Environmental Monitoring Report

Bi-annual Environmental Monitoring Report

January 2020

Azerbaijan: MFF Second Road Network Development Investment Program, Tranche 1

Prepared by the State Agency of Azerbaijan Automobile Roads for the Asian Development Bank.

CURRENCY EQUIVALENTS

as of 31 July 2019

Currency unit	–	Azerbaijani Manat
AZN1.00	=	$0.5894
$1.00	=	AZN1.6965

ABBREVIATIONS

AAYDA	–	State Agency of Azerbaijan Automobile roads
MOF	–	Ministry of Finance
ADB	–	Asian Development Bank

NOTES

(i) The fiscal year (FY) of the Government of Azerbaijan (and its agencies} ends on 31 December. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2011 ends on 31 December 2011.

(ii) In this report, "$" refers to United States dollars

Semi-annual Environmental Monitoring Report

Project Number: 45389

January 2020

Republic of Azerbaijan:

Second Road Network Development Investment Program, Tranche 2 under Multitranche Financing Facility 2

Lot 1. Construction Supervision of Civil Works Contracts for Reconstruction of Ujar-Zardab-Agjabadi Section of R32 (70.50 Km)
– Ujar-Zardab, Km 0+000 – Km 37+000

Lot 2. Construction Supervision of Civil Works Contracts for Reconstruction of Ujar-Zardab-Agjabadi Section of R32 (70.50 Km). Zardab-Agjabadi, Km 37+000 **–** 70+500

(Financed by the Asian Development Bank)

Reporting Period: 01 July 2019 to 31 December 2019 (Report 2)

Loan 2921- AZE

Prepared by State Agency of Azerbaijan Automobile Roads (SAAAR) for the Asian Development Bank (ADB).

CURRENCY EQUIVALENTS

(As of 1 January 2019)

Currency Unit	–	Azerbaijan New Manat (AZN)
AZN 1.00	=	USD 0.93
USD 1.00	=	AZN 1.70

ABBREVIATIONS

	–	Asian Development Bank
SAAAR	–	State Agency of Azerbaijan Automobile Roads
AZN	–	Azerbaijan New Manat
IEE	–	Initial Environmental Examination
EMP	–	Environmental Management Plan
EPM	–	Environmental Protection Manager
EPP	–	Environmental Protection Plan
CSC	–	Construction Supervision Consultant
PPE	–	Personal Protective Equipment
STD	–	Sexually Transmitted Disease
ADB	–	Asian Development Bank
GRM	–	Grievance Redress Mechanism
MENR	–	Ministry of Ecology and Natural Resources
PIU	–	Project Implementation Unit
SSEMP	–	Site-Specific Environmental Management Plan
HIV/AIDS	–	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
FCE	-	Flat Communal Exploitation

WEIGHTS AND MEASURES

m – Meter
Km – Kilometer

Table of Contents

I. BACKGROUND

A. Introduction

1. This second Semi-annual Environmental Monitoring Report (Report) is prepared for the Project Reconstruction of Ujar - Zardab - Agjabadi Section of R32 (70.50 Km)" (Project), for the reporting period from 1 July to 31 December 2019. The Report provides an overall assessment about the management of the project's environmental impacts, implementation of the Environmental Management Plan (EMP), Site Specific Environmental Management Plans (SSEMPs) and other sub-plans following the requirements of ADB's Safeguard Policy Statement (SPS 2009) and laws of Azerbaijan.

2. The State Agency of Azerbaijan Automobile Roads (AAYDA) is an Executing Agency for the project. The EA has appointed the company IRD Engineering s.r.l as the Construction Supervision Engineer (Supervision Engineer). The AAYDA has prepared this report to inform ADB and other interested parties about the status of management of the project's environmental impacts and monitoring in the project implementation. The report highlights in summary the project progress and key issues related to management of environmental impacts in the reporting period. This includes undertaken monitoring activities, instrumental environmental monitoring results, identified non-compliance and corrective actions, overall implementation status of the EMP, SSEMPs, and management of public consultations and grievances. Detail information are available in the monthly and quarterly reports of the two engaged Construction Contractors (Contractors) and the Supervision Engineer in their offices.

B. Methodology

3. The Semi-annual Environmental Monitoring Report is based on the:

(i) Review of the key information from a number of sources such as:

- Contractors' Quarterly Environmental Management Reports;
- Contractors' Grievance Registers;
- Engineer's Quarterly and Monthly Progress Reports;
- Engineer's Environmental Specialist's Field Reports;
- Construction instrumented monitoring results;
- Ad-hoc reports from the Contractors about training and public consultations;
- Correspondence between the AAYDA, Supervision Engineer and Contractors on environmental and social issues.

(ii) Information and observations from the site inspections by the Supervision Engineer's National and International Environmental Specialists, PIU's Safeguards Specialist and meetings with the Contractors' relevant staff and management over the reporting period.

4. The sections and findings of the report are related to performance of both Contractors for Lot 1 and Lot 2 unless it is otherwise specified to one of the Contractors.

C. Project description

5. The project is upgrading the Ujar- Zardab – Agjabadi Road (R32), a 70.5 km long road which links the road R18 on the south of Agjabadi city with the international highway M2 at Ujar intersection on the north. The project upgrades the road from category III to category II in accordance with the prevailing design standards of roads in Azerbaijan.

6. The project's road upgrading works include:

- Reconstruction of 70,5 km two lane road;
- Replace or repair of 7 bridges and 55 culverts;
- Construction of side drains and other drainage structures;
- Provision of retaining walls and river protection measures, where necessary;
- Provision of adequate road signing and marking;
- Provision of safety barriers.

7. The design elements for the cross section of the project road are as follows:

- Number of lanes: 2;
- Lane width is 7.5 m (2 x 3.75m);
- Maximum shoulder width is 3.75m (3.75m x 2), 0.75m x 2 paved with asphalt concrete
- Total road width: 15.00 m;
- New alignment will be within the existing ROW to avoid any land acquisition and resettlement issues. Road widening at some areas will include only increasing the width of asphalt layer. But his will be done still within the existing RoW.

8. The project area is located at Kur–Araz lowland. Main landscape of the Kur – Araz lowland is semi-desert area below sea level (mostly) with high salinity soils. Annual precipitation is 200 – 400 mm. Based on the climate map of Azerbaijan area belongs to I climatic zone with soft winter, semi-desert with dry summer and step climate. The general environment of the project is mostly agricultural fields, barren lands with no vegetation or very few Tamarix and Artemisia bushes, crossing over number of small and medium size irrigation channels and the Kura river (longest river in the country). Main water source of the area is Kura river and as well as irrigation channels that are very typical for lowland areas of Azerbaijan.

9. No protected or any other area with specific importance have been found along the project alignment. The closest protected area is Agghol National Park which is located approximately 6 km East of the Agjabedi district. Agriculture and livestock are main sources of incomes of the rural population along the project road and agriculture is a main industry with the main crops as grains, cotton and vegetables. The environmental impacts are mainly related to the construction period and within the Right-Of-Way (ROW), construction and facility sites; while some activities can affect the outlying areas, if not properly mitigated.

10. The project is Category B for environmental impacts. The Initial Environmental Examination (IEE) for the project has been prepared in 2018 as required by the ADB SPS 2009 and in compliance with the laws of Azerbaijan. The EA and ADB have approved the IEE. The IEE includes an EMP to address environmental impacts and provide measures to minimize, mitigate and/or compensate the affected parties if any during the entire project cycle.

D. Arrangement of Construction Works for Lot 1 and Lot 2

11. The road is 70.5 km long and reconstruction works will be done following the existing alignment except minor adjustment of short radii curves but all works will be done within the existing ROW (figure 1). The construction works are executed through two construction contracts for Lot 1 and Lot 2. The construction contract for the Lot 1 has been awarded to KORPU-BINA-TIKINTI LLC (KBT), with commencement date as of 1 February 2019, and for the Lot 2 to POLAT A.Ş. (POLAT) companies, with commencement date as of 1 March 2019.

12. **Lot-1: Ujar-Zardab Section, Km 0+000 – Km 37+000.** It is a 37 km section of the road R32 starts from the intersection with an international road (M2) at Ujar and runs southwards through several villages namely Qarabork, Qazyan, Lek, Xalac, Challi with access roads till Zardab city. It has major intersection at km 31.5 in Zardab city (hereinafter “Lot 1”).

13. **Lot-2: Zardab-Agjabadi Section, Km 37+000-km 70+500.** It is a 33.5 km section of the road R32 starts at km 37+000, the end of Lot 1 of Ujar- Zardab Road section and runs to the south-west direction passing through Agjabadi city and joining the road R18 road at km 70+500. It forms part of the important road connection from Baku to the Zardab and Agjabadi cities (hereinafter “Lot 1”).

Figure 1. Project road layout

E. Variation No. 01 to Civil Works Lot 1

14. The above-mentioned variation was due to some very minor changes in scope. The quantities of several items of works has been varying from the contract quantity. The items of works identified with varying quantity are (i) unsuitable materials excavation, Free draining Rock fill, and Geotextile for treating soft ground; and (ii) increasing number of pipe culverts and box culverts due to site condition and an additional cattle underpass as requested by local communities and authorities. Updating and revision of the Bill of Quantity and costs of all works have been prepared. No effect on completion date is anticipated till now.

15. The EA/PIU have confirmed that all works under the variation will be carried out within the existing ROW, the changes are minor and within the scope of the already conducted IEE and social safeguards due diligence, and no additional social and environmental impacts are anticipated. This variation and safeguards issue have been communicated between the management, technical and social safeguards teams of the EA/PIU, ADB, Supervision Engineer and Contractors. In email communications and official letters between the EA/PIU and ADB (i.e. ADB's emails of 21 October 2019, and the PIU/EA official letter to ADB from 22 October 2019), the EA/PIU have confirmed that all works under the above-stated variation will be carried out within the existing ROW, the changes are minor and within the scope of the already conducted IEE and social safeguards due diligence, and among others stated that:

a) Geo-tech is major key item under this Variation which is also an existing item for which quantities are increasing and use of Geo-tech materials will reduce borrow exploration, hence, it is environmentally friendly solution;
b) No additional land acquisition due to the proposed Variation No. 01, hence no Social Safeguards issues;
c) All construction activities related with existing and new BOQ items will be executed well within existing ROW for which IEE Report and EMP were approved by ADB; Regular monitoring reports are submitted to ADB as required under the Contract;
d) The Contractor is full compliance in all Safeguards issues,
e) EA/PIU confirms that all construction activities are performed within the framework of the Safeguards Documents approved by ADB.

16. Further, to ensure the compliance, the project's Environmental Team including the Safeguards Specialist of PIU, Environmental Specialists of the Supervision Engineer and the Contractor, will conduct more site inspections and regular monitoring of the construction works related to this variation, to detect and address timely any unanticipated impact, if there will be any.

