak enlarged community, stakeholders and the general public will be maintained via GRM in accordance with EIA/EMP. Impacted population will be informed on any inconveniences like interruptions in water supply, electricity, etc. beforehand via boards and posters.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, pre-construction public awareness meetings were held on November 20, 22, and 23 at affected settlements of Ashtarak, Shamiram, and Talin communities. Specialists presented the general characteristics of the Project, construction dates, possible inconveniences, environmental risks, mitigation measures, GRM). The application form for complaints and suggestions was provided to settlement representatives in both Armenian and English languages. Additionally, periodic non-formal interviews are being conducted with local people and APs living along the road to analyse their main issues and concerns regarding the construction process.

3.5.3 Worker Safety and Health

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

Throughout the reporting period for Task 1, a number of significant actions were undertaken to ensure safety and adherence to regulations at the construction site:

- Safety inductions and training on working at elevated heights were provided to workers by the Contractor's Safety Representative.
- Damaged road signs were repaired, missing ones were replaced, and all road signs were double-checked and arranged properly.
- Water trucks operated throughout the day to spray the construction site and highway, controlling dust and mud.

- Metal light reflectors were cleaned from dust.
- Gravel layers were placed at all public road entrances.
- Workers were provided with personal protective equipment (reflective safety jackets, helmets, and gloves).
- Medical check-ups were conducted for all workers.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

During reporting period, the following activities were implemented:

- All road signs were double-checked and placed in order.
- Warning signs were placed between monuments and construction areas, as the road construction is in a dense archaeological monument-bearing area. High vigilance is required to prevent damage to archaeological objects.
- Employees were provided with personal protective equipment, including reflective safety jackets, helmets, and gloves.
- Materials stored at the construction camp were covered to ensure protection from environmental conditions.
- Medical check-ups were conducted for all workers.

3.6 Training

Both for ***Task 1*** and ***Task 2***, individual discussions with staff members on SEMP/EMP, ERP, and job-specific EHS were conducted periodically. Medical check-ups and instructions were provided to workers during the reporting period.

For ***Task 1***, a training session was organized at the Contractor's camp on March 26, 2025. For ***Task 2***, a similar training session was held on March 28, 2025. Both sessions covered working in cold weather conditions, emergency medical care for snake or scorpion bites, and detailed information on archaeological investigations and the Chance Find Procedure.

4 FUNCTIONING OF THE SEMP

4.1 SEMP Review

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

For Task 1, CEMP was approved on April 24, 2023 with the condition that Annex 3: Tree Management Plan be updated.
The TMP was updated and approved on November 11, 2024.
The status of EMPs is presented below:

EMP document	Status	Engineer's approval letter, date and number
CEMP/Contractor's SEMP	Approved Conditionally	ROQE00301/23/50 ,24 April 2023 ROQE00301/23/55, 1 May 2023
TMP (Tree management plan)	Approved	ROQE00301/23/50, 24 April 2023 ROQE00301/23/55, 1 May 2023 ROQE00301/24/546, 11 Nov 2024
SEMP for "Agarak-1" topsoil stockpile site	Approved	ROQE00301/23/50, 24 April 2023 ROQE00301/23/55, 1 May 2023
SEMP for "Agarak-3" topsoil stockpile site	Approved	ROQE00301/23/50, 24 April 2023 ROQE00301/23/55, 1 May 2023
SEMP for "Agarak-2" DS (dumping site)	Approved/handed over	ROQE00301/23/50, 24 April 2023 ROQE00301/23/55, 1 May 2023
SEMP for "Agarak-4" DS (dumping site)	Approved/handed over	ROQE00301/23/50, 24 April 2023 ROQE00301/23/55, 1 May 2023
SEMP for "Agarak-5" DS (dumping site)	Approved/handed over	ROQE00301/24/401, 15 May 2024
SEMP for "Agarak-6" DS (dumping site)	Approved/handed over	ROQE00301/24/464, 8 July 2024
SEMP for "Agarak-7" DS (dumping site)	Approved/handed over	ROQE00301/24/487, 30 July 2024
SEMP for "Agarak-8" DS (dumping site)	Approved	ROQE00301/24/487, 30 July 2024

SEMP for "Agarak-9" DS (dumping site)	Approved/handed over	ROQE00301/24/487, 30 July 2024
SEMP for "Agarak-10" DS (dumping site)	Approved	ROQE00301/24/487, 30 July 2024
SEMP for "Agarak-11" DS (dumping site)	Approved/handed over	ROQE00301/24/487, 30 July 2024

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, the SSEMP was approved on December 18, 2023, with conditions to include COVID-19 requirements, detailed information about the dumping sites, and the State Environmental Expertise Conclusion. Subsequently, following instructions from ADB and taking into account design interchanges, such as the New Yedesia junction and midfield roads, the Employer requests a Due Diligence report jointly from the Engineer and Contractor.

The DDR was prepared, approved, and disclosed in October 2024. After that, the SSEMP was updated and approved.
The status of EMPs is presented below:

EMP document	Status	Engineer's approval letter, date and number
SSEMP (V03)	Approved	25_010_AH_PM 14.01.2025
SEMP for "Talin-1" DS (dumping site)	Approved	24_025_KA_RH 31.01.2024
SEMP for "Talin-2" DS (dumping site)	Approved	24_025_KA_RH 31.01.2024
SEMP for "Shamiram-1" DS (dumping site)	Approved	24_025_KA_RH 31.01.2024
SEMP for "Kosh-1" DS (dumping site)	Approved	24_310_AH_RH 28.05.2024
SEMP for "Kosh-2" DS (dumping site)	Approved	24_310_AH_RH 28.05.2024
SEMP for "Kosh-3" DS (dumping site)	Approved	24_310_AH_RH 28.05.2024
SEMP for "Kosh-4" DS (dumping site)	Approved	24_310_AH_RH 28.05.2024
SEMP for "Talin-3" BP (borrow pit)	Approved/Closed	24_485_AH_RH 25.08.2024

