

Environmental Monitoring Report

Project Number: 45389-004
January 2020

AZE: Second Road Network Development Investment Program, Tranche 2

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

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Semi-annual Environmental Monitoring Report

Project Number: 45389-004

January 2020

Republic of Azerbaijan:

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

Upgrading of Yevlakh-Zagatala-Georgian Border road (M5), Section
Lot 1.Khaldan-Suchma (Km 0+300 to Km 33+100)

Lot 2.Suchma-Shaki Roundabout (Km 33+100 to Km 46+120) and Rehabilitation of R-57 Road
(Km 46+000 of M-5 to Sheki Town)

(Financed by the Asian Development Bank)

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

Loan 3144-AZE

CURRENCY EQUIVALENTS

(As of 1 January 2020)

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

ABBREVIATIONS

ADB	–	Asian Development Bank
EA	–	Executing Agency
IEE	–	Initial Environmental Examination
EMP	–	Environmental Management Plan
EPM	–	Environmental Protection Manager
GRM	–	Grievance Redress Mechanism
PPE	–	Personal Protective Equipment
EMP	–	Environmental Management Plan
EPM	–	Environmental Protection Manager
MENR	–	Ministry of Ecology and Natural Resources
OHS	-	Occupational Health and Safety
PIU	–	Project Implementation Unit
SSEMP	–	Site-Specific Environmental Management Plan
SAAAR	–	State Agency of Azerbaijan Automobile Roads

WEIGHTS AND MEASURES

m – Meter
Km – Kilometer

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I. BACKGROUND

A. Introduction

1. This second semi-annual Environmental Monitoring Report (Report) is prepared for the Project Upgrading of Yevlakh-Zagatala-Georgian Border road (M5), (Project) for the 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 (EA) for the Project. The EA has appointed the company IRD Engineering s.r.l as the Construction Supervision Engineer (Supervision Engineer) since 01 December 2018. 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 during the project implementation. The report highlights in summary the project progress and key issues related to management of environmental impacts over 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, public consultations and management of grievances. Detail information are in monthly and quarterly reports of the two engaged Construction Contractors (Contractors) and the Supervision Engineer available in their offices

B. Methodology

3. The report is based on the:

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

- Contractors' monthly and quarterly Environmental Management Reports, OHS reports, and Grievance Registration books;
- 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 work sites inspections by the Supervision Engineer's local and International Environmental Specialists, PIU's Safeguards Specialist and meetings with the Contractors' relevant staff and management over the reporting period.

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

C. Project description

5. The project for upgrading of Yevlakh-Zagatala-Georgian Border road (M5), consists of two road segments: (i) M-5 Road which starts after the first roundabout with M-4 at Khaldan (before a small Y junction) and ends at the Y junction to Shaki, with a total distance of around 46.5 Km; and (ii) R-57 Road, which starts at the Y junction with M-5 and ends at the roundabout at the entrance to the main city of Shaki, having a length of around 11 Km. The M-5 segment shall be constructed to Category II, while the R-57 to Category III. The reconstruction of road will improve connectivity to the tourism city of Shaki.

6. The rehabilitation construction works will be mainly within the existing Right of Way (ROW), 30 m measured from the road center-line on each side, and will have the following features:

- (i) Reconstruction of the existing two-lane road including pavement strengthening;
- (ii) Spot realignments at certain locations which pose certain risks, jeopardize traffic
- (iii) Safety and do not conform to prevailing standards;
- (iv) Maximum total width of the road to be constructed is 15m total (18.5m with climbing lane whenever necessary);
- (v) Lane width is 7.5m (2 x 3.75m + 3.5m for climbing lane, whenever necessary);
- (vi) Maximum shoulder width is 3.75m (3.75m x 2), 0.75m x 2 paved with asphalt concrete, 3.0m (3.0m x 2) single bituminous surface treatment;
- (vii) Cross-fall on the carriageway is 2% and on the shoulders is 4%;
- (viii) Design speeds of 100 km/h for flat and undulated terrain, 80 km/h for hilly terrain, 30-60 km/h for mountainous areas, and 50 km/h for the urban areas;
- (ix) Intersections/interchanges with other roads designed to international standards;
- (x) Reconstruction or rehabilitation of bridges, replacement of damaged culverts and installation of additional ones; and
- (xi) Traffic safety features such as illumination, pedestrian crossing, road signs, road marking, livestock crossing, and road furniture, including appropriate road safety barriers (guardrails).