F. Project Progress for Lot 1 and Lot 2

17. Table 1 provides details about the contractors' commencement and completion dates.

Table 1. Mobilization data

Lot-1: Ujar-Zardab Section, Km 0+000 – Km 37+000	**Lot-2: Zardab-Agjabadi Section, Km 37+000-km 70+500**
Contractor: KORPU-BINA-TIKINTI LLC (KBT) Contract No.: CWC 01/ICB/2018/L1 ADB Loan No.: ADB Loan 2921 AZE Accepted Contract Amount: AZN 80,192,918.79 including VAT Date of Contract signing: 31 October 2018 Commencement date: 01 February 2019 Defects Notification Period: 730 days Time for Completion: 730 days Original Completion Date: 31 January 2021	Contractor: POLAT YOL YAPI SANAYI VE TICARET A.S. Contract No.: 01/ICB/2018/L2 Accepted Contract Amount: AZN 59,604,647.11 excluding VAT and Price Adjustment Date of Contract signature: 19 November 2018 Commencement date: 1 March 2019 Defects Notification Period: 730 days Time for Completion: 730 days Original Completion Date: 28 February 2021

18. Contractors have mobilized construction equipment and plants at sites, key management and supervision staff, operators, drivers and increasing number of site workers 190 workers for Lot 1 and 395 workers for Lot 2). Major activities during the reporting period are:

- Site clearance and topsoil removal;
- Earthworks, roadway excavation and excavation of unsuitable material, rock filling, geotextile laying, embankment layers with suitable fill materials etc.;
- Granular Capping Layer, Subbase course and Crushed stone base course;
- Bituminous base course just started and done 500m including trial bed;
- Pipe, box culvert and cattle underpass construction;
- Piling works of Bridge no.2 at Mil Garabakh channel;
- Utility relocation works;
- Maintenance of existing and service roads, health and safety surveillance and control of environmental issues;
- Extraction of fill materials and transportation to site;
- Processing aggregates and transportation of materials.

19. Contractors carry out road construction works in half-width of the road and maintain general traffic on the other half width of the existing road and carrying out regular maintenance. They spray water regularly to subside dusts on the road and in the work sites.

20. For Lot 1, the physical progress of works is 6.81% against a target of 2.32 % during the reporting month of December 2019. Achieved progress as of to-date is 46.38% against a Target of 38.01%; while the progress is 8.32% ahead of the schedule.

21. For Lot 2, the physical progress of works is 9.04% against a target of 3.15 % during the reporting month of December 2019. Achieved progress as of to-date is 58.95% against a Target of 35.12%; while the progress is 23.83% ahead of the schedule.

II. ENVIRONMENTAL MANAGEMENT

A. Environmental Management Team

22. **EA/PIU:** The PIU has a Safeguard Specialist based in Baku with periodic field inspections and supervision. The Project Environment team consisted of staff of the PIU, Supervision Engineer, and Contractors for Lot 1 and Lot 2.

23. **Supervision Engineer:** The Supervision Engineer has one International Social and Environmental Safeguards Specialist (Ms. Nargis Halimova) and one National Environmental Specialist (Mr. Alizamin Mustafayev), who work both for Lot 1 and Lot 2 on intermittent bases. During the reporting period, Ms. Nargis Halimova has replaced Ms. Carlotta Aruiaga.

24. **Lot 1.** The Contractors has one Environmental Specialist (Mr. Orkhan Aliyev) who works full time During the reporting period, Mr. Orkhan Aliyev has replaced Mr. Anvar Aliyev. There have been no other changes to the project's environmental management team for the reporting period. The Contractor has also one OHS Manager and 14 flagmen for traffic management and safety during road construction works, and a Doctor for the first aid with a medical examination room and first aid kits in the workers' accommodation camp.

25. **Lot 2.** The Contractor has one local Environmental Specialist (Mr. Khalid Mammadov) who works full time, one OHS Manager and 17 flagmen for traffic management and safety during road construction works, and a Doctor and a medical services room with first aid kits in the camp.

B. Relationships between the EA/PIU, Supervision Engineer and Contractors

26. The PIU, Supervision Engineer and both Contractors have maintained a good working relationship for environmental management and monitoring. The Supervision Engineer and PIU have had regular inspections in construction sites and notify both Contractors about any identified environmental shortcomings through discussion and in written form along with the required corrective actions. The Contractors submitted Monthly and Quarterly Environment Reports for the Supervision Engineer's review and records as well as submission to the PIU.

C. Site Specific Environmental Management Plan (SSEMP)

27. Both Contractors have Site-Specific Environmental Management Plans (SSEMPs) which have been reviewed and approved by the Supervision Engineer and the PIU. The SSEMP includes SSEMP for Camp, Workshop, Plant Operation and Road Construction, which are supplemented with sub-plans for Water Pollution, Air Pollution, Noise, Waste Management, Soil, Site Drainage, Borrow Pit, Flora & Fauna, Cultural and Archaeological Find, Occupational Health and Safety Management Plan, Traffic Management Plan, and Traffic Control Plan for relevant road sections consented with the Road Police Department. There is also Project Grievance Mechanism in place.

D. Environmental Checklists for Monitoring

28. Site inspection checklists have been approved by the Supervision Engineer and the PIU as a part of the EMP and SSEMPs. The Environmental Specialists of the Supervision Engineer use the checklists in the construction sites inspections, as well as the OHS Managers and Environmental Specialists of both Contractors on their daily works.

E. Key Facilities and Material Sourcing Lot 1

29. **Construction Camp and Workshops**. The camp is located at km 15+150 on the right side of the project, approximately 0. 3 km from the nearest village. Plot of 6.0 ha of camp area was allocated by Khalaj village Municipality Department of the Ujar District. The Camp area can be divided into three main parts which include: (i) offices of the Contractor, Engineer and a site Laboratory; (ii) Workshop, ware house, reinforced concrete plant, oil drums storage area, fuel filling station, car wash and parking area; and (iii) accommodations, canteens (Engineers and the workers) and washing area. As the camp is at a distance of 0.3 km from nearest house, specific mitigation measures are followed to minimize impact to the communities, among others:

(i) The camp area fenced and will be secure and guarded;
(ii) Existing villages road inspections and cleaning will be carried out; All roads and access roads will be watered by sprinkler trucks during dry weather three times a day (morning at 9 o'clock, afternoon at 12 o'clock and evening at 6 o'clock) or as needed according to the local conditions;
(iii) All type of waste (domestic, sewage and wash water from each building) will be transported from the camp periodically by local adjacent Municipality and will be disposed and utilized in accordance with Azerbaijan legislation;
(iv) Weekly waste inspections are made outside the camp fence;
(v) It will be strictly prohibited to create an additional noise within residential and other sensitive areas (e.g. use of horns); Maximum noise levels at the camp boundary will not exceed 80 dBA and this limit will be strictly followed; Regular Noise and vibration control will be carried out by Local Ecological Department;
(vi) Working hours will be limited 40 hours per week according to Azerbaijan legislation (excluding overtimes);
(vii) Local communities and organization will be informed of the construction schedule and any noisy activities on a regular basis via workshops and other liaison, and others prevention and mitigation measures.

30. The workshops are located in the camp and are part of the same facility. Area of 1.0 ha for workshops was allocated by Khalaj village Municipality of the Ujar District and includes a general workshop, a welding area, warehouses, oil storage area, hazardous material storage area, reinforced-concrete production, and parking area.

31. **Construction Plants**. The plant yard is located at Dahnakhalil village of Agdash District. The general area of plant yard is approximately 10 km west side from District of Goychay. The plant yard includes three industrial plants: a). Asphalt plant; b). Concrete plant; c). Crushing plant. The land area of the plants' location is rented from Dahnakhalil Municipality Department of the District of Agdash. The plants are located 5 00 m from the closest village alongside the construction project. There are no other noise-sensitive receptors nearby. The plants are mobile and modern. Upon completion of all aggregate crushing, the plants will be dismantled and removed from site. The area will be restored at least to the pre-project condition.

32. **Borrow pit.** Garamaryam borrow pit is located on the north-west of the Goychay District approximately 2 5 km distance. The high point of the quarry is about 10-15 meters and the overall area is 5 ha. The total volume of borrow pit is 2.3 million m3. The borrow pit can be reached via an existing road.

F. Key Facilities and Material Sourcing Lot 2

33. **Construction Camp and Workshop.** The Contractor has established camp at km 59 (RHS) of the project road, constructed Contractor's office, staff accommodation, kitchen, laboratory building with equipment, etc. in the site camp. Also constructed and provided fully furnished Engineer's office in the premises of Contractor's Camp. The workshop is located in the camp and are part of the same facility.

34. **Construction Plants**. The Contractor Lot 2 has the following plants in the premises of the site camp and quarry area:

- Asphalt plant: Capacity 240 T/h. Installation in site camp is nearing completion.
- Concrete batching plant: Capacity 120 m3/h installed in the site camp. Calibration test is completed as well.
- Crushing plant: Installation is completed at the quarry area.
- Screening plant: Installation is completed at quarry area and is in operation.

35. **Borrow pit**. The borrow pit as Shahmaly quarry is within Kahrizli and Sharafkhanly villages of Agjabadi district at about 30 km from camp area. Materials are extracted from the borrow pit and transported to several stockyard in a roadside at km 44+500 RHS, km 52+000LHS and km 59+000.

Table 2. Borrow pit data

Source (Borrow Pit or Quarry)	Chainages	Description of Material	Approval Date	License /Permit
Shahmaly Quarry	30 km from camp	Embankment, capping, sub base and crushed base	8 Feb 19	Submitted

36. **Site laboratory**: Site laboratory is equipped and under operation for quality control tests for the project works. The Contractor has done Calibration of laboratory equipment by the Azerbaijan Standardization Institute. Calibration certificate has been reviewed and found satisfactory.

G. Documentation and Reporting for Lot 1 and Lot 2

37. Both Contractors have necessary agreements and permits for the above-stated facilities, including camps, workshops, plants, and borrow pits. Both have established a satisfactory system of documentation and periodic reporting on environmental management at satisfactory level. The inspection of site documentation showed that all relevant paperwork, including the Grievance Register, monthly reports, incoming and outgoing correspondences are stored properly. The folders with the IEE, EMP and SSEMPs and subplans are available at the contractors' offices.

III. ENVIRONMENTAL MONITORING, OCCUPATIONAL HEALTH AND SAFETY

A. General

38. According to the IEE/EMP, the environmental monitoring includes construction sites supervision and inspections, verification of permits, monitoring of compliance of the contractors' performance, instrumental environmental monitoring for noise and vibration, water and air pollution, as well as management of construction waste, flora and fauna, review of documentations, SSEMPs, environmental management and monitoring reports, and etc. provided by the Contractors and monitored by the Supervision Engineer.

- Instrumental monitoring for air quality, water quality, noise and vibration measurement: Lot 1 22 August, 18 December 2019, Lot 2 17 September,
- Daily site inspections by the Contractors' local Environmental Specialist and OHS Manager;
- HIV/AIDS Training: 05 August 2019;
- Public consultations on 27 August 2019 and ongoing grievances management;
- Bi-weekly site inspections by Supervision Engineer's local Environmental Specialist: (for 06, 20 July, 11, 29 Aug, 13, 29 Sep, 05, 21 Oct, 08, 26 Nov, 06, 24 Dec 2019);
- Periodic site inspection by the PIU and Supervision Engineer's International Social and Environmental Safeguards Specialist;

39. The International Social and Environmental Safeguards Specialist of the Supervision Engineer and the PIU's Safeguards Specialist have had site inspections in December 2019. The findings and observations from the site inspections and monitoring activities are given below in the report's section on "Site inspections and audits".

40. Instrumental monitoring for air and water quality and noise and vibration have been arranged by the Contractors for both Lot 1 and Lot 2. The National Environmental Monitoring Department of the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan has carried out the sampling for these instrumental environmental monitoring. The results of the instrumental monitoring under the reporting period are within the permitted limits as per national regulations, and are summarized in the following paras after presenting the relevant national environmental standards.

B. Azerbaijan environmental standards

Air Quality Standards

Table 3: National Ambient Air Quality Standards

Pollutants	Maximum allowed concentrations (mg/m^3)	
	Maximal concentration for a given moment	Average daily concentration
Carbonic Oxides (CO and CO2)	3.0	1.0
Sulfur Dioxide (SO2)	0.5	0.03
Nitrogen Oxides (NOx)	0.085	0.085
Non-toxic Dust	0.5	0.15
Ozone (O3)	0.16	0.03
Hydrocarbon (HC)	1.0	-
Lead (Pb) and its compounds (except tetraethyl lead)	0.0010	0.0002
Source: Maximum allowed concentrations of toxic elements in the working area GOST 12.1.005-88; Ministry of Ecology and Natural Resources, 2003.		