SEMP for "Talin-4" BP (borrow pit)	Approved/Closed	24_485_AH_RH 25.08.2024
SEMP for "Talin-6" BP (borrow pit)	Approved/Closed	24_576_AH_RH 26.10.224
SEMP for "Talin-7" BP (borrow pit)	Approved	25_022_AH_RH 19.01.2025
SEMP for "Talin-8" BP (borrow pit)	Approved	25_022_AH_RH 19.01.2025
SEMP for "Ashtarak-1" BP (borrow pit)	Approved	25_056_AH_RH 10.02.2025
SEMP for "Ashtarak-2" BP (borrow pit)	Approved/Closed	25_076_AH_RH 17.02.2025
SEMP for "Ashtarak-3" BP (borrow pit)	Approved/Closed	25_056_AH_RH 10.02.2025

5 GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

5.1 Good Practice

For ***Task 1***, as a good practice we can mention the decision to provide the trees to be cut during project implementation as firewood to the poor families of the Ashtarak enlarged community.
For ***Task 2***, it is worth mentioning that a notable good practice is the availability of a canteen in the Construction Camp, where workers can have breakfast, lunch, and dinner. Additionally, for workers stationed far from the Construction Camp, food is delivered to them, and their rest time is organized at the construction site.

5.2 Opportunities for Improvement

During this period of project implementation, no opportunities for improvement have been identified.

6 GRIEVENCE REDRESS MECHANISM

6.1 Grievances

1. *Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)*

Complains recorded during the project implementation presented below:

No.	Community	AP name	Date of complaint received	Description of the issue	Actions implemented	Status of the issue
1	Ujan	Rafik Avetisyan	11.08.2023	APS' crops were damaged due to the impact of dust as a result of construction works.	After discussions and meetings with the APs, the damage caused by dust was evaluated by a specialized company Global Partners Group LLC. Based on the evaluation results, contracts for compensation were prepared and signed with the APs in February 2024.	CLOSED
2	Ujan	Tigran Karapetyan	11.08.2023			
3	Ujan	Svet Aghikyan	11.08.2023			
4	Ujan	Shushik Harutyunyan	11.08.2023			
5	Ujan	Aghavni Baghramyan	11.08.2023			
6	Ujan	Garnik Avetisyan	11.08.2023			
7	Ujan	Sevak Baghramyan	11.08.2023			
8	Ujan	Marusya Avetisyan	11.08.2023			
9	Ujan	Zorik Avetisyan	11.08.2023			
10	Ujan	Davit Yericyan	March, 2024	AP'S complained that his building was damaged during the construction works.	Social specialist of the Contractor inspected damaged building and recorded that Project has no any impact to the mentioned building taking into account the fact that it is located more than 600m far away from the end point of the Project.	CLOSED

11	Agarak	Ashot Aslanyan	April, 2024	The AP complains that the land belonging to him was damaged as a result of the construction works. The complaint was submitted to RD, after which a site visit was made with the Contractor's social specialist to study the AP's issue.	The Specialists met AP of Agarak community Ashot Aslanyan at the construction site area, near Voskevaz Wine Factory, where Ashot Aslanyan presented the issue. As he said, during land acquisition process, 3 from 4 of their lands were alienated, but one territory of 0.08 ha surface was not alienated. After that process several mistakes were done during territory marking and that land plot left out from the place it should be. Ashot Aslanyan presented the Certificate of Land according which that land plot exists and belongs to his mother Araksya Khachatryan. Based on that information the Specialists called the surveyor, who took the coordinates presented in documents of mentioned land plot and 4 marks were placed on the territory based on the document (provided from Cadaster Committee of RA) information. All mentioned information was written and then provided to the RD from Contractor. There are no alienation issues, and as for the problematic part of the owner's land, the Road Department has written a Cadastral committee to address the remaining part of the issue.	**CLOSED**
12	Voskevaz	Ani Injighulyan	06.08.2024	The applicant claims that her land plot near the construction site was damaged during the	The Contractor was instructed to remove trash and a concrete slab from the plot, and they	**CLOSED**

				construction works	confirmed they would restore the land to its previous condition. During a November 2024 field visit, it was reported that the Contractor removed the trash, the concrete slab, and separated the owner's plot from the alienated part, allowing work to proceed. Regarding tree damage, the irrigation flow was disrupted during construction. While the Contractor offered irrigation, the owner declined, and the compensation request is related to the lack of watering and its impact on the trees. *Conclusion:* The applicant acknowledged that the land was restored. The only noted issue was tree damage, which was visible to both the owner and the Engineer. Although water was provided to the AP, they refused it, and the trees subsequently dried out. However, damage resulting from lack of watering can only be assessed by a licensed appraiser, and no further action is required.	
13	Aghdzq	Hovhannes Sargsyan	29.08.2024	After the Contractor implemented the relocation of the irrigation water line at km 34+915 according to the Engineer's and approved working drawing, the owner of	Based on inhabitant request, on 03.09.2024 a meeting was carried out by Engineer's and Contractor Social Specialist. The Contractor has fixed the issue, discussed it with	**CLOSED**

				the land plot submitted a claim, pointed out that some adjacent plots of land are deprived of irrigation water.	the Supervising Engineer and has tried to implement the necessary appropriate solution.	
14	Aghdzq	Arkadi Vardanyan	03.09.2024	The applicant claims that he doesn't have the possibility to water his orchard.	There is currently an aqueduct, but several meters of pipe need to be connected to enable orchard irrigation. The Aragatsotn Water Users Committee should provide irrigation upon citizens' request.	**CLOSED**
15	Aghdzq	Gabriel Hakobyan	03.09.2024	The applicant claims that he doesn't have the possibility to water his orchard.	There is currently an aqueduct, but several meters of pipe need to be connected to enable orchard irrigation. The Aragatsotn Water Users Committee should provide irrigation upon citizens' request.	**CLOSED**
16	Aghdzq	Lernik Hakobyan	03.09.2024	The applicant claims that he doesn't have the possibility to water his orchard.	There is currently an aqueduct, but several meters of pipe need to be connected to enable orchard irrigation. The Aragatsotn Water Users Committee should provide irrigation upon citizens' request.	**CLOSED**
17	Aghdzq	Hovhannes Sargsyan	03.09.2024	The applicant claims that he doesn't have the possibility to water his orchard.	There is currently an aqueduct, but several meters of pipe need to be connected to enable orchard irrigation. The Aragatsotn Water Users Committee should provide irrigation upon citizens' request.	**CLOSED**
18	Aghdzq	Nver Petrosyan	03.09.2024	The applicant claims that he doesn't have the possibility to water his orchard.	There is currently an aqueduct, but several meters of pipe need to be connected to enable orchard irrigation. The Aragatsotn Water Users	**CLOSED**