7. The general environment of the project area is mostly agricultural fields, barren lands with no vegetation or very few Tamarix and Artemisia bushes, crossing over of a number of small and medium size irrigation channels and the Kur River (longest river in the country). The main water source of the area is Kur River and irrigation channels that are typical for Azerbaijan lowland areas.

8. No protected areas or any other areas with specific importance, such as Important Bird Area or Key Biodiversity Area are present along the project alignment. Most of the rural population along the project road depend on agriculture and livestock for livelihoods and income. As a countryside setting, agriculture is a main industry and the main crops are grains, cotton and vegetables.

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

Figure 1. Lot 1: Project location map



Figure 2. Lot 2: Project location map



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

10. The construction works are executed through two construction contracts for Lot 1 and Lot 2 as given below. The construction contract for the Lot 1 has been awarded to the Company AzVirt LLC (AzVirt) and for Lot 2 to the Company KOLIN A.Ş. (KOLIN).

11. **Lot 1: Khaldan-Suchma (Km 0+300 to Km 33+100).** The construction contract for Lot 1 comprises a section of M-5 road (a Category II road) and has its starting point, designated as Km 0+300, after the first roundabout with M-4 road at Xaldan (before a local Y junction). From this point, M-5 swerves northwest to Y junction with R-17 (the road that goes to Mingachevir) and runs northward toward Shaki District until ending point at km 33+120 (hereinafter “Lot 1”).

12. **Lot 2: Suchma-Shaki Roundabout (Km 33+100 to Km 46+120) and Rehabilitation of R-57 Road (Km 46+000 of M-5 to Sheki Town.** The construction contract for Lot 2, which comprises a first segment with a section of M-5 road and 12 km of R-57 (second segment), starts at km 33+120 of Yevlakh – Zagatala – Georgian Border Road M-5 and runs northward toward Shaki District. The second segment, R-57 starts at the Y junction with M-5 and ends at the roundabout at the entrance to the main city of Shaki (hereinafter “Lot 1”).

13. Table 1 provides details about the contractors’ commencement and completion dates.

Table 1. Key mobilization dates

Lot-1, Khaldan-Suchma (Km 0+300 to Km 33+100)	Lot-2, Suchma-Shaki Roundabout (Km 33+100 to Km 46+120) and Rehabilitation of R-57 Road (Km 46+000 of M-5 to Sheki Town
Contractor: AzVirt, L.L.C. Contract No.: 02/2017/AZE/L1 Accepted Contract Amount: AZN 55,594,616.04 including VAT Date of Contract signing: 28 November 2018 Commencement date: 1 March 2019 Defects Notification Period: 24 months Time for Completion: 24 months Original Completion Date: 28 February 2021	Contractor: KOLIN A.Ş. Contract No.: 02/2017/AZE/L2 Accepted Contract Amount: AZN 53,029,326.86 excluding VAT and Price Adjustment Date of Contract signing: 28 November 2018 Commencement date: 1 March 2019 Defects Notification Period: 24 months Time for Completion: 24 months Original Completion Date: 1 March 2021

E. Project Progress for Lot 1 and Lot 2

14. The main construction activities for the reporting period for both Lot 1 and Lot 2 are summarized below.

- Milling of the existing pavement;
- Earthworks (excavation of unsuitable material, construction of embankment and rock filling);
- Pavement works (sub-base and crushed stone base);
- Pipe and box culverts construction;
- Bridge works;
- Utility relocation; and
- Maintenance of service roads.

15. 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.

16. For Lot 1, the physical progress of works is 13.63% against a target of 1.47 % during the reporting month of December 2019. Achieved progress as of to-date is 63.79% against a Target of 34.63%; while the progress is 29.16% ahead of the schedule.

17. For Lot 2, the physical progress of works is 5.13% against a target of 3.10 % during the reporting month of December 2019. Achieved progress as of to-date is 52.41% against a Target of 36.53%; while the progress is 15.88% ahead of the schedule.