Water quality standards

Table 4: National Ambient Surface Water Quality Standards

№	Components	Allowed concentrations	Unit
1	Hydrogen index pH	6,5-8,5	
2	Electrical conductivity	-	$x10^{-3}$Cm/cm
3	Limpidity	> 30	cm
4	Turbidity	< 1,0	FTU(NTU)
5	Solid substances	0,25	mg/l
6	Dissolved oxygen	≥4,0	mg/l %
7	Roughness	7,0	mg-ekv/l
8	Calcium ion Ca2+	180,0	mg/l
9	Magnesium ion Mg2+	200,0	mg/l
10	Chloride ion, Cl-	350,0	mg/l
11	Sulphate ion, SO42-	500,0	mg/l
12	Bicarbonate ion,HCO3-	-	mg/l
13	Carbonat ion, CO3	-	mg/l
14	Na+ + K+ ions	-	mg/l
15	Sum of ions, ∑	<1000	mg/l
16	Nitrite ion, NO2-	0.02	mg/l
17	Nitrate ion, NO3-	9,0	mg/l
18	Ammonium ion, NH4 +	0.39	mg/l
19	Phosphate ion, PO43-	0,05	mg/l
20	SSAM	0.1	mg/l
21	Phenol	0.001	mg/l
Source: Maximum allowed concentrations of toxic elements in the surface water Decree № 1. Monitoring Committee of Ecology and Natural Resources, 1994.			

Noise & vibration standards

Table 5: Maximum Allowable Noise Levels

Type of area	Noise standard (max) in decibel (dBA)	
	Day (06:00-23:00)	Night (23:00-06:00)
Residential Areas (apartment houses)	50	40
Commercial Areas: a) Restaurants, cafe	65	65
b) Shops, airports, bus stations	70	70
Hotels, dormitories and recreation centres	60	50
Halls of hotels, dormitories and boarded houses	60	60
Areas directly adjacent to hotels and dormitories	75	65
Administrative buildings; scientific, research and project institutions	65	65
Doctors' rooms in medical institutions	50	50
Areas directly adjacent to hospitals and sanatoriums	60	50
Areas directly adjacent to policlinics, dispensaries, boarded houses, geriatric and disabled person's homes, libraries, kindergartens, schools, etc. educational centers.	70	60
Sensitive areas: a) bedrooms in hospitals and sanatoriums	50	40
b) surgical wings in the hospitals	45	45
c) yard of hospitals and sanatoriums	35	35
d) geriatric and disabled persons homes, kindergartens and orphanages	55	45
e) educational institutions, conference halls, meeting rooms and reading room in the libraries	55	55
Source: Noise Standards DÜST 17187 (State General Standards and Requirements, Presidential Decree No 796 from 8th of July, 2008).		

Table 6: Maximum Allowable Vibration Levels

Type of areas	Vibration standard (max) in decibel (dBA)	
	Day (06:00-23:00)	Night (23:00-06:00)
Residential (apartment houses)	77	72
Commercial: Restaurants, café, shops, airports, bus stations	80	80
Hotels, dormitories and recreation centres	80	75
Administrative buildings; scientific, research and project institutions	80	80
Doctors' rooms in medical institutions	77	77
Sensitive areas: a) bedrooms in hospitals and sanatoriums	74	69
b) surgical wings in the hospitals	69	69
c) geriatric and disabled persons homes, kindergartens and orphanages	77	72
d) educational institutions, conference halls, meeting rooms and reading room in the libraries	77	77
Source: Noise Standards DÜST 17187 (State General Standards and Requirements, Presidential Decree No 796 from 8th of July, 2008).		

C. Instrumental Monitoring Results: Lot-1

41. The results of the instrumental monitoring for water and air pollution as well as noise and vibration show the indicators are within the permitted standards. Below are given further discussion and sample results are provided in Annex 1.

42. **Water quality monitoring:** 5 water monitoring stations have been located within the Project's start and end points (figure 2). The results of monitoring of samples taken during the reporting period show that some determinants in some monitoring stations were above Azerbaijan standards (Table 4). However, this is not related to the construction works as its normal baseline was high. Below is summary of results:

- Goychay, Garasu, Gizlig rivers and Lower Shirvan Collector- the pH was in norm, it was not higher than the permitted limit;
- In Goychay, Garasu rivers and Lower Shirvan collector - turbidity was in the permitted limit;
- Heavy metal levels are all below the national standards;
- Nitrates/Nitrites and other major ions are below the national standards;
- Oil and grease levels are below the permitted limits.

Figure 2. Water quality monitoring stations

43. **Air quality monitoring**: 2 air monitoring stations have been located within the Project's start and end points (figure 2). Air quality monitoring results for all determinants and all monitoring stations were below Azerbaijan standards.

Figure 3 Air monitoring points

44. **Noise and vibration:** 6 noise and vibration monitoring stations have been located within the Project's construction area (figure 3). Noise and vibration monitoring results were all below the permitted limits.

Figure 4. Noise and vibration monitoring points

45. **Actions.** No actions are required in response to the above-mentioned monitoring results under the reporting period as the monitoring indicators are within the permitted limits.

D. Instrumental Monitoring Results: Lot 2

46. The results of the instrumental monitoring for water and air pollution as well as noise and vibration show the indicators are within the permitted standards. Below are given further discussion and sample results are provided in Annex 2.

47. **Water quality monitoring**: There have been located 2 water monitoring stations within the Project's start and end points (figure 4). Water quality monitoring results for some determinants and some monitoring stations were above Azeri national standards it is not related to the construction works, its normal baseline is high (Table 1). Below are some details about the results:

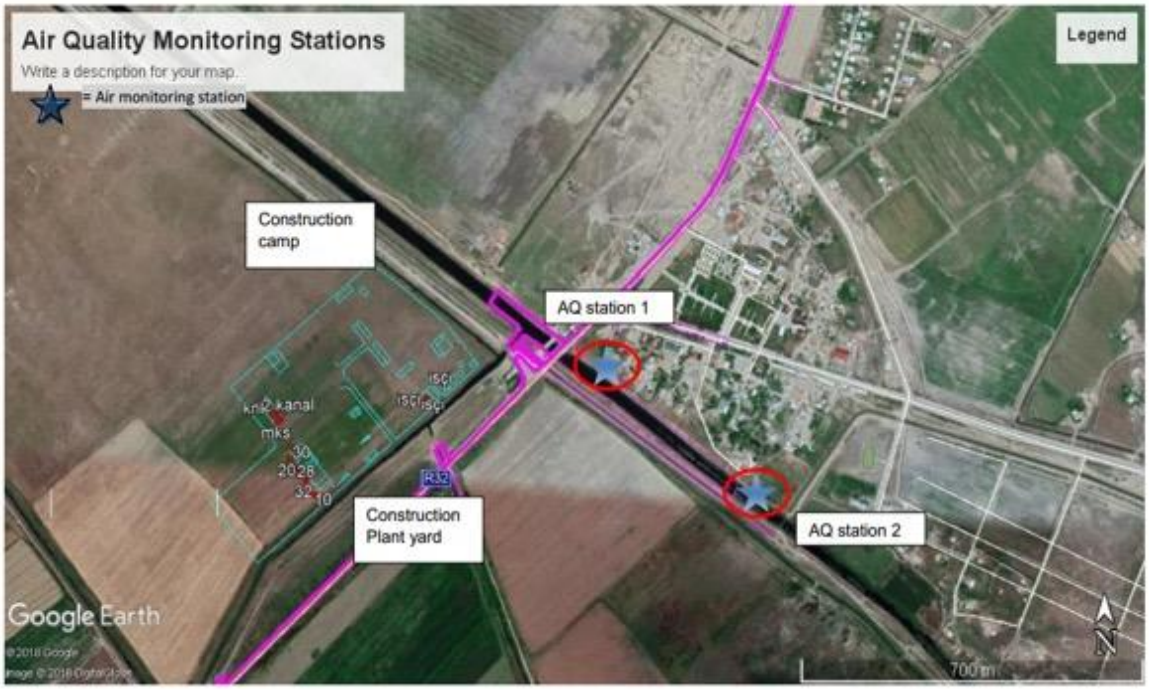
(i) Goychay, Garasu, Gizlig rivers and Lower Shirvan Collector pH are in norm and permitted limit,
(ii) The turbidity in Goychay, Garasu rivers and Lower Shirvan collector is in the permitted limit
(iii) Heavy metal levels are all well below than the national standards
(iv) Nitrates / Nitrites and other major ions are well below than the standards at all locations.
(v) Oil and grease levels are below than the permitted limits.

48. All water quality monitoring results for all determinants and all monitoring stations were below Azeri national standards during the present reporting period.

Figure 5. Water quality monitoring stations

49. **Air quality monitoring**: 2 air quality monitoring stations have been located within the construction area (figure 5). All air quality monitoring results for all determinants and all monitoring stations were below Azeri national standards during the reporting period.

Figure 6. Air quality monitoring stations



50. **Noise and vibration:** 8 noise and vibration sensitive receptors have been located within the Project's construction area (figure 7). The monitoring results show that noise and vibration monitoring results were all below the permitted limits during the reporting period.