					Committee should provide irrigation upon citizens' request.	
19	Voskevaz	Ani Injighulyan	October, 2024	The applicant claims that her land plot near the construction site was damaged during the construction works.	The applicant accepted that the land plot has been returned to its previous appearance. There was no agreement, the owner simply verbally stated that the only issue left was the damage to trees, and it is also visible in the field, both to the owner and to Engineer, that everything that was written in the application has been removed from the land plot. As for compensation for trees, we note that there is dust on the trees, but damage to trees due to lack of watering can only be estimated by a licensed appraiser.	**CLOSED**

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, pre-construction public awareness meetings were held on November 20, 22, and 23 at affected settlements in Ashtarak, Shamiram, and Talin communities. The general characteristics of the Project, construction dates, possible inconveniences, environmental risks and mitigation measures, grievance redress mechanism were presented.

It is worth mentioning that the vibration issues are currently under discussion with the Engineer. Actions and additional information will be provided in the next reporting period.

Complains recorded during the reporting period presented below:

No.	Community	AP name	Date of complaint received	Description of the issue	Actions implemented	Status of the issue
1	N. Bazmaberd	Armen Ghazaryan	08.02.2024	During the implementation of the Project, it is planned to install the drainage culvert (1458.5m above	The proposal was reviewed by the Contractor and as a result the pipe will be 58.5m in length. Other parameters of pipe will not	

				sea level, 48.5m in length and 2.0 x 2.0m) for rainwater removal at km 57+343 (Nerkin Bazmaberd settlement intersection). Armen Ghazaryan (the proposer) introduced, that there are private lands located to the North from km 37+545 and in future they plan to build a road in order to ensure easy access to mentioned lands. He suggests to increase the length of the drainage culvert for about 10m to the North, which is located about 100m below from the N. Bazmaberd intersection and will allow to effectively solve the abovementioned problem in the future.	be changed. No more complaints from the AP have been registered.	CLOSED
2	Kosh	Sanatruk Hadjiyan	September, 2024	Sanatruk Hajiyan insisted in additional survey about the possible impacts of vibration.	The pre-construction survey team with Sanatruk Hajiyan observed the house on 11.09.2024, placed several stickers on the walls, took photos of existing situation and composed an Act.	OPEN
3	Ujan	Vahe Papoyan	June, 2024	The land plot became unusable and completely flooded.	Mr. Papoyan was informed that an underpass would be built in that location, and an embankment was constructed to serve as a barrier preventing surface water from flowing onto his land. This explanation resolved his complaint.	CLOSED
4	N. Sasnashen	Taron Kirakosyan	June, 2024	Taron claims that the irrigation pipes were damaged during the	A design solution has been developed to provide irrigation water access to	

				construction, leaving him unable to cultivate the plot.	Taron's land located at km 59+000, near the field road between km 58+510 and km 59+055. Specifically, the longitudinal profile of the field road has been elevated to ensure the proper installation level for the casing pipe beneath the road. The drawing was presented to Taron, who reviewed, understood, and approved it with his signature.	CLOSED
5	Kosh	Miasnik Sadoyan	June, 2024	Miasnik claims that the irrigation pipes were damaged as a result of the construction.	The earth canal in concern is out of our RoW. Their problem is mainly related to the local Water Users Association and Kosh community. The chief engineer of Aragatsotn WUA Mr. Davit Hovhannisyan said that both the community leader and the WUA are aware of the problem and they are working on the solution.	CLOSED
6	Kosh	by the residents of the community	June, 2024	The issue related with cattle underpass.	The cattle underpass will be temporarily placed.	CLOSED
7	Ujan	Hakob Yeritsyan	16.07.2024	Access issue.	The problem will be solved by constructing additional field roads. The contractor was given instructions for the following two additional works: a) Extension of the D160 L=228 m plastic pipe from km 39+500 (existing valve) to km 39+272, together with the field road to be built later. b) Installation of two metal casing pipes at the junction of km 37+985. D169x5 mm,	CLOSED

					each L=18 m. These solutions were verbally agreed upon with the employer, the head of the village of Ujan and the contractor. The casing pipes have already been installed.	
8	Kosh	Makarianos Harutyunyan	17.07.2024	There is a building on the land plot, serving as a workshop, a trading post. As a result of road construction, the building is cut off from the road. He requests convenient access, as he is the source of his family's income.	The building in question has two entrances accessible from the field roads.	**CLOSED**
9	Kosh	Vardan Grigoryan	10.08.2024	Cracks in the house caused by vibration due to construction work.	The pre-construction survey team with Vardan Grigoryan observed the house on 14.08.2024, placed several stickers on the internal and external walls, on the ceiling, took photos of existing situation and composed an Act.	**OPEN**
10	Kosh	Babken Gabrielyan	29.08.2024	Cracks in the house caused by vibration due to construction work.	The pre-construction survey team with the AP listed observed the houses on 03.09.2024, placed several stickers on the internal and external walls, on the ceiling, took photos of existing situation and composed the Act.	**OPEN**
11	Kosh	Armen Manukyan	04.09.2024	Cracks in the house caused by vibration due to construction work.	The pre-construction survey team with the AP listed observed the houses on 09.09.2024, placed several stickers on the internal and external walls, on the ceiling, took photos of existing situation and composed the Act.	**OPEN**