II. ENVIRONMENTAL MANAGEMENT

A. Environmental Management Team

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

19. **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.

20. **Lot 1.** The Contractor has one Environmental Specialist (Mr. Qalib Mirzayev) who works half-time for Lot 1 and half-time for Lot 2 (full-time for the project). The Contractor has also one OHS Officer and 18 flagmen for traffic management and safety during road construction works, and a Doctor with a medical services room and first aid kits in the workers' accommodation camp.

21. **Lot 2.** The Contractor has one local Environmental Specialist (Mr. Qalib Mirzayev as said above), one OHS Officer and 14 flagmen for traffic management and safety during road construction works, and a Doctor for the first aid with a medical services room and first aid kits in the workers' camp.

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

22. 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 work sites and instructed corrective actions to both Contractors for the observed environmental shortcomings in verbal and written forms. The Contractors submitted Monthly and Quarterly Environmental Reports for the Supervision Engineer's review and further reporting to the PIU.

C. Site Specific Environmental Management Plans (SSEMPs)

23. Both Contractors have Site-Specific Environmental Management Plans (SSEMPs) to ensure full mitigation of potential environmental impacts during construction works. The SSEMPs have been reviewed and approved by the Supervision Engineer and the PIU.

24. The SSEMPs are provided below, and are split into four main site-specific plans:

- Camp SSEMP (covering the construction camp area);
- Workshop SSEMP (covering the workshop area);

- Plant Operation SSEMP (covering the crushing plant, asphalt plant area); and
- Road Construction SSEMP (covering the road construction site areas).

25. The above SSEMPs are supplemented by a number of site-specific environmental management sub-plans as required by the contract specification:

- Water SSEMP;
- Air Pollution Control SSEMP;
- Noise Control SSEMP;
- Waste SSEMP;
- Soil SSEMP;
- Site Drainage SSEMP;
- Borrow Pit SSEMP;
- Flora and Fauna SSEMP;
- Occupational Health and Safety Management Plan,
- Traffic Management Plan, and Traffic Control Plan
- Cultural and Archaeological Find Plan; and
- Grievance Redress Mechanism.

D. Environmental Checklists for Monitoring

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

E. Documentation and reporting in Lot 1 and Lot 2

27. Contractors for both Lot 1 and Lot 2 maintain proper documentation and periodic reporting. Communications and correspondences, are generally in compliant. The work sites inspections show that Contractors store properly at the site offices all relevant paperwork, including the EMP, SSEMPs, Grievance Registration Books, monthly and quarterly reports, and other incoming and outgoing correspondences.

F. Key Facilities Materials Sourcing and Stockpiling Lot 1 and Lot 2

28. Both Lot 1 and Lot 2 contractors use the same borrow pits which as mentioned below:

- **Jafarabad borrow pit.** It is located on the south side of Sheki Town in about 2.5 km distance (near of the project, at left side a big mountain). The high point of the quarry is about 10-15 meters and the overall area is 5 ha. The available quantity is abundant (about 3 - 4 million m³). It can be reached through the existing and under the construction road. The material of this borrow pit is suitable only for embankment fill including backfill of culverts and formation layers. Permission from Sheki Town Executive Power and Ministry of Ecology and National resources for borrow pit use is received.
- **Kish River borrow pit:** It is located about 2 Km (further towards Sheki city) from Km 46+000 (End) from the project road. The material of this borrow pit is suitable for aggregates required for asphalt, cement concrete, sub-base and crushed aggregate base and all kind of embankment and backfill. The high point of the quarry is about 2-3 meters and the overall area

is 5 ha. The total volume of borrow pit is about 250-300 thousand m³. It can be reached through the existing and under construction road. Permission from Sheki Town Executive Power and Ministry of Ecology and National Resources for using the borrow pit is received.

- **Alijanchay borrow pit:** It is located at about 2 Km offset on right side (towards Sheki) from Km 19 of the project road. The material of the borrow area is suitable for embankment fill and sub-base. The quantities required for these two items involved in the project road are already stockpiled near Km 17+400 (embankment fill) and within Camp premises (Granular Sub-base).
- **Turyanchay borrow pit:** It is located at a lead distance of about 32 Km from start point of the project road towards Agdash town (on M-4 road). The material of this borrow area is suitable for asphalt, cement concrete, sub-base and embankment fill. The materials of this borrow area will be used for this project road (Lot-1) only when necessity arises over the other identified borrow areas. While stockpiles of granular sub base are made near Km 6+000, that for concrete and asphalt are stockpiled within the premises of Agdash Plants.