Figure 7. Sensitive receptors 1 and 2 for noise and vibration

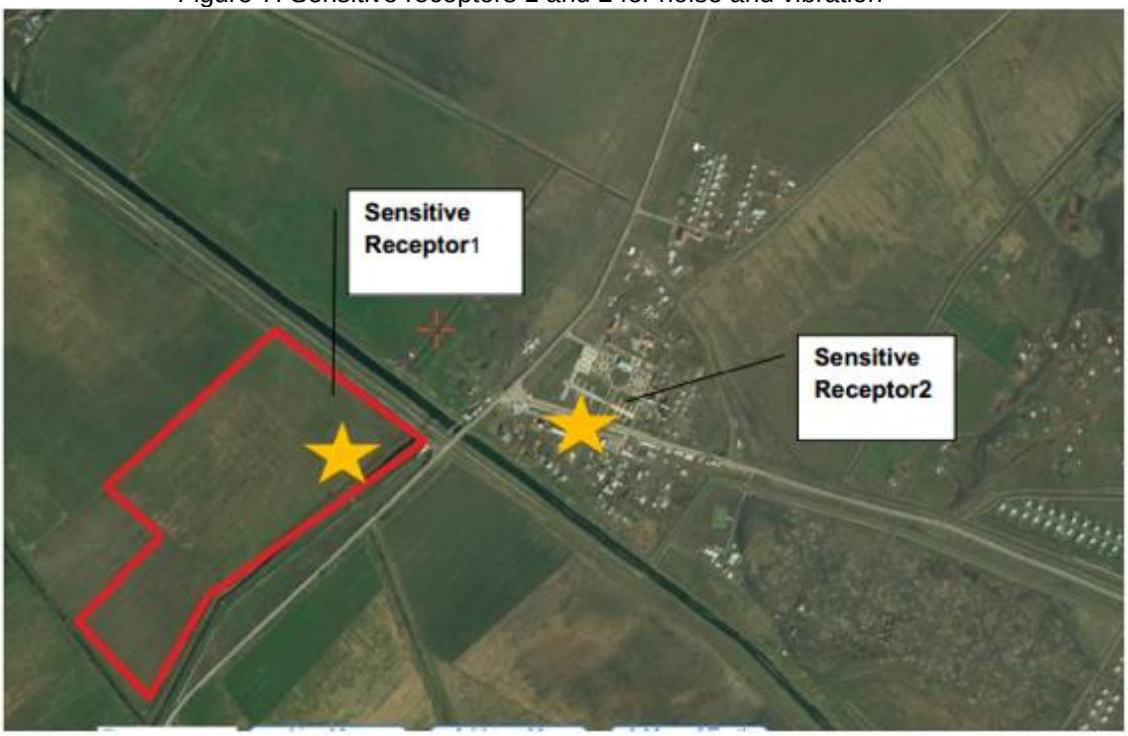


Figure 8. Sensitive receptors 3 and 4 for noise and vibration

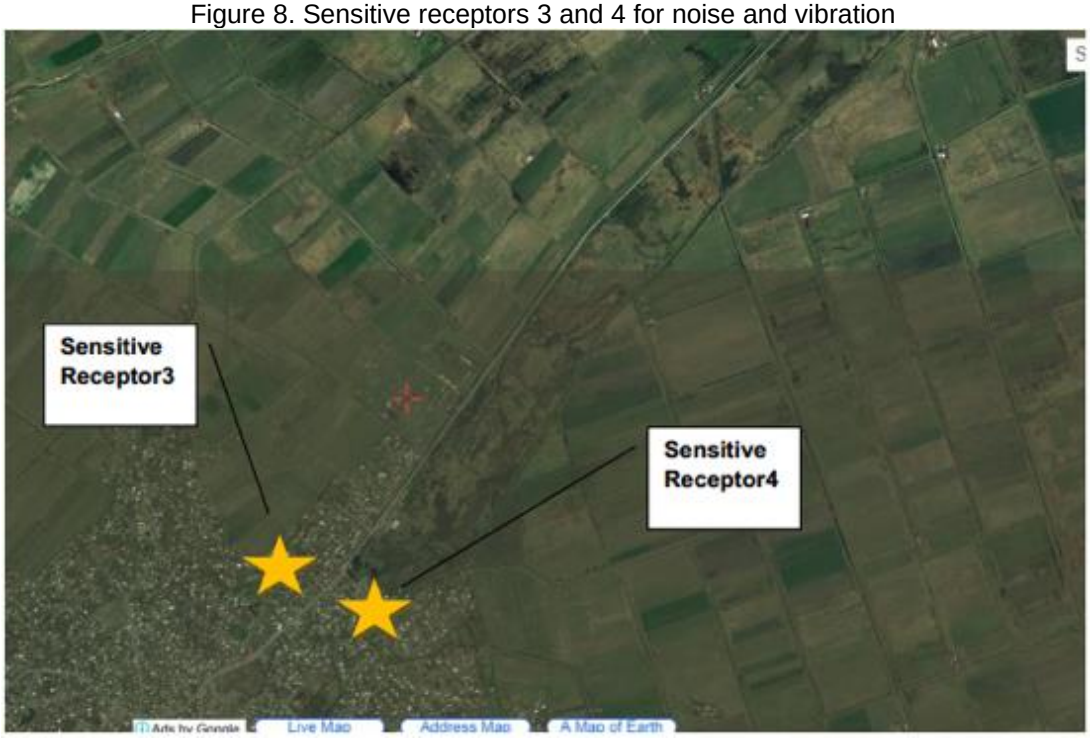


Figure 9. Sensitive receptors 5 and 6 for noise and vibration

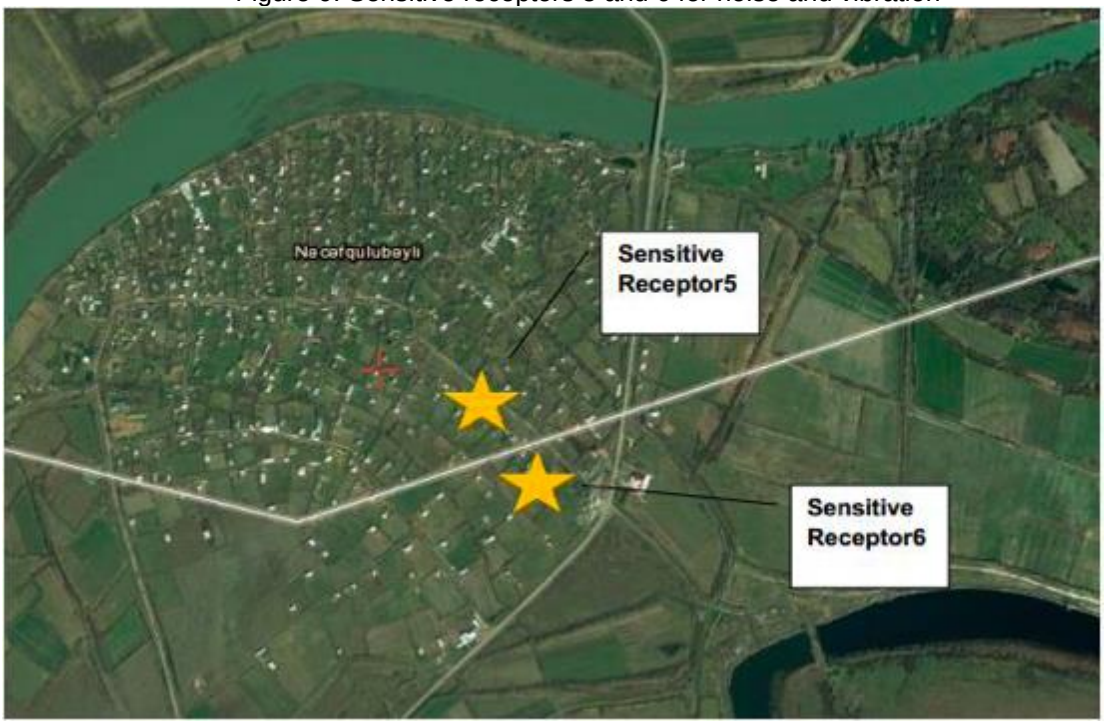
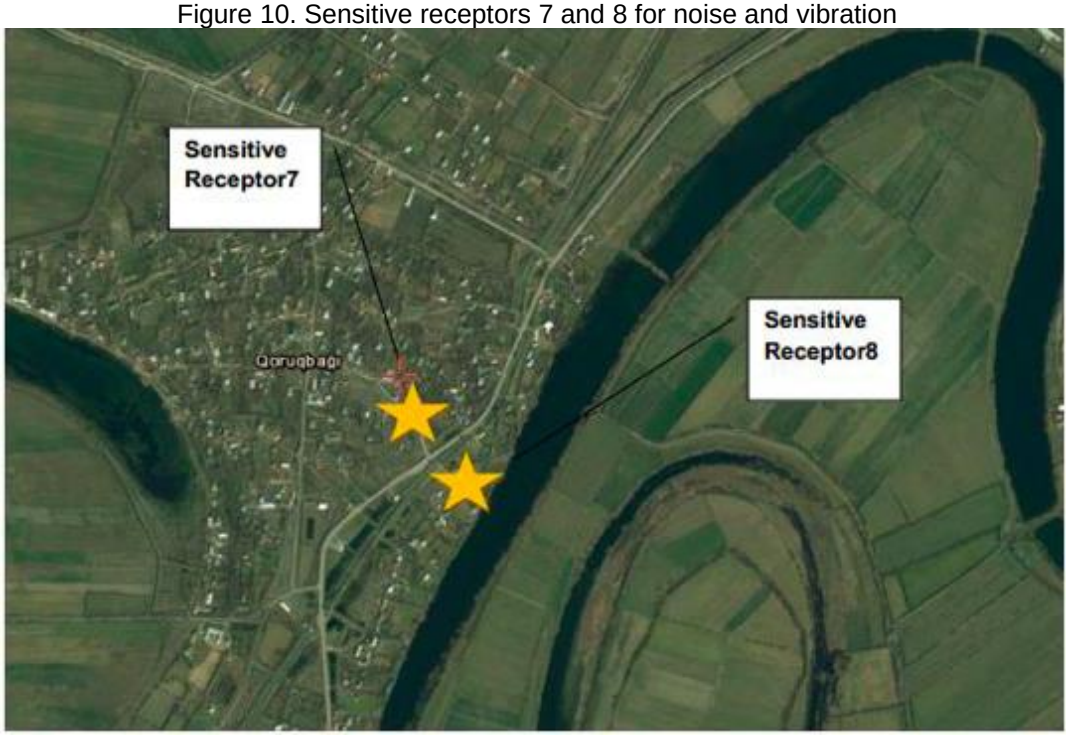


Figure 10. Sensitive receptors 7 and 8 for noise and vibration



51. **Actions.** No action is required in response to the above-mentioned monitoring results under the reported period as the monitoring indicators are within the permitted limits.

E. Site inspections and audits: Lot 1

52. Number of site inspections has been carried out during the reporting period by the staff of the Supervision Engineer and PIU, as well as daily inspections by the Contractors staff including:

(i) The Supervision Engineer's International Environmental Specialist (Ms. Nargis Halimova), together with PIU Safeguards Specialist (Mr. Arastun Guliyev) visited the sites in both Lot 1 and Lot 2 in December 2019;

(ii) The Contractor's local Environmental Specialist and OHS Manager check sites daily, with a full audit of all sites once a week;

(iii) The Engineer's local Environmental Specialist visits all sites on a bi-weekly basis, with additional ad hoc visits as required.

53. Based on the site inspections, review of monthly and quarterly reports of the Contractor and Supervision Engineer, and other documents and records, the following status and shortcomings are found for the reporting period:

54. **Cultural heritage.** No cultural affections have been detected.

55. **Flora and fauna.** No flora and fauna have been disturbed and no animal mortality reported due to the construction works. no wildlife or bird sanctuary or protected area lies within the ROW.

56. **Borrow Areas**. The Supervision Engineer's local and International Environmental Specialists have visited the borrow areas within the reporting period. The Supervision Engineer provided instructions to the Contractor's staff about proper utilization of borrow areas and traffic management during material transportation. The Contractor has obtained permits from the authorities for use of the borrow areas.

57. **Waste management.** The Contractor has SSEMPs and arrangements for (i) hazardous and (ii) domestic waste in workshops, construction sites and camps.

58. Hazardous waste is stored in the dedicated hazardous waste storage area, which is generally bounded. According to the agreement with Flat Communal Exploitation (FCE) of Ujar District hazardous waste is collected once a week and transported for disposal in accordance with Azerbaijan legislation.

59. Domestic waste is placed in dedicated bins around the site on a daily basis. These bins are emptied daily into larger containers, which are then emptied twice a week by FCE of Ujar District.

60. However, more training an awareness raising should be provided to staff and workers about waste management, separate hazardous and domestic waste in different containers, construction sites and keep working places clean. Both construction waste (big plastic packages, pipes and metal materials) and domestic waste (cigarettes, papers, drink cans) have been observed in the camp yard and workshop areas.

61. **Waste Water Management.** Technical waste water that is due to construction works, such as cleaning and washing equipment and trucks, and effluents from the concrete and crushing plants, and contaminated with lubricants, high levels of sediment, and other pollutants, is

collected in impervious concrete basins, and is sucked into tankers for future disposal as hazardous waste once a week (Friday) in accordance with the agreement with FCE of Ujar District.

62. Domestic wastewater from toilets, showers, kitchens and domestic areas is passing through the preliminary sedimentation and then discharge into concrete septic tanks. Suction vehicles empty the tanks periodically as needed, in accordance with the agreement with FCE of Ujar District.

63. **Road Safety and Traffic Management.** At construction sites adequate signs and signals have been arranged and speed limits have been set. The Contractor has deployed 14 flagmen in the road construction sites to control the traffic in day and night shift. On regular intervals, the trainings of flagmen are arranged on traffic management by the Engineer and Contractor's OHS team. No accidents during the reporting period involving the public have been reported. Safety ribbons are placed in along the road sides in areas where are slopes. However, in some road sections despite the needs, the safety ribbons are missing. The contractor should control and make sure the safety ribbons and warning signs are in place in the road construction sites.