12	Kosh	Shushanik Khachatryan	13.09.2024	She has no access to her land, has not been able to cultivate it, she has lost the harvest, she demands compensation.	a/ The correct land plot code is 02-061-0127-0040. b/ Water cannot flow to the land plot from the concrete pipe built by the former Contractor on the left side of the road, since the right side of the pipe has not yet been constructed, surface water flows from the right side of the road to the left side. c/ The surface water accumulating on the right side of the road comes to the land plot through a metal pipe installed under the road in Soviet times and coming out at the edge of the applicant's land plot. The water coming out of that pipe should have continued its path through the currently half-filled and heavily vegetated earthen channel and the partially damaged concrete half-pipes to the opposite valley, which does not happen due to the fact that the system has not been repaired or cleaned for years. d/ According to the working drawing developed by the former Contractor, the newly constructed concrete pipe will be connected to the old drainage system mentioned above. We will improve that drawing a little in the future. e/ According to the cadastral map, there is a network of field roads, which also provides access	**OPEN**

					to the complainant's land plot. The entrance connecting the highway to that network is still there, but the last hundred to one hundred and twenty meters are not passable by passenger cars, since it has never been maintained and put in order. Agricultural machinery can approach. f/ According to the project, we will build a new -field road that will run alongside the highway and will also reach the complainant's land.	
13	Aruch	Gayane Mkhitaryan	24.09.2024	Requests to restore access to the only unpaved road leading from the highway to agricultural plots.	Temporary access has been provided for harvesting the crop.	**CLOSED**
14	Aruch	Norik Shahinyan	02.10.2024	Access road.	A field road just in parallel with M1 road, stretching from km 50+300 to km50+500 LHS will be constructed.	**CLOSED**
15	Ujan	Vahe Papoyan	11.10.2024	Along the field road (which is about 6 meters above the site) a bridge is being built, and agricultural machinery or passenger vehicles can't enter the land plot.	The applicant will be provided with access by constructing additional field roads.	**CLOSED**
16	Davtashen	Hayk Hepoyan	18.10.2024	Access road.	The applicant will be provided with access by constructing additional field roads.	**CLOSED**
17	Davtashen	Zeytun Avoyan	18.10.2024	Access road.	The applicant will be provided with access by constructing additional field roads.	**CLOSED**

18	Davtashen	Andranik Hepoyan	24.10.2024	Access road.	The applicant will be provided with access by constructing additional field roads.	**CLOSED**
19	Davtashen	Mushegh Grigoryan	25.10.2024	Access road.	The applicant will be provided with access by constructing additional field roads.	**CLOSED**
20	Davtashen	Yurik Hepoyan	25.10.2024	Access road.	The applicant will be provided with access by constructing additional field roads.	**CLOSED**
21	N. Bazmaberd	Hovnan Hovhannisyan	19.11.2024	Land flooding risk, access issue.	The constructed concrete channel will continue with an earthen channel to the drainage channel, additional field roads will be constructed for the Nerkin Bazmaberd settlement.	**CLOSED**
22	Kosh	Shushan Arakelyan	18.11.2024	Cracks in the house caused by vibration due to construction work.	The site visit was organized by Contractor's Social Specialist and Engineer's Social Specialist to Shushan Arakelyan's house on 22.11.2024. The several photos were taken and Act was composed.	**OPEN**
23	Ujan	Vahe Papoyan	22.12.2024	The land has become a construction site and a temporary road to the slaughterhouse.	There is a verbal agreement with the applicant to use his land as a road for the slaughterhouse employees for about three months. The land has been cleared of construction trash and the applicant is satisfied.	**CLOSED**
24	Kosh	Vardan Grigoryan	16.01.2025	Cracks in the house caused by vibration due to construction work.	The site visit was organized by Contractor's Social Specialist and Engineer's Social Specialist to Vardan Grigoryan's house. All observations were recorded and relevant stickers were placed. The survey result's Act was composed.	**OPEN**

25	Kosh	Garsevan Avagyan	12.02.2025	The AP reported by phone that he had noticed cracks in the house caused by vibration due to construction work.	The site visit was organized by Contractor's Social Specialist and Engineer's Social Specialist to Garsevan Avagyan's house on 12.02.2025. All observations were recorded and relevant stickers were placed. The survey result's Act was composed.	**OPEN**
26	Kosh	Kolya Hakobyan	12.02.2025	An inspection was carried out to determine the overall condition of the building before construction work began.	The pre-construction survey revealed the following: In the newly built and renovated store of Kolya Hakobyan, no cracks were found on the ceiling, walls and floor of the store. Photos were taken and an Act was signed with the store owner, Kolya Hakobyan.	**CLOSED**
27	Kosh	Vardan Grigoryan	18.03.2025	The AP reported by phone that he had noticed cracks in the house caused by vibration due to construction work.	The site visit was organized by Contractor's Social Specialist and Engineer's Social Specialist to Vardan Grigoryan's house on 27.03.2025. All observations were recorded and relevant stickers were placed. The survey result's Act was composed.	**OPEN**
28	Ujan	Davit Yeritsyan	02.03.2025	During reporting period verbal request about vibration issues were received from the AP. The AP also mentioned that there are problems relating to access and drainage.	On 07.03.2024 Contractor's Social Specialist and other management staff organized site visit to understand the situation. As it was recorded during site visit (according to the Owner), the works carried out by Contractors of Tranche 2 (Corsan, AAB, Kapavor) have caused damages to this building. Corsan gave compensation, AAB after the blasting did not accept any	**OPEN**

					responsibility. Mr. Davit Yeritsyan insists, that construction activities of Kapavor LLC caused damages to his building. Still, there are photo materials about the building condition during AAB construction activities, where in comparison with present condition, significant changes were not identified. Also, as the main cracks were in the bearing walls, the stickers were not placed during site visit, but Contractor's Social Specialist suggested Mr. Yeritsyan to fill the complaint form. Mr. Yeritsyan refused to fill the form and several days later sent complaint letter to RD. On 27.03.2025 the joint site visit was organized by Senior Resident Engineer of Egis International, Contractor's Social Specialist and other management staff visited Mr. Davit Yeritsyan and recorded the present situation. The access and drainage issues will be resolved in the near future, and discussions are currently underway regarding the vibration issue.	
29	N. Sasnashen	Gagik Hakobyan	20.06.2025	This is to certify that Mr. Gagik Hakobyan, a resident of Nerkin Sasnashen village, has verbally approached the engineer regarding the entrances to two land	According to the official cadastral map, both land plots have access points (entrances).	**CLOSED**