G. Camp and workshops Lot 1 and Lot 2

29. **Camp and workshops Lot 1:** The Contractor's camp is located at west side of the Sheki Town at 3 km distance, and about 3 km from the closest houses of the nearest Village. A land plot of 3.0 ha was allocated by Executive Power of the Sheki Town for the camp area. The camp area is divided into three main parts;

- Contractor's and Supervision Engineers offices and site laboratory;
- General workshop, ware house, reinforced concrete plant, oil drums storage area, fuel filling station, car wash and parking area;
- Workers accommodation, canteen and washing area (Figure 3).

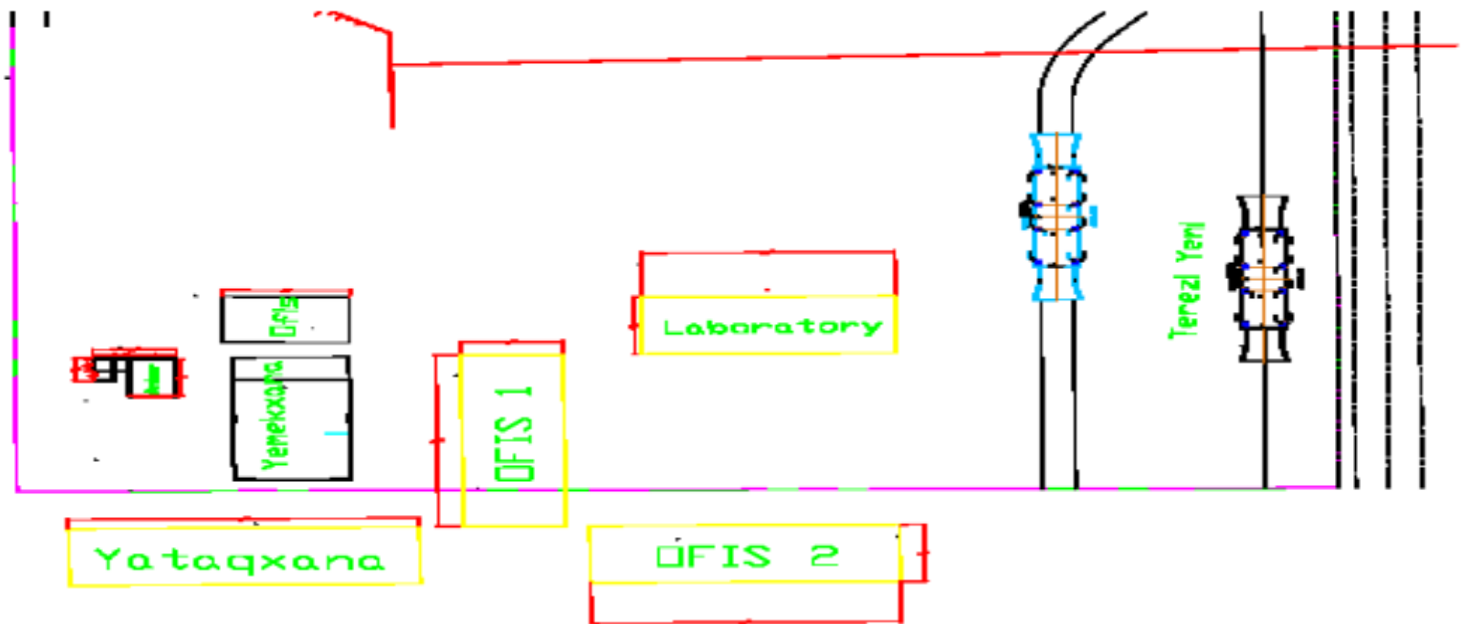
30. As the camp is located at a distance of 3 km from nearest house, specific mitigation measures are taken to avoid and minimize impact to communities such as: (i) erecting fence ; (ii) the camp area is guarded and graveled to avoid any mud (iii) entrance of Contractor Camp is provided with flagmen; (iv) Existing villages road inspections and cleaning carried out; (v) watering by sprinkler trucks all roads and access roads 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; (vi) All type of waste (domestic, sewage and wash water from each building) transported from the camp periodically by local Municipality services and disposed and utilized following Azerbaijan laws; (vii) Weekly waste inspections are made outside the camp fence; (viii) It is strictly prohibited to create an additional noise within residential and other sensitive areas (e.g. use of horns); (ix) informing local communities and organizations about construction schedule and any noisy activities on a regular basis, and other measures.