64. **Safety and fencing in road construction sites.** The safety on construction sites needs improvement. The Contractor should (i) provide more training and awareness raising to its personnel and workers about safety at work sites, and (ii) fence the construction areas close to the settlements and pedestrians to not allow the entrance of unauthorized people (especially children) to the construction area to avoid accidents and health and life risks.

65. **Dust control and trucks uncovered.** It should be continuously controlled and improved. During the July to September months of the reporting period, the dust control was a more critical issue due to hot and dry summer compared to the October to December 2019 with start of rains and winter season. During the field inspection in December 2019, dust was satisfactory managed. However, all the observed trucks carrying soil materials were uncovered. The Supervision Engineer instructed to control continuously dust by regular water sparkling, regulating traffic speed, and ensure the trucks carrying soil materials are covered.

66. **Unsuitable materials and bitumen debris in road sides**. Dumping these materials in road side should be stopped and the dumped materials should be removed immediately.

67. **Workers accommodation camp and workshops.** In general, the workers accommodation facility and cleanness are satisfactory. The camp is equipped with toilets, toilets and showers with cold and hot water, and fire extinguishers. The rooms are equipped with air-conditioning (heating and cooling function for winter and summer), and electricity. In the corridors and the entrance, there are fire extinguishers. Each room has access to corridor and exit, and a window to outside. Two to 4 men in one room, equal to 6 sqm per person. Health and first aid kits are available at the camp.

68. However, some shortcomings are observed such as:

(i) Lack of air ventilations, smoke detector and fire alarms in workers accommodation,
(ii) Waste in the camp yards (smoked cigarettes, papers, plastic bags and other waste are thrown on the ground),
(iii) Fuel/oil tanks in open area,
(iv) Some oil spills in the workshop area;
(v) Open fire in the workshop area.

69. **Open fire in the workshop area.** Burning the construction waste like oil tubes and cans and open fire in the workshops area was observed which is prohibited. All staff and workers should be warned not to burn any waste and not to make any fire in the camp, workshops and other construction sites (see photos).

70. **Fuel and oil spills.** Oil and fuel were kept in the covered containers at the concrete surface area. However, in some location all over the workshop area, oil and fuel spills on the ground (soil) were observed because the vehicles' repairing and maintenance are carried out outside the designated workshop area, though this should not be allowed. Fuel spills are also observed at the fuel filling station.

F. Site inspections and audits: Lot 2

71. The monitoring and site inspection routine for the Lot 2 have been similar as for the Lot 1 above. Number of site inspections has been carried out during the reporting period by the staff of the Supervision Engineer and PIU, as well as daily inspections by the Contractors staff including:

(i) The Supervision Engineer's International Environmental Specialist (Ms. Nargis Halimova), together with PIU Safeguards Specialist (Mr. Arastun Guliyev) visited the sites in both Lot 1 and Lot 2 in December 2019.

(ii) The Contractor's local Environmental Specialist and OHS Manager check the sites daily basis, with a full audit of all sites once a week.

(iii) The Engineer's local Environmental Specialist visits all sites on a bi-weekly basis (29 July 2019, 12 September 2019, xx, 11 December 2019), with additional ad hoc visits as required.

72. Both Contractors share similar shortcomings. Based on the site inspections, review of monthly and quarterly reports of the Contractor and Supervision Engineer, and other documents and records, the following status and shortcomings are found for the reporting period.

73. **Cultural heritage.** No cultural affections have been detected.

74. **Flora and fauna.** No flora and fauna were disturbed by the construction works. No mortality of animal was reported and no wildlife or bird sanctuary or protected area lies within the ROW.

75. **Waste management.** The Contractor has SSEMPs and arrangements for (i) hazardous and (ii) domestic waste in workshops, construction sites and camps.

76. Hazardous waste is stored in the dedicated hazardous waste storage area, which is generally bounded. According to the agreement with FCE of Ujar District hazardous waste is collected once a week and transported for disposal in accordance with Azerbaijan legislation.

77. Domestic waste is placed in dedicated bins around the site on a daily basis. These bins are emptied daily into larger containers, which are then emptied twice a week by FCE of Agchabadi District.

78. Similar to Lot 1, more training shall be provided to site staff to raise awareness on waste management and to train workers to separate hazardous and domestic waste in different

containers, construction sites and keep working places clean. Both construction waste (big plastic packages, pipes and metal materials) and domestic waste (cigarettes, papers, aluminum beverage cans) have been observed in the camp and workshop areas of the Contractor for Lot 2 too.

79. **Waste Water Management.** Technical waste water that is due to construction works, such as cleaning and washing equipment and trucks, and effluents from the concrete and crushing plants, and contaminated with lubricants, high levels of sediment, and other pollutants, is collected in impervious concrete basins, and is sucked into tankers for future disposal as hazardous waste once a week (Friday) in accordance with the agreement with FCE of Agchabadi District.

80. Domestic sewage/wastewater from toilets, showers, kitchens and domestic areas is passing through the preliminary sedimentation and then discharge into concrete septic tanks. Suction vehicles empty the tanks periodically as necessary, in accordance with the agreement with FCE of Ujar District.

81. **Safety and fencing in road construction sites.** The safety on construction sites needs improvement. The Contractor should (i) provide more training and awareness raising to its personnel and workers about safety at work sites, and (ii) fence the construction areas close to the settlements and pedestrians. During the December 2019 field inspections, 3 children of 5 to 9 years old were noticed playing nearby the stockpile of soil material and the working machine (vehicle) in in the road construction site. Therefore, in areas close to the villages and settlements, the construction areas shall be fenced to not allow the entrance of unauthorized people (especially children) to the construction area to avoid accidents and health and life risks.

82. **Road Safety and Traffic Management.** At construction sites adequate signs and signals have been arranged. Also, flagmen are working to guide the traffic at places of interference. The Engineer instructed the Contractor about the HSE issues, and lack of Traffic signs and lightness system during night time. The Engineer monitoring traffic management issue regularly and instruct the contractor about improving traffic safety issues during night time works and on the bridge construction areas. To avoid from unexpected accidents bridge construction areas were provided with safety ribbons and warning signs. The Contractor regularly identifies the potential impacts of construction traffic and outlines the required measures to mitigate these impacts.

83. The Contractor has deployed 17 flagmen throughout the road construction sites to control the traffic in day and night shift. On regular intervals, the trainings of flagmen are arranged on traffic management by the Engineer and Contractor’s OHS team. No accidents during the reporting period involving the public have been reported.

84. Safety ribbons placed along the road sides especially in areas where are slopes. However, in many road sections despite the needs (e.g. slope in road that drivers may not be notices in the dark time), the safety ribbons are missing. The contractor should provide safety ribbons and warning signs throughout the road construction sites.

85. **Dust control and loaded trucks uncovered.** This issue is also similar to the Lot 1. Dust should be continuously controlled and improved. During the field inspection in December 2019, dust was satisfactory managed. However, all the observed trucks were carrying soil materials uncovered. The Supervision Engineer instructed to control continuously dust by regular water sparkling, regulating traffic speed, and ensure the trucks carrying soil materials are covered.

86. **Reported accident**. During the reporting period, one road accident has been reported. According to the records, road accident happened on 19 July 2019 at around 08.20 am at Km 65+000 of Reconstruction of Zardab to Agjabadi Section Lot 2 km 37.00- km 70.50 project road. The car accident was immediately reported to Police, insurance and other related parties. The accident happened due a short distance between the vehicles and wrong passing maneuver. Both vehicles had wrecks and taken to the penalty area. No injuries are reported.

87. No other accidents involved with the workers are reported in the reporting period except the minor injuries (e.g. small cuts and bruises), as mentioned by the doctor at the workers accommodation camp.

88. **Workers accommodation.** The workers accommodation in general are well arranged, provided with toilets, shower rooms, hot and cold water, personal sanitary items (soap in toilets for washing hands) and so on. The rooms are equipped with air-conditioning (heating and cooling function for winter and summer), and electricity. Each room has direct access to corridor and exit, and has one window to outside. In the corridors and the entrance, there are fire extinguishers. Two to 4 men in one room, equal to 6 sqm per person. However, the following shortcomings should be addressed:

(i) Lack of air ventilation in the corridors and rooms;
(ii) Lack of smoke detector and fire alarms;
(iii) Windows cannot be opened fully to allow unhindered exit in case of fire or other emergencies. Windows opening system should be changed to allow open it widely for unhindered exit in case of fire or other emergencies.
(iv) Improve cleanness: domestic waste should not be thrown on grounds (e.g. cigarettes, beverage cans, papers and plastic items seen in the camp and workshops area);
(v) Awareness raising to the workers to keep the camp territory clean.

89. **Workshop for vehicles maintenance and repairing.** The Contractor has built a workshop for maintenance and repairing of vehicles to avoid the vehicles' oil spills in undesignated areas. However, the built workshop seems to be not big enough to meet the maintenance and repairing needs of number of vehicles the Contractor has. It was noticed that occasionally the vehicles' maintenance and repair took place outside the workshop in the camps territory and resulted in spills of vehicles oils' in soil. The Contractor should ensure:

(i) Prohibit vehicles maintenance and repairing outside the workshop premise;
(ii) Train all personnel to follow queuing in vehicles' maintenance and repair in the existing workshop or build additional workshop for vehicles repairing if this space is not enough.

G. Occupational Health and Safety: Lot 1

90. Basic medical training and basic medical service are provided to workers. The Contractor has a doctor and medical examination room in the construction workers' accommodation camp. The room is provided with fridge/freezer storage of medicines, and other first aid kits are available. According to the EMP, when needed, the doctor provides first aid for minor injuries. The serious injuries in case of any accident should be transferred to the regional hospital.

91. **Personal Protective Equipment (PPE)** shortcomings are observed. Workers lack of the PPE. The Contractor should ensure all workers are supplied with and wear the complete set of PPE. It was observed in some cases, while wearing the reflective jackets, the workers lacked helmets, gloves, working jackets and trousers, or other specially required PPE such as respiratory masks when needed). The following corrective actions are required:

(i) The Contractor should order and supply enough and full set of the PPE to every single worker as their jobs require, regardless of their formal positions (it was observed that mostly the management and the foremen have complete working clothes, helmets and warm jackets, etc. while the workers lack of it);
(ii) Provide training and awareness raising to workers about OHS, health and life importance of PPE;

92. **Site laboratory.** In general, meets the environmental requirements. However, the following corrective actions are required:

(i) Lack of air ventilation;
(ii) Lack of smoke detector and fire alarms;
(iii) Laboratory workers were not wearing respiratory masks (avoid inhaling dust and other chemicals to protect lungs and avoid other health risks);
(iv) Eating or drinking should not be allowed in the laboratory due to health risks (food and drink have been observed in the laboratory room).

93. **Accidents**. No major accidents involving the workers or public are reported. The doctor on the camp mentioned about the minor injuries (e.g. small cuts or bruises) and other health care service provided to workers daily (e.g. blood pressure measuring, checking any health complaints of workers).

94. **OHS and HIV/AID Training.** According to the records and monthly reports, the second HIV/AIDS Information Training was held on 19 November 2019 However, the number of participants in each training sessions conducted should be increased to reach as more workers as possible.

H. Occupational Health and Safety: Lot 2

95. Basic medical services are provided to workers. The Contractor has a doctor and a medical examination room in the construction workers' accommodation camp. The room is provided with fridge/freezer for storage of medicines, and other first aid kits are available. According to the EMP, when needed, the doctor provides first aid for minor injuries. The serious injuries in case of any accident should be transferred to the regional hospital.