				plots belonging to him. The cadastral codes of the mentioned land plots are: 02-074-0211-0008 — located at km 58+700, (RHS) 02-074-0216-0069 — located at km 58+700, (LHS)		
30	Ujan	Vahe Papoyan	05.06.2025	Mr. Vahe Papoyan has submitted a request to the RD concerning the following issues: 1.The overpass is not asphalted, and there is a lack of adequate safety barriers, which raises safety concerns. 2.There are drainage issues, including problems with the removal of storm water and flood 3.The field road is currently impassable especially after rainfall and due to the movement of heavy machinery, making access difficult.	The Engineer had a conversation with Mr. Vahe Papoyan and later visited the site. The following findings were established: 1. No guarantee has been given to Mr. Vahe Papoyan that the asphalt pavement and concrete barriers placed on the overpass would continue along the entire length of the field road (on the embankment). Neither the Contractor nor the Engineer has the authority to make such commitments. According to the project design, asphalt covering and concrete safety barriers are installed only on the reinforced concrete deck of the bridge and the transition slabs. These elements have been installed in accordance with the design. Beyond this, the road continues as a field access road with a gravel and sand surface, not designed to be paved or barriered. Regarding the field road, it serves to connect the existing highway to the newly constructed overpass	**CLOSED**

					next to Mr. Papoyan's land plot. This section of the road lies outside the expropriation zone and, according to regulations, should be maintained by the community, not the Contractor. 2. Prior to the construction, this path was already a rough dirt road, which during heavy rains became muddy and full of puddles. After rainfall and irrigation of the neighboring plots, surface water would flow into Mr. Papoyan's land. However, following the construction of the overpass and the installation of an additional drainage metal pipe in front of his plot by the project team, this issue has been resolved, and no further flooding of his land has been observed. 3. Mr. Papoyan's land plot has access not only through this field road, but will also have permanent access via another field road. At present, the plot has temporary access directly from the newly constructed highway, which is currently not impassable. However, upon completion of construction, metal or concrete safety barriers will be installed in front of this temporary access point.	
31	Kosh	Shushanik, Khachatryan Hamlet Mkrtchyan	06.06.2025	Verbal complaint. Irrigation issue.	There is a is a design solution for providing irrigation as well as preventing private lands from flooding in Kosh	**OPEN**

					residence at outlet side of R/Concrete culverts km45+597 and km45+684. The concept of this solution has been agreed verbally with the Water User Association, the Employer and the owners of the lands in concern. It's need to be approved by the Employer. The final resolution of the issue will be presented in the following month's reports.	
32	Kosh	By the residents of Kosh	06.06.2025	Verbal request. The residents of Kosh are requesting the construction of an overpass for cattle.	There is a section of the cadastral map with the location of a cattle overpass, but it has not yet been approved for construction.	**OPEN**
33	Kosh	Vardan Grigoryan	01.06.2025	The AP reported by phone that he had noticed cracks in the house caused by vibration due to construction work.	The site visit was organized by Contractor's Social Specialist and Engineer's Social Specialist to Vardan Grigoryan's house on 03.06.2025. All observations were recorded and relevant stickers were placed. The survey result's Act was composed.	**OPEN**
34	Kosh	Vardan Grigoryan	13.06.2025	The AP informed by phone that he had noticed an enlargement of a pre-existing crack.	A verbal agreement was reached with the AP that a site visit will be organized after completion of construction works near his house, and the final Act will be composed.	**OPEN**

7 ARCHEOLOGY, PHYSICAL/CULTURAL RESOURCES

1. Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)

During the reporting period, there were no archaeological findings or records of violations.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

Following ADB's request and design changes (New Yedesia junction and midfield roads), the Employer requested a Due Diligence Report from the Engineer and Contractor. The DDR, including an archaeological survey, was submitted and approved during the reporting period, identifying archaeological risks for 7 field roads and recommending additional surveys and coordination with the Ministry of Education, Science, Culture, and Sports.

In July, meetings were held with the Road Department, Engineer, Contractor, and MoESCS to address risks to monument-bearing areas. It was agreed to revise field road designs encroaching on preservation zones and conduct further surveys. After discussions, it was determined that only 3 field roads require design changes. The process is ongoing, with results to be reported in the next period.

During this period, on April 14, 2025, the Contractor, in accordance with the agreement reached with the Institute of Archaeology and Ethnography of the NAS RA, commenced the final cleaning works at the Nerkin Sasnashen Archaeological Complex. Previously, at the end of July 2024, large stone fragments had been removed from the site using machinery. The final cleaning of the area has now been completed. The archaeological complex had been significantly affected by previously deposited soil and rock debris. The latest cleaning was performed exclusively with hand tools, and as much of the accumulated soil and rock debris as possible was removed. As a result, partially preserved sections of the structure are now visible. With this cleaning stage completed, the site is considered cleared of soil and rock waste.

It is worth noting that archaeologists from both the Engineer's and Contractor's teams were fully involved in all processes, including the selection of dumping or borrowing sites.

8 SUMMARY AND RECOMMENDATIONS

8.1 Summary

1. *Task 1 - 8 km road section bypassing Agarak Archaeological complex (M-1 road km 29+600-km 37+545)*

Contractor's Environmental, Health and Safety experts with Engineer's EHS and Employer's ES conducted monitoring visits to the Project construction sites to monitor implementation of all mitigation measures of mentioned in the EIA/EMP.