31. The Lot 1 workshop is located in the camp site and are part of the same facility. The overall workshop area includes a general workshop, a welding area, warehouses, oil storage area, hazardous material storage area, reinforced-concrete production, and parking area.

- All hazardous liquids such as lubricants, paint etc. is stored in the designated area at the workshops on an impervious base with run-off collection
- Solid hazardous materials are stored in the designated secure area at the workshops
- All workshop area is provided with wastebaskets

- All workshops workers are provided with Personal Protective Equipment
- All kind of waste is removed two times a week by FCE of Sheki Town. The workshop area is included in the fire protection system, and several fire-fighting stations are provided (containing extinguishers, buckets, sand, etc.) as per laws of Azerbaijan.

Figure 3. Project Camp Layout



32. **Camp and workshops Lot 2:** The contractor's camp is located at about 3 km from Sheki Town and also about 3 km from closest houses of the nearest village.

- Contractor's and Supervision Engineers offices and site laboratory;
- General workshop, ware house, reinforced concrete plant, oil drums storage area, fuel filling station, car wash and parking area;
- Workers accommodation, canteen and washing area (Figure 4).

33. As in Lot 1, the Lot 2 workshops are also located in the camp site and are part of the same facility. The overall workshop area includes a general workshop, a welding area, warehouses, oil storage area, hazardous material storage area, reinforced-concrete production, and parking area.

34. The similar mitigation measures as described above for the Lot 1, are arranged and being implemented for the camp and workshop for the Lot 2

Figure 4. Project Camp Layout



35. Both Lot 1 and Lot 2 contractors use the same Asphalt Plant which is situated in the Lot-2 Contractor's camp area:

36. **Asphalt plant.** In this plant the aggregate materials and bitumen are heated, mixed and combined to produce a paving mix. The main ingredients are crushed stone, sand, and bitumen, which is a by-product of petroleum manufacture. The mixture is heated to about 300 degrees Celsius in a revolving tubular drum. Generally, the asphalt production results in generation of:

- Steam from moisture naturally contained within the sand and/or stone;
- Dust; and
- Gaseous odor.

37. Accordingly, a number of mitigation measures is followed in setting up the Contractors' asphalt plant to minimize impact to the environment and the adjacent communities:

- The asphalt plant area is paved with gravel to minimize dust emissions. Watering of the areas during the dry summer season is undertaken, and the Contractor's personnel is reportedly supplied with disposable dust masks (in addition to other PPE such as helmets and ear defenders) though it has been observed not all workers wear;
- The plant area is surrounded with fence and guarded;
- Any discarded bitumen, asphalt, tar mix, heavy oil is collected and reused wherever possible. All materials classified as hazardous waste is disposed of by "FCE" of Sheki following Azerbaijan laws;
- The plant is provided with all necessary fire protection equipment;
- Routine maintenance of all plant equipment is regularly undertaken to prevent any type of bitumen or lubricants leakage. In case any spillage occurs, the polluted soil is immediately removed and treated as hazardous waste;
- Routine maintenance of the plant is undertaken for prevention of air pollution. Air control is carried out by The National Environmental Monitoring Department of the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan.

38. **Concrete plant.** In this plant the aggregate materials from the quarry are mixed with cement prior to loading to the transport vehicle to take it to sites. Generally, the emissions are:

- Noise from concrete mixer;
- Dust generated during material unloading to bunker;
- Exhaust emission during operation of mixing equipment and numerous haul trucks transporting materials; and
- Wash water laden with concrete/cement silt mixed with plasticizers

39. Accordingly, similar mitigation measures are followed in setting up the Contractors' concrete plant as well as in setting up the crushing and asphalt plants.