96. **PPE**. The Contractor has provided PPE to workers and the OHS Manager put efforts to ensure that all the workers wear the PPE. However, it was observed that not all the workers wear the PPE and the lack of complete set of PPE has been observed too (e.g. while wearing reflective vest, they missed helmets, gloves, trousers and jackets, or other specially required PPE as jobs requires (e.g. laboratory workers did not have respiratory masks). The following corrective actions are required:

(i) The Contractor should supply enough quantity and full package of the PPE to every single worker as their jobs require, regardless of their formal positions;
(ii) Provide training and awareness raising to the workers about OHS, health and life importance of PPE;

97. **Site laboratory**. The status and issues are similar to the site laboratory for Lot 1. In general, meets the environmental requirements. However, the following shortcomings are observed:

(i) Lack of air ventilation;
(ii) Lack of smoke detector and fire alarms;
(iii) Laboratory workers did not wear respiratory masks (avoid inhaling dust and other chemicals to protect lungs and health);
(iv) Eating or drinking should not be allowed in the laboratory due to health risks.

98. **Accidents**. No major accidents involving the workers or public are reported. The doctor on the camp mentioned about the minor injuries (e.g. small cuts and bruises) and other health care services provided to workers daily (e.g. measuring blood pressure, checking any health complaints).

99. **OHS and HIV/AID Training.** The second OHS and HIV/AIDS Information Training was held on 5 August 2019. Basic medical training and information were provided to workers.

I. Non-Compliance and Corrective Actions: Lot-1

100. The Contractor has maintained satisfactory performance on the required environmental management measures provided in the EMP and SSEMPs. However, non-compliance practices and shortcomings have been also observed which the Supervision Engineer has communicated with the Contractor on the sites and on regular bases. The Supervision Engineer has also issued formal letters with instructions and required corrective actions (Table 7).

101. The Contractor has put efforts and addressed most of the mentioned non-compliances during the reporting period. However, since the impacts are and may re-occur, they require continuous efforts. The Supervision Engineer's team should follow up and monitor regularly to ensure the non-compliances are timely addressed, and where applicable, re-occurrence is prevented. In general, environmental management has been acceptable during the reporting period and mitigation measures set out in the EMP and SSEMPs have been implemented satisfactory in general.

J. Non-Compliance and Corrective Actions: Lot-2

102. The routine and requirements for the environmental management and monitoring for Lot 2 are the same as for Lot 1. The Contractor for the Lot 2 also has in general maintained satisfactory performance for the environmental management requirements as per the EMP and SSEMPs. However, similar shortcomings have been also observed. Like above, the Supervision Engineer has communicated them with the Contractor regularly both in verbal and written forms. The Supervision Engineer has also issued number of formal letters with required corrective actions to the Contractor (Table 8).

Table 7. Non-compliances notices during the reporting period

Month	Non-compliance issues	Official note issued	Corrective action	Status	Further actions/ comment
07/2019	Dumping of excavated and unsuitable material along the road sides	AH-KBT-19-R32-Lot 1-095	Remove the topsoil and unsuitable material to a safe disposal area	Improved	Follow-up and ongoing site inspections
07/2019	Maintenance of existing road – Road Safety	AH-KBT-19-R32-Lot 1 -115	Ensure a proper traffic management and remove concrete debris from the site to a safe disposal area.	Improved	Follow-up and ongoing site inspections
08/2019	Proper dust control	AH-KBT-19-R32-Lot 1-118	Water sparkling road sites regularly	Improved	Follow-up and ongoing site inspections
09/2019	Demolishing existing structures and disposal to spoil areas	AH-KBT-19-R32-Lot 1-132	Remove the demolished old pipes and box culvert concrete debris to a safe disposal area.	Improved	Follow-up and ongoing site inspections
11/2019	Delay in submitting OHS and environmental reports	AH-KBT-19-R32-Lot 1-162	Submit all the reports in time	Improved	Follow-up and ongoing site inspections
11/2019	Traffic management, Health, Safety and Environment shortcomings at construction site	AH-KBT-19-R32-Lot 1-164	Follow the Traffic Management Plan, Health and Safety Plan rules strictly	Improved	Follow-up and ongoing site inspections
12/2019	Public Complaint about vibration impact	AH-KBT-19-R32-Lot 1-170	Use methods of reducing vibration and not to cause the public complaint in future.		Follow-up and ongoing site inspections
12/2019	Betium debris in road sides	AH-KBT-19-R32-Lot 1-179			Follow-up and ongoing site inspections

Table 8. Non-compliances notices during the reporting period

Month	Non-compliance issues	Official note issued	Corrective action	Status	Further actions/ comment
07/2019	Dumping of excavated topsoil and unsuitable materials along the road sides.	AH-PLT-19-R32-Lot 2-074	Stop dumping unsuitable excavated materials along roadsides, remove immediately previously dumped all unsuitable materials from road sides; Execute all works in strict compliance to Specification requirements and the approved method statements. For your urgent actions please.	Removed	Still some noticed in some areas
	Maintenance of the existing road – HSE Issues.	AH-PLT-19-R32-Lot 2-087	Workers should wear PPE at sites; all the employees should be provided with PPEs. Dust control works should be done more frequently with adequate watering.	Improved	PPEs provisions still challenging; follow-ups needed to ensure workers supplied with PPEs and wearing. Water sprinkling should be monitored continuously.
09/2019	Traffic Safety – Increasing accidents.	AH-PLT-19-R32-Lot 2-115	Put full efforts for maintenance of existing road, traffic management control by increasing the road signs and flagmen immediately.	Improved;	Follow-up and ongoing site inspections
5/09/2019	Delay in monthly monitoring for air, water pollution, noise and vibration; Conduct public consultation as per schedule every three months.	AH-PLT-19-R32-Lot 2 - 103	Arrange the monitoring for air, water pollution, and noise and vibration monthly and provide reports on time; Conduct public consultation as per schedule and provide reports on time	Submitted	
11/2019	Environmental Monitoring	AH-PLT-19-R32-Lot 2-143	Carrying out regular environmental monitoring and submission the reports.	Submitted	
12/2019	Delay in submit of HSE reports	AH-PLT-19-R32-Lot 2-163	Submit of HSE reports without delay	Submitted	

IV. PUBLIC CONSULTATIONS AND GRIEVANCE MANAGEMENT

103. The conducted public consultations and grievance management for both Contractors for Lot 1 and lot 2 are summarized below. Both contractors have schedule for conducting one regular public consultation (additional consultations upon needs) every quarter as per Table 9 below.

Table 9. Public Consultation schedule

Location	January 2019	April 2019	July 2019	October 2019	January 2020	April 2020	July 2020	October 2020
Ujar and Zardab districts	x	x	x	x	x	x	x	x
Villages of Districts	x	x	x	x	x	x	x	x

104. The Project has a GRM to address potential complaints from affected persons, communities or other public members to ensure smooth implementation of the project. Both of the Contractors have designated personnel to receives and register the grievances in the Grievance Registration Book for management and tracking their resolution status. The received grievances and their resolution status per each Contractor follows below.

A. Public Consultation and Grievance Management: Lot 1

105. **Public consultations.** During the reporting period two public consultations were held in Lak and Khalai villages on 10 and 17 of December 2019 respectively (as per the monthly and quarterly reports of the Contractor submitted to the Supervision Engineer). The key issues discussed included: (i) construction process and schedule; (ii) HIV awareness; and (iii) the Grievance Redress Mechanism. The list of participants and photos in Annex 3.

106. **Grievances.** There were only two grievances recorded at the reporting period. The grievances were related to (i) requesting a pipe culvert; (ii) damage to the Azersun Holding LCC advertisement board. The claims have been satisfied and grievances are solved (Table 7).

B. Public Consultation and Grievance Management: Lot 2

107. **Public consultations.** During the reporting period one public consultations were held in Construction Camp (Lachin Obalari) village on 2 August 2019 (as per the monthly and quarterly reports of the Contractor submitted to the Supervision Engineer). The key issues discussed included: (i) construction process and schedule; (ii) HIV awareness; and (iii) the Grievance Redress Mechanism. The list of participants and photos in Annex 4. The second Public Consultation was carried out on 27th August 2019.

108. **Grievances**. There was only one grievance recorded at the reporting period. The grievances were related to (i) damage to the road side stables of complainants; (ii) damage to the natural barrier of the farmer. The damages are restored and grievances are solved (Table 8).

Table 10. Grievance Log Book Lot 1

No	Tranche	Location	Date received	How grievance received	Complainant	Description of the issues	Contact details	Undertaken actions	Status
1	Lot-1	Ujar region, Lak village	26.07.2019	Official letter	Lak villagers	Request a pipe culvert	Lak Municipality	The contractor provided a pipe culvert as requested by the Lak villagers	Solved
2	Lot-1	At the existing road side, between km 28 km-29km	02.10.2019	Official letter	Azersun Holding	Damage to Azersun Holding LLC advertisement board	Baku city, Dalga plaza	The contractor repaired the advertisement board as requested	Solved

Table 11. Grievance Log Book Lot 2

No	Tranche	Location	Date received	How grievance received	Complainant	Description of the issues	Contact details	Undertaken actions	Status
	Lot-2	Goruqbagi village	27.08.2019	Official letter	Mammadov Efrayim	Damage to the stable of complaint	Gorugbagi Municipality	Contractor provided ½ trucks of bricks, 2 truck of gravel, 10 bags of cement, and paid cash 300Azn to the compliant.	Solved
2	Lot-2	Goruqbagi village	04.11. 2019	Official	Guluyev Hafiz	Demolished the stable of complaint.	Gorugbagi Municipality	Contractor paid cash 1350 Azn.	Solved
3	Lot-2	Goruqbagi village	27.11.2019	Official	Garayev Bayali	The natural barrier of the agricultural land of the complaint was removed due to road construction works.	Gorugbagi Municipality	Contractor excavated approximately 300-meter-long channel around the complaint's agricultural land by his own consent.	Solved

V. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions and recommendations

109. The road construction works have progressed significantly during the reporting period and generally in a compliant status. Both Contractors for Lot 1 and Lot 2 continue implementing the mitigation measures as per the EMP and SSEMPs and no specific major environmental issues have been emerging. ADB and the Supervision Engineer have been conducting environmental monitoring and providing technical support to the Contractors as needed.

110. The environmental management had been satisfactory through some shortcomings have been observed in performance of the Contractors for both lots. Contractors for both Lot 1 and Lot 2 have common environmental issues and shortcomings. The following summary about the observed shortcomings are common and relevant to both Contractors which should put efforts and improve:

(i) Waste management in all work sites, workshops, accommodations camps yards;
(ii) Full supply of the complete sets of PPEs to all workers and control they wear always PPE;
(iii) Safety in road traffic and construction works sites;
(iv) Place in reflective safety ribbons and safety signs and measures throughout the construction road (as there many slopes in road sides);
(v) Provide air ventilation, smoke detectors and fire alarms in the workers accommodations, canteen, site laboratories and all applicable work premises;
(vi) Do not dump the unsuitable materials in the road side and remove the dumped ones immediately;
(vii) Outreach more workers in trainings on OHS and HIV/AIDs;
(viii) Improve dust management (loaded materials from borrow areas in trucks should be always covered); and
(ix) Conduct regular public consultations and informing communities about the project GRM;
(x) Ensure outreaching women and their participation in public consultations and other community and relevant events of the project.

111. The above-said require continuous efforts and ongoing monitoring by the project environmental team consisted of the PIU, Supervision Engineer and Contractors, and the Contractors' commitment and actions. In addition, more regular and frequent site inspections by the Supervision Engineer and PIU is recommended to have more impact to make and help the Contractors for better performance and compliance.