Baseline and periodic instrumental measurements of dust, noise, and vibration were carried out for the project. The purpose of these measurements was to gather baseline data about noise and vibration levels, as well as dust concentration at sensitive points. These measurements were part of the routine operational monitoring process to evaluate and mitigate potential impacts related to these factors. Periodic measurements for dust, noise, and vibration were conducted as follows: in January at point N5; in February at N5; in March at N1 and N5; in April at N3 and N5; May at N4 and N5 and in June at N4, and N5.

Dust monitoring results indicate that maximum permissible concentrations remain within the limits set by national standards, with no exceedances recorded. However, daily average values have occasionally exceeded both national and IFC standards. Mitigation measures, including increased frequency of watering and adjustments to the operation of heavy machinery at sensitive locations, have been implemented. Weather conditions, particularly strong winds in certain areas such as near Agarak settlement, have also contributed to localized increases in dust concentrations. These factors have been carefully considered, and the Contractor has applied the necessary mitigation measures accordingly.

Noise level measurements in all points and daytime periods were within TLVs set by sanitary norms. No significant changes were noted compared to previous and baseline values. Points N4 and N5 are consistently impacted by Yerevan-Gyumri highway traffic, resulting in higher sound levels. The results of vibration measurements are within the permissible levels set by sanitary norms.

During the reporting period topsoil not generated.

During the reporting period, approximately 19,933 m³ of non-hazardous materials unsuitable for construction were generated and transferred to approved dump sites. As of June 30, the Contractor is using 2 sites – Agarak 8 and Agarak 10; the remaining 7 were handed over during the reporting period.

During the reporting period, no hazardous asphalt waste was generated.

No trees or shrubs were cut during the reporting period. Planting was conducted in November 2024. An NGO proposed donating 200–300 oak trees, and discussions will be held to assess integration into the Contractor's scope, including costs. Pending contract amendments, the TMP will be updated, planting locations identified, and community consent obtained. Planting is tentatively planned for Autumn 2025, likely in October.

No complaints were received from community residents during the reporting period.

A training session was held at the Contractor's camp on March 26, 2025, covering cold weather work, emergency care for snake/scorpion bites, and the Chance Find Procedure.

During the reporting period, there were no archaeological findings or records of violations.

In general, all the issues and instructions addressed to both the Contractor and the Engineer were proactively resolved. This demonstrates their commitment to environmental protection and prioritizing health and safety considerations throughout the Project.

2. Task 2 - Remaining road section of 34 km (M-1 road km37+545-km 71+500)

For Task 2, the SSEMP was approved on December 18, 2023, with conditions. Meanwhile, the Engineer and the Contractor were requested to prepare a Due Diligence Report for design changes in the project, which was subsequently prepared and approved. Following this, the Contractor was requested to update the SSEMP, which is approved.

Contractor's Environmental, Health and Safety experts with Engineer's EHS and Employer's ES conducted monitoring visits to the Project construction sites to monitor implementation of all mitigation measures of mentioned in the EIA/EMP.

Baseline and periodic instrumental measurements of dust, noise, and vibration were carried out for the project. The purpose of these measurements was to gather baseline data about noise and vibration levels, as well as dust concentration at sensitive points. These measurements were part of the routine operational monitoring process to evaluate and mitigate potential impacts related to these factors. Periodic measurements for dust, noise, and vibration were conducted as follows: in January at points N1, N4 and N8; in February at N4, N5, and N8; in March at N1, N3, N4, and N8; in April at N4, N5 and N8; May at N5 and N8 and in June at N4, N5, and N8.

As shown in the tables, dust particle concentrations in all measuring points and daytime periods mostly did not exceed daily average MPCs (both national and IFC standards). In January and February, dust levels were higher, mainly due to weather conditions and regional dust, not construction. In the following months (March–June), concentrations decreased compared to previous measurements. In all months, no significant changes were observed compared to baseline values.

Noise equivalent levels in most points remained within TLVs. However, in points near the M1 highway (mainly N3, N4, and N5), exceedances were recorded, as expected due to traffic impact. In all cases, maximum sound levels remained within sanitary norms, and no significant changes were noted compared to baseline values.

During the reporting period topsoil was not generated.

During the reporting period, a significant quantity of non-hazardous materials unsuitable for construction was not generated. No hazardous waste was generated.

Currently, the Contractor continues to occupy 7 dumping sites: Talin 1 and Talin 2 (under contract with the Talin community), Shamiram 1 (Shamiram community), Kosh 1 and Kosh 2 (Ashtarak community), Kosh 3 (Anania Khachatryan), and Kosh 4 (Arakel Haroyan).

Complaints were recorded from Ujan, N. Sasnashen and Kosh communities regarding access to their lands, irrigation and building damages caused by vibration during the reporting period. All issues have been addressed and will be further resolved. In particular, vibration-related issues are currently under discussion with the Engineer and the Contractor to determine appropriate actions and mitigation measures.

A similar training was conducted on March 28, 2025, focusing on the same topics: cold weather safety, emergency medical response, and archaeological procedures.

Following ADB's request and design changes, a Due Diligence Report (DDR) was prepared and approved, highlighting archaeological risks for 7 field roads and recommending further surveys and coordination with MoESCS. Meetings in July resulted in an agreement to revise designs affecting preservation zones, with only 3 field roads ultimately requiring changes. This process is ongoing and will be reported in the next period. On April 14, 2025, the Contractor began final cleaning at the Nerkin Sasnashen Archaeological Complex, based on prior agreements. The site, previously covered with soil and rock debris, was cleaned manually, revealing partially preserved structures and is now considered cleared.

In general, all the issues and instructions addressed to both the Contractor and the Engineer were proactively resolved. This demonstrates their commitment to environmental protection and prioritizing health and safety considerations throughout the Project.

8.2 Recommendations

During this phase of project implementation, we currently do not have any recommendations.

9 ACTION PLAN FOR JANUARY-JUNE 2025

9.1 For RD and Engineer

For both Task 1 and Task 2:

1. Overall management of Environmental, H&S and Archaeological measures
2. Review and approval of Contractor's monthly reports
3. Monthly reporting on environmental safeguards
4. Supervision of the routine instrumental monitoring: dust, noise and vibration
5. Consultation to Engineer and Contractor on any environmental, Health and Safety and Social issues if needed
6. Inspection monitoring site visits, follow up of EH&S open issues
7. Participation in ADB Mission visits
8. Follow-up on corrective actions

9.2 For Contractor

For both Task 1 and Task 2:

1. Monthly reporting on environmental safeguards
2. Instrumental monitoring: dust, noise and vibration
3. Implementation of mitigation measures for dust increases
4. Implementation of EHSS and archaeological mitigation measures during construction activities
5. Participation in ADB Mission, RD and Engineer's site visits
6. Implementation of training sessions addressing Health and Safety (H&S) concerns

ANNEX A: PHOTOS OF CONSTRUCTION (MAINTANANCE) PROCESS

Figure 1. March 14, 2025 – km 35+700 – 35+900: Ongoing construction works for Task 1

Figure 2. March 14, 2025 – km 35+700 – 35+900: Ongoing construction works for Task 1

Figure 3. June 25, 2025 – km 48+000: Ongoing construction works for Task 2

Figure 4. June 25, 2025 – km 42+900-43+000: Ongoing construction works for Task 2

ANNEX B: REPORT ON THE FINAL PHASE OF CLEANING WORKS AT THE NERKIN SASNASHEN ARCHAEOLOGICAL COMPLEX

Ներքին Սասնաշենի հնագիտական համալրի մաքրման աշխատանքների եզրափակիչ փուլը

2025 թ. ապրիլի 14-ին ՀՀ ԳԱԱ Հնագիտության և ազգագրության ինստիտուտի միջև ձեռք բերված պայմանագրի համաձայն սկսվեցին Ներքին Սասնաշենի հնագիտական համալիրի եզրափակիչ մաքրման աշխատանքները: 2024 թ.-ի հուլիսի վերջ այս տեղամասից տեխնիկայի միջոցով հեռացվել էր մեծ քարաբեկորները, իսկ այժմ իրականացվեց տարածքի մանրակրկիտ մաքրման աշխատանքներ: Այստեղի հնագիտական համալիրը զգալի տուժել է նախկինում լցված հողակույտից և ժայռաբեկորներից: Տեղամասը մաքրվել է միայն ձեռքի գործիքներով, հնարավորինս հեռացվել է կուտակված հողը և քարաբեկորները: Հնագիտական համալրի տարածքում այժմ կարելի է տեսնել մասնակի պահպանված կառույցի հատվածներ: Այս մաքրման փուլով կարելի է համարել տեղամասը հողային և ժայռային զանգվածից ազատված (**Նկարներ 1-8**)

Final phase of the cleaning works of the Nerkin Sasnashen Archaeological Complex

On April 14, 2025, in accordance with the agreement reached between the Institute of Archaeology and Ethnography of the NAS RA, the final cleaning works of the Nerkin Sasnashen Archaeological Complex started. At the end of July 2024, large stone fragments were removed from this site using machinery, and now final cleaning of the area of the site has been carried out. The archaeological complex here has suffered significantly from the previously filled soil and rock debris. The site was cleaned only with hand tools, and the accumulated soil and rock debris were removed as much as possible. Partially preserved parts of the structure can now be seen in the area. With this cleaning stage, the site can be considered freed from soil and rock waste (**Images 1-8**).


Նկարներ 1-4. Ներքին Սասնաշեն հնագիտական համալիրի մաքրման եզրափակիչ աշխատանքներ

Images 1-4 Final cleaning works of the Nerkin Sasnashen Archaeological Complex




Նկարներ 5-8. Օդալուսանկարներ մաքրված տեղամասից

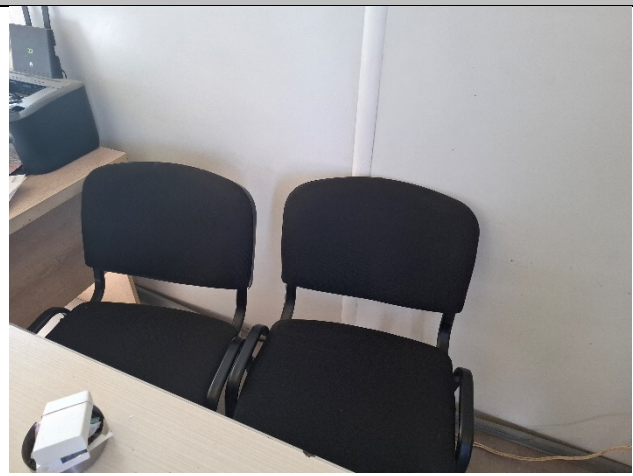
Images 5-8: Aerial photos of the cleared area

Հնագետ՝ Հայկ Հայդոսյան

08.05.2025

ANNEX C: CORRECTIVE ACTIONS FOR TASK 1 AND TASK 2

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
1. ABANDONED ASPHALT ROAD During the construction phase in the Voskevaz section, the Contractor built a temporary bypass road, part of which crosses private land. This bypass road is no longer needed and has been left abandoned. Additionally, there is asphalt debris in the area, resulting both from the construction works and the partial dismantling of the bypass road.		STATUS: PENDING Corrective Actions: 1) Engage in discussions with the private landowner to reach an agreement on the continued presence of the bypass road on their property. 2) Remove all asphalt waste and construction debris from the area to ensure environmental cleanliness. Resolution deadline: 15.07.2025	

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
2. The contractor's office furniture The office furniture in the construction camp must be in proper condition and meet safety standards.		**NO ISSUES WERE OBSERVED HERE** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.	
3. The Engineer's office furniture The office furniture in the construction camp must be in proper condition and meet safety standards. Additionally, the office microclimate must adhere to the requirements outlined in Order No. 842 of the Minister of Health, dated September 16, 2005.		**STATUS: RESOLVED** The Contractor was requested (Letter ROQE00301/25/578 dated 20.01.2025) to remedy the above-mentioned defects within 3 days, and ensure that the working conditions are in accordance with Armenian legislation.	NO PHOTO