Annex 1. Instrumental Monitoring Results: Lot 1

AZƏRBAYCAN RESPUBLİKASININ
EKOLOGİYA VƏ TƏBİİ SƏRVƏTLƏR
NAZİRLİYİ

ƏTRAF MÜHİT ÜZRƏ MİLLİ MONİTORİNQ
DEPARTAMENTİ

Poçt indeksi: AZ 1154, Bakı şəhəri,
Heydər Əliyev pr. 10
Tel:(+99412) 440-30-26; Faks:(+99412) 441-51-23
Elektron poçtu:
milli.monitoring@mail.ru

"Körpü-Bina-Tikinti" MMC-nin
direktoru Xaliq Göyüşova

"27" 11 2019-cu il
№ 18/382

Hörmətli Xaliq müəllim,

24 iyul 2019-cu il tarixli 6 nömrəli müqaviləyə əsasən göstərilən məntəqələrdə aparılmış monitorinqi nəticələrini təqdim edirik.

Qoşma: 5 vərəq

Hörmətlə,

Direktor Ramal Bağırov

Concentration of pollutants in atmosphere air (mg/m3)

Monitoring points	Ingredients	Quantity of ingredients (Point 1)	Available consistence limit
Ujar district. Garabork village (km 00+500)	PM 2.5	0.024	0.025
	PM10	0.048	0.050
Ujar district. Khalaj village (17+500)	PM 2.5	0.017	0.025
	PM10	0.041	0.050
Zardab district. Challi village (km 20+300)	PM 2.5	0.021	0.025
	PM10	0.044	0.050
Zardab district (km 30+500)	PM 2.5	0.023	0.025
	PM10	0.040	0.050
Aghdash City, Dahnakhalil village (Asphalt plant)	PM 2.5	0.031	0.025
	PM10	0.049	0.050

Noise level (dB)

Monitoring points	Parameters	Measurement results, dB (Point 1)	Available noise limit, dB
Ujar district. Garabork village (km 00+500)	noise	42	70
Ujar district. Gazian village (km 3+800)	noise	46	70
Ujar district. Khalaj village (17+500)	noise	45	70
Zardab district. Challi village (km 20+300)	noise	52	70
Zardab district (km 30+500)	noise	50.3	70

Vibration level (dB)

Monitoring points	Parameters	Measurement results (Point 1)	Available noise limit
Ujar district. Garabork village (km 00+500)	noise	55	70
Ujar district. Gazian village (km 3+800)	noise	48	70
Ujar district. Khalaj village (17+500)	noise	52	70
Zardab district. Challi village (km 20+300)	noise	58	70
Zardab district (km 30+500)	noise	59	70

The results of physical-chemical and microbiological analysis held on water samples (mg/l)

Ingredients	Unit of measurement	Ujar Lak vil. Goychay river (15+300)	Ujar Khalaj vil. Canal km(18+170)	Zardab town Canal km(30+200)	Available consistence limit
pH	-	8.1	7.7	7.9	6.0-9.0
Electrical conductivity	$X10^3$ cm/cm	0.561	2.97	3.67	-
Turbidity	Mg/l	30	21	24	-
Limpidity	cm	25	24	28	>30
Solved oxygen	(Mg/l,%)	5.8 79.8	5.92 56.1	6.99 78.9	4-6
Biological consumption of oxygen (OBS5)	Mg/l	0.6	1.3	1.6	3
Calcium ions, Ca^{2+}	Mg/l	45.6	240.4	267.1	-
Magnesium ions, Mg^{2+}	Mg/l	9.5	49.8	51.5	-
Chloride ions, Cl^-	Mg/l	45.7	180	201	350.0
Sulfate ions, SO_4^{2-}	Mg/l	79.8	355	439	500.0
Hydrocarbon ion, HCO_3^-	Mg/l	53.4	298	351	-
Carbonate ion, CO_3^{2-}	Mg/l	0	0	0	-
$Na^+ + Ka^+$ ions	Mg/l	19.3	102.6	126.8	-
Sum of ions, $\sum$	Mg/l	256.1	1238.2	1451.8	<1000
Nitrite ions, NO_2^-	Mg/l	0.8	1.0	1.2	3.3
Nitrate ions, NO_3^-	Mg/l	2.0	11.2	13.8	45.0
Ammonium ion, NH_4^+	Mg/l	0.1	0.2	0.4	0.5
E-coli	number/l	12000	15000	21000	1000

Annex 2. Instrumental Monitoring Results: Lot 2

Azerbaijan Republic
Ministry of Ecology and Natural Resources
National Environment Monitoring Department
Laboratory Center

To: Ozkok Zafer Kemal
Executive Director of
"Polat Yol Yapi Sanayi ve Ticaret"

Date 08 December 2019

Based on the contract #3 dated 05.09.2019, signed between National Environment Monitoring Department Laboratory Center and "Polat Yol Yapi Sanayi ve Ticaret", on 28.11.2019 the specialist of the Laboratory Center has conducted an ecological monitoring (air and water quality, noise and vibration level) of Reconstruction of Ujar – Zardab – Agjabedi Road (R32), Zardab – Agjabedi Section Lot 2 km37.00-km70.50 project area functioning as an integral part of the work on improving the state road infrastructure in the country.
We are submitting you the results of the analyses conducted on the samples taken from the pre-determined coordinates during monitoring.

Enclosure:4 pages

Sincerely,
Chief Vasif Aliyev

Remnants of pollutants in atmospheric air

No	Monitoring point	Ingredients mkq/m^3	Amount of the component	Permissible hardness limit
1	Gorugbagi (km 47+590)	PM 10	14	50
2	Najafgulubeyli (km 25+750)	PM 10	38	50
3	Camp area (km59+000)	PM 10	12	50
4	Kehrizli - Sherefkhanli Quarry	PM 10	32	50

Leading Specialist of the
Laboratory Center

Osmanov Subhan

Noise level

№	Monitoring point	Parameters dBA	Measurement results	Permissible hardness limit
1	Gorugbagi (km 47+590)	Noise	48.8	70
2	Najafgulubeyli village (km 25+750)	Noise	33.5	70
3	Camp area (km59+000)	Noise	28.5	70
4	Kehrizli - Sherefkhanli Quarry	Noise	55.5	70

№	Monitoring point	Parameters dBA	Measurement results	Permissible hardness limit
1	Gorugbagi (km 47+590)	vibration	30.5	77
2	Najafgulubeyli village (km 25+750)	vibration	42.5	77
3	Camp area (km59+000)	vibration	30	77
4	Kehrizli - Sherefkhanli Quarry	vibration	60	77

Leading specialist of laboratory center

Osmanov Sübhan

Results of the physical – chemical analyses of the water samples brought on 16.12.2019

Type of the sample, place of sample: water, 2 pieces

Name of the submission of the samples to the lab: 16.12.2019

Date of the report submission: 18.12.2019

Analyze methods: Fomin, Gosstandm Russia, Semenov 1977, Standard Methods for the Examination of Water and Wastewater, American Public Health Association, 1995

No.	Name of the component	Unit of measurement	Kur river (50+ 060km)	Upper Garabagh channel (58+074)	Permissible hardness limit
1	Odor, organoleptic metal.	-	Odorless		-
2	Color, organoleptic metal.	-	Colorless		-
3	Transparency	sm	23	19	>30
4	Turbidity	NTU	39	55	<5
5	Hydrogen indicator	-	8.1	8.2	6.5 – 8.5
6	Electrical conductivity	$X10^3$ Sm/sm	1205	1244	--
8	Oxygen soluble in water	MqO2/l	7.2 74.9	6.7 74.9	≥4.0
9	Calcium ion CA^{2+}	Mq/l	166.3	178.4	-
10	Magnesium ion Mg^{2+}	Mq/l	21.9	34.0	-
11	Chloride ion Cl	Mq/l	94.6	100.3	350.0
12	Sulfate ion $SO4^2$	Mq/l	156.5	164.3	500.0
13	Hydro carbonate ion HCO3	Mq/l	263.4	275.8	-
14	Carbonate ion CO3	Mq/l	27.6	13.7	-
15	Na^+ K^+ ionu	Mq/l	0.37	0.40	-
16	Ammonium NH4	Mq/l	0.6	0.55	0.5
17	Nitrites NO2	Mq/l	7.2	8.0	3.3
18	Nitrites NO3	Mq/l	0.09	0.1	45.0
19	Total ions	Mq/l	738.6	775.5	≤1000

Conclusion for analyses: according the initial analyses on the samples brought to the lab, the samples are odorless and colorless. Roughness of the samples from Kur is 1.3, and from Upper Garabagh channel is 1.5 times more than the norms. The other sample are in norm.

The senior specialist of the lab center

Annex 3. Progress and shortcomings photos Lot 1

1 and 2. Camp offices of Engineer and Contractor

3. Camp office and canteen fire extinguishers

4. Burning waste (construction and from vehicles repair) prohibited; open fire is also prohibited, however, some personnel allowed these.

5 and 6. Camp canteen and ventialtion system

7. Camp workshop area: (a) small to fit the Contractor's vehicles, and (b) man without PPE and reflective garments is hardly visible though there is construction vehicles traffic in the worksite and workshop/camp area.

8. Man without PPE and reflective garments is hardly visible

9 and 10. Camp storage area

11 and 12. Camp car wahsing area

13.Camp Fuel Satation. The Engineer instructed the Contractor the fuel tanks should be placed in bunded enclosures of 110% capacity of the fuel tank and after the fuel tanks have been placed in bunded enclosures of 110% capacity of the fuel tank. The photoes will be submitted.

14 and 15. The project insturmental monitoring by the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan – National Monitoring Department for Environment

16 and 17. Dust control by watering the construction sites regularly

18 and 19. The trees alongside the road alignement were preserved from cutting

20 and 21. The construction road were signed with temporary road signs according to Traffic Management Plan

22. Asphalt Plant

23. Crushing Plant

24 Concrete Plant

25. Turyanchay Borrow pit

26. Garamaryam Borrow pit

Annex 4. Progress and shortcomings photos Lot 2

1 and 2. Engineer's and Contractor's offices

3 and 4. Camp workshop and Storage area

5 and 6. Asphalt Plant

7 and 8. Concrete Plant


9 and 10. Fuel filling station

11. Oil/fuel spill

12. Oil tank left uncovered and with no roof

13. Improper waste management also observed

14. Men lack PPE and reflective garments

Figure 15. Man lacks PPE and reflective garments (hardly visible that increases safety risk)