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
4. Waste Management (Construction waste): Construction waste was observed at the project CAMP site. Waste generated from packaging materials and other construction waste should be collected in a separate place before it is transported to a landfill.	 	STATUS: PENDING OVERALL, THE AREA WAS MAINTAINED IN A CLEAN CONDITION; HOWEVER, PLASTIC AND OTHER WASTE WERE OBSERVED IN CERTAIN SPOTS. Resolution deadline: 15.07.2025	
5. Waste Management (Household waste): The number of waste containers installed is not enough. It was recommended to increase the number of waste containers and replace the damaged containers. The latter must have a closing lid.		STATUS: RESOLVED	

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
6. Secondary Containment for the fuel tank: The fuel tank should be provided with secondary containment with the volume of 110% from the volume of the tank as well as covered.		**STATUS: PENDING** **THE COVER OF THE DIESEL TANKER WAS BLOWN OFF BY THE WIND.** **Resolution deadline: 15.07.2025**	
7. First Aid Kit The first aid kit does not have enough necessary medicines.		**NO ISSUES WERE OBSERVED HERE** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.	

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
8. Fire Extinguisher: Proper fire extinguishers should be readily available at the project site. Proper monitoring of fire extinguishers should be conducted regularly, and any units found to be out of order should be promptly replaced.		**NO ISSUES WERE OBSERVED HERE** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.	
9. Fuel Leak at the Camp site During the visit traces of fuel leakage at the camp were observed. Contaminated gravel must be replaced and proper storage should be provided.		**STATUS: PENDING** Contractor is replacing polluted material from time to time. The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits. The Contractor is instructed to refresh the gravel on a weekly basis. **Resolution deadline: 15.07.2025**	

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
10. Main road exits Exits to the main road are not filled with crushed stone. All exits must be equipped with a stop sign.		**NO CONCERNS WERE OBSERVED HERE** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.	
11. Sanitary Conditions Properly operated toilet and hand-wash facilities should be provided at the CAMP		**STATUS: PENDING** As of the site visit date, existing toilet still there. The technical condition of the toilet remains poor; it is recommended to consider replacing it.	
12. Hand-over of the excavated soil dumping sites		**STATUS: PENDING** **The Contractor has stated that the handover**	Duirng the reporting period the Contractor has submitted the handover acts for 7 DSs out of 9. In particular the DS Agarak-2, Agarak -4, Agarak -5,

TASK 1			
Issue/Observation	**Photos**	**As of 31 June, 2025**	**Photos as of 27.06.2025**
Upon the closure of the dumping sites, they should be handed over to the owners, and the measures outlined in the SEMP must be implemented		of dumping sites has begun. This issue must be resolved before the project's completion and final takeover.	Agarak -6, Agarak -7, Agarak -9 and Agarak -11 were handed over. *The contractor is requested to prepare a closing report for the closed dumping sites. A lengthy report is not required; however, it should include information on the total amount of soil dumped, a few photos showing the final condition of the site, and a handover act signed by the landowner.* *The report may be submitted either as a single document covering all dumping sites or as separate reports for each site, both formats are acceptable.*
13. Topsoil The topsoil generated during project implementation should be managed in compliance with project documentation and local legislative requirements.		STATUS: PENDING The issue needs to be resolved by the end of the project prior to taking over. If the design does not require the use of the topsoil, it will be handed over to the Community.	*Through letter ROQE00301/25/641 dated June 6, 2025, the contractor was instructed to hand over the entire quantity of topsoil to the community upon project handover.*

TASK 2		
Issue/Observation	**Photos**	**UPDATE as of 27.06.25**
1. Fuel Leak at the Camp site During the visit traces of fuel leakage at the camp were observed.		**Fuel leaks were observed during the visit.** Contaminated gravel must be replaced and proper storage should be provided. **The deadline to resolve the issue: July 15, 2025**
2. Vibration Assessment During the ADB mission visit on October 14 2024, the Environmental Specialist from ADB, Armine Yedigaryan, requested the implementation of the same vibration mitigation measures used in the ADB-financed M6 Project. During the visit on April 16, 2025 the ADB's position was reconfirmed.	NO PHOTO	**The issue is still pending.** **The issue is under discussions with RD, the Engineer and the Contractor.**

TASK 2		
Issue/Observation	**Photos**	**UPDATE as of 27.06.25**
3. PPE Workers are performing tasks at height without using the required personal protective equipment (PPE). This poses significant safety risks, including the potential for falls and injuries. It is imperative that all workers adhere to safety protocols and wear appropriate PPE, such as harnesses and helmets, when working at elevated locations to ensure their safety and comply with safety regulations.		**NO FAILURE WAS OBSERVED HERE** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.
4. Dust Issue Dust mitigation measures should be implemented along the RoW of the road.		**During the monitoring visit on June 27, no watering activities were observed, despite the dry weather and the evident need for watering along the construction site.** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.

TASK 2		
Issue/Observation	**Photos**	**UPDATE as of 27.06.25**
5. Main road exits Exits to the main road are not filled with crushed stone. Exits to the main road must be filled with crushed stone to reduce pollution of the main road.		**NO FAILURE WAS OBSERVED HERE** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.
6. Cover for Trucks: Trucks should be provided with cover.		**STATUS: PENDING** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.

TASK 2		
Issue/Observation	**Photos**	**UPDATE as of 27.06.25**
7. Information Boards Project Information boards are missing.		**NO FAILURE WAS OBSERVED HERE** Project Information boards were installed.
8. First Aid Kit: Properly stocked First Aid Kit must be provided. An **expired medication** was found in the first aid kit.		**STATUS: RESOLVED** The issue requires ongoing monitoring and will remain a focus for the consultant during the next visits.

TASK 2		
Issue/Observation	**Photos**	**UPDATE as of 27.06.25**
9. Signings for Dumping, Borrow and Archeological Sites The signings should be provided for all dumping and archeological sites.	NO PHOTO	**NO ISSUES WERE OBSERVED HERE** It is recommended to regularly verify the presence of signs at the dumping and archaeological sites and ensure they are all in place.