16 and 17. Camp Fire extinguishers

18 and 19. Camp appropriate waste bins

20 and 21. Camp site safety precaution targets

22 and 23. Emergency exist door and safety targets

24 and 25. Site safety targets

26 and 27. Camp canteen

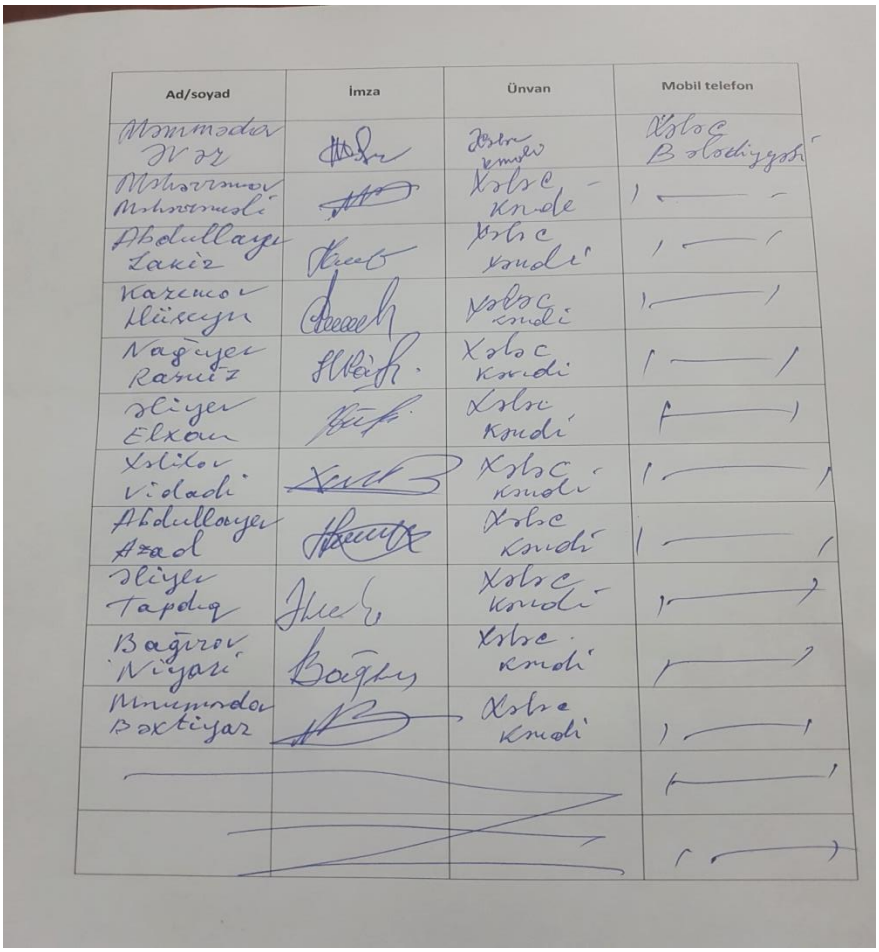

28 and 29. The trees alongside the road alignement were preserved from cutting


30 and 31. The site was provided with all the road safety signs according to Traffic Managemenet Plan

32.Kahrizli Borrow Pit. The drivers have no PPE

33. Site inspection by the Environmental Team of Contractor and Supervision Engineer in December 2019

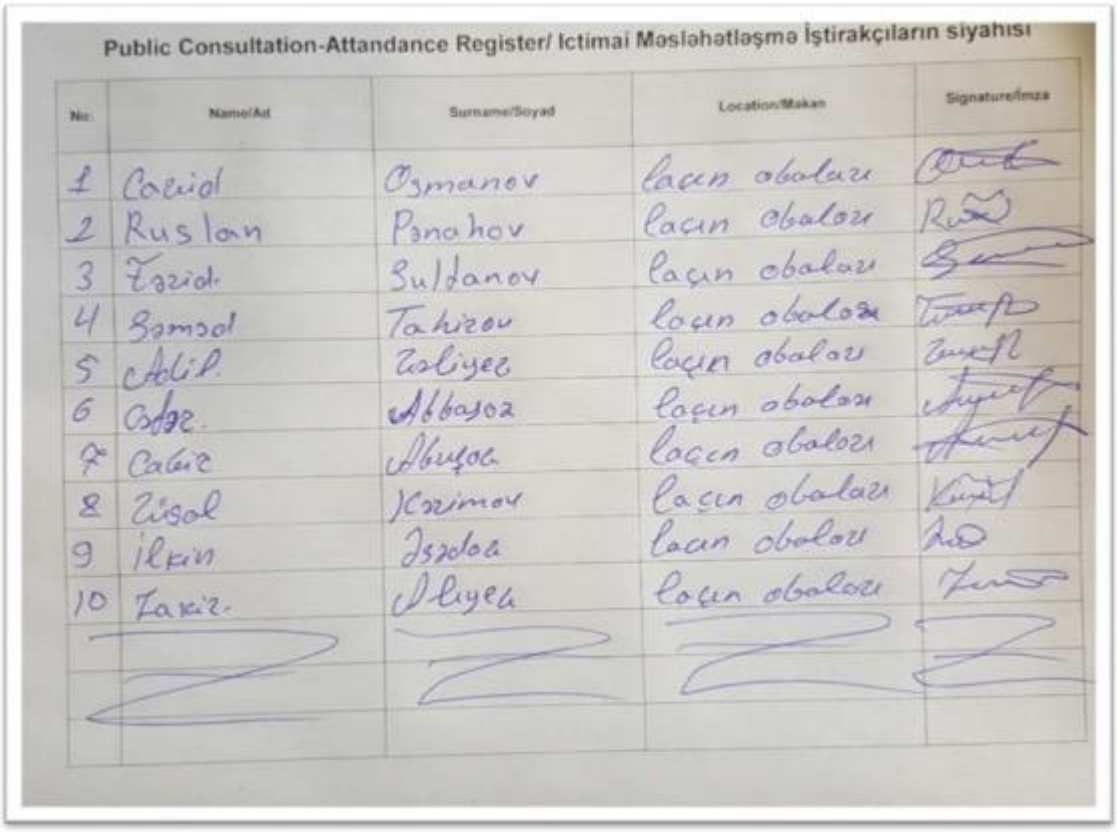
Annex 5. Public Consultation photos and participants' list Lot 1



Ad/soyad	İmza	Ünvan	Mobil telefon
Məmmədov İlqar		Dəstə rəhbəri	Xəzər Bələdiyyəsi
Məhərrəmov Məhərrəməli		Xəzər Kəndi	
Abdullayev Zakir		Xəzər Kəndi	
Kazımov Hüseyn		Xəzər Kəndi	
Nağıyev Rəşid		Xəzər Kəndi	
Əliyev Elxan		Xəzər Kəndi	
Xəlilov Vidadi		Xəzər Kəndi	
Abdullayev Azad		Xəzər Kəndi	
Əliyev Tapdıq		Xəzər Kəndi	
Bağırov Niyazi		Xəzər Kəndi	
Məmmədov Bəxtiyar		Xəzər Kəndi	

Annex 6. Public Consultation photos and participants' list Lot 2

Meeting Photos



Public Consultation-Attandance Register/ İctimai Məsləhətləşmə İştirakçıların siyahısı

No:	Name/Ad	Surname/Soyad	Location/Makan	Signature/İmza
1	Cavid	Osmanov	Laçın obalası	
2	Ruslan	Pənahov	Laçın obalası	
3	Fəxrid	Sultanov	Laçın obalası	
4	Şəmsəd	Tahirov	Laçın obalası	
5	Adil	Zəliyev	Laçın obalası	
6	Oqtay	Abbasov	Laçın obalası	
7	Cəlal	Abuşov	Laçın obalası	
8	Zirəd	Kərimov	Laçın obalası	
9	İlkin	Əsədov	Laçın obalası	
10	Fəxri	Əliyev	Laçın obalası	

Annex 7. Minutes of training on HIV/AIDS Lot 1

Date: 19/11/2019

Attendance: 15 persons

Location of Training: Contractor's camp

Subject: Training on enlighten of workers about HIV/AID and its harmful results

Discussion topic:

1. The camp doctor informed about AIDS and its harmful effects explained to all workers. The following topics also included the training:

- Ethical behavior rules between workers
- Workplace Environment / Housekeeping
- Wearing of PPE before starting of work
- Health and Safety & Security trainings
- Dangerous works
- Explosives
- Working on winter season
- Traffic Accidents Prevention
- Traffic Safety signs
- Accident Reporting
- Findings
- Protection of Safety Equipment
- Alcohol – narcotic matters
- HIV / AIDS harmful effects

2. Contractor`s Camp Doctor informed about the symptoms of the HIV/AIDS. He said that many people don`t develop symptoms after getting infected with HIV. Others have flu-like illness within several days to weeks after exposure the virus. They complain of fever, headache, tiredness, and enlarged lymph glands in the neck. These symptoms usually disappear on their own within a few weeks. Following initial infection, you may have no symptoms. The progression of disease varies widely among individuals. This state may last from a few months to more than 10 years. During this period, the virus continuous to multiply actively ad infects and kills the cells of the immune system. The immune system allows us to fight against the bacteria, viruses and other infectious causes. The virus destroys the cells that are primary infection fighters, called CD4+ or T4 cells. Once the immune system weakness, a person infected with HIV can develop the following symptoms:

- Lack of energy
- Weight loss
- Frequent fevers and sweats
- Persistent or frequent yeast infections
- Persistent skin rashes or flaky skin
- Short-term memory lost
- Mouth, genital, or anal sores from herpes infections

3. AIDS is the most advanced stage of HIV infection. The infection of Aids includes all HIV infected people who have fewer than 200 CD4+ cells per microliter of blood. The definition also includes 26 conditions that are common in advanced HIV disease but that rarely occur in healthy people. Most of these conditions are infections caused by bacteria, viruses, fungi, parasites and other organisms. Opportunistic infections are common in people with AIDS. Nearly every organ system is affected. Some of the common symptoms include the followings:

- Cough and shortness of breath
- Seizures and lack of coordination
- Difficult or painful swallowing
- Mental symptoms such as confusion and forgetfulness
- Vision loss
- Nausea, abdominal cramps and vomiting
- Weight loss and extreme fatigue
- Severe headaches with neck stiffness
- Coma

4. People with AIDS are prone to develop various cancers such as Kaposi sarcoma, cervical cancer, and cancers of the immune system known as lymphomas. Kaposi sarcoma causes round, brown, reddish or purple spots that develop in the skin or in the mouth. After the diagnosis of AIDS is made, the average survival time has been estimated to be 2-3 years. Even though he informed about the negative aspects of AIDS and necessary protection from this danger. He said that everybody must enlighten and fight against this fortune. Worker in construction areas and other sections must pay special attention to this disease, be careful and try to avoid from accidental sex.

Annex 8. Minutes of training on HIV/AIDS Lot 2

Minutes of Training № 2

Date: 05/08/2019

Attendance: 8 persons

Location of Training: Contractor's camp

Subject: Training on enlighten of workers about HIV/AID and its harmful results

Speeches:

1. Reconstruction of Ujar - Zardab - Agjabadi Road (R32), Lot 2 : Zardab to Agjabadi section's HSE officer B.Gasimov informed some detailed information about the AIDS. He said that infection comes in three stages. The first stage is called acute infection or seroconversion, and it typically happens within two to six weeks after exposure or becoming infected. This is when the body's immune system puts up a fight against HIV. The symptoms of acute infection look similar to those of other viral illnesses and are often compared to those of the flu. The symptoms may last a week or two and then completely go away as the virus goes into a non-symptomatic stage.

2. The initial symptoms of acute HIV infection may include:

- Headache
- Diarrhea
- Nausea and vomiting
- Fatigue
- Aching muscles
- Sore throat
- Red rash that doesn't itch, usually on the torso.
- Fever

3. After the first seroconversion period, the immune system loses the battle with HIV and symptoms go away. HIV infection goes into its second stage, which can be a long period without symptoms, called the asymptomatic (or latent) period. This is when people may not know they are infected and can pass HIV on to others. This period can last 10 or more years.

4. During this period without symptoms, HIV is slowly killing the CD4 T-cells and destroying the immune system. Blood tests during this time can reveal the number of these CD4 T-cells. Normally, a person has a CD4 T-cell count between 450 and 1,400 cells per microliter. This number changes constantly, depending on a person's state of health. For an HIV-infected person, the number of CD4 T-cells steadily drops, making them vulnerable to other infections -- and in danger of developing AIDS.

5. Even though he informed about the negative aspects of AIDS and necessary measures of protecting from this danger. He said that everybody must enlighten and fight against this misfortune. Worker in construction areas and other sections must pay special attention to this disease, be careful and try to avoid from accidental sex. At the end all listeners were provided with information leaflets about AIDS and its harmful results.