40. An additional measure taken to enhance environmental protection is that wash water is collected in a dedicated impervious concrete basin for preliminary sedimentation, from where it is periodically removed by FCE of Sheki and disposed as per laws of Azerbaijan.

III. ENVIRONMENTAL MONITORING, OCCUPATIONAL HEALTH AND SAFETY

A. General

41. The undertaken environmental and Occupational Health and Safety (OHS) monitoring, includes supervision and inspection of construction work sites, verification of permits, monitoring of compliance performance of contractors, instrumental environmental monitoring for noise and vibration, water and air pollution, soil contamination, construction waste management, flora and fauna, review of documentations, implementation of EMP and SSEMPs, review of environmental management and monitoring reports, and so on, undertaken by Contractors' and monitored by the Supervision Engineer, such as:

- Instrumental monitoring for air quality, water quality, and noise and vibration measurement: August and December 2019;
- Daily site inspections by the Contractors' local Environmental Specialist and OHS Officer;
- HIV/AIDS Training: 5 August 2019;
- Public consultations on 15 September 2019 and ongoing grievances management;
- Bi-weekly inspections of camps and worksites by Supervision Engineer's local Environmental Specialist: (on 12 and 26 July; 07 and 23 August; 08 and 25 September; 07 and 22 October; 4 and 18 November; 2 and 17 December of 2019) by using monitoring checklists for each worksite;
- Periodic site inspections by the PIU and Supervision Engineer's International Social and Environmental Safeguards Specialist;

42. 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".

43. 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 given in the following paras after presenting the relevant national environmental standards.

B. Azerbaijan environmental standards

Air Quality Standards

Table 2: 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 CO ₂)	3.0	1.0
Sulfur Dioxide (SO ₂)	0.5	0.03
Nitrogen Oxides (NO _x)	0.085	0.085
Non-toxic Dust	0.5	0.15
Ozone (O ₃)	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 3: 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 Ca ²⁺	180,0	mg/l
9	Magnesium ion Mg ²⁺	200,0	mg/l
10	Chloride ion, Cl ⁻	350,0	mg/l
11	Sulphate ion, SO ₄ ²⁻	500,0	mg/l
12	Bicarbonate ion, HCO ₃ ⁻	-	mg/l
13	Carbonat ion, CO ₃ ⁻	-	mg/l
14	Na ⁺ + K ⁺ ions	-	mg/l
15	Sum of ions, Σ	<1000	mg/l
16	Nitrite ion, NO ₂ ⁻	0.02	mg/l
17	Nitrate ion, NO ₃ ⁻	9,0	mg/l
18	Ammonium ion, NH ₄ ⁺	0.39	mg/l
19	Phosphate ion, PO ₄ ³⁻	0,05	mg/l
20	SSAM	0.1	mg/l
21	Phenol	0.001	mg/l
Source: Maximum allowed concentrations of toxic elements in water surface. Decree № 1. Monitoring Committee of Ecology and Natural Resources, 1994.			

Noise & vibration standards

Table 4: 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 centers	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 polyclinics, dispensaries, boarded houses, geriatric and disabled person's homes, libraries, kindergartens, schools, and 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 8 th of July, 2008).		

Table 5: 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 centers	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 8 th of July, 2008).		

C. Instrumental Monitoring Results: Lot-1

45. 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 a sample of instrumental monitoring results is provided in Annex 1.

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

- The Alijanchay river and Yukhari Shirvan channel had generally higher pH;
- The turbidity in the Alijanchay River was higher than the permitted limit and it was below than the permitted limit in Yukhari Shirvan channel;
- Heavy metal levels are all well below the national standards;
- Nitrates/Nitrites and other major ions are well below the standards at all locations;
- Oil and grease levels are below then the permitted limits.

Figure 5. Water monitoring stations



47. **Air quality monitoring:** 2 air monitoring points are located within the Project's start and end points (figure 5). All air quality monitoring results for all determinants in all monitoring stations are below Azeri national standards.

Figure 6. Air Monitoring stations



48. **Noise and vibration:** 4 noise and vibration monitoring stations have been located within the Project's construction area (figure 6). Noise and vibration monitoring results were all below the permitted limits.

Figure 7. Noise and vibration monitoring stations



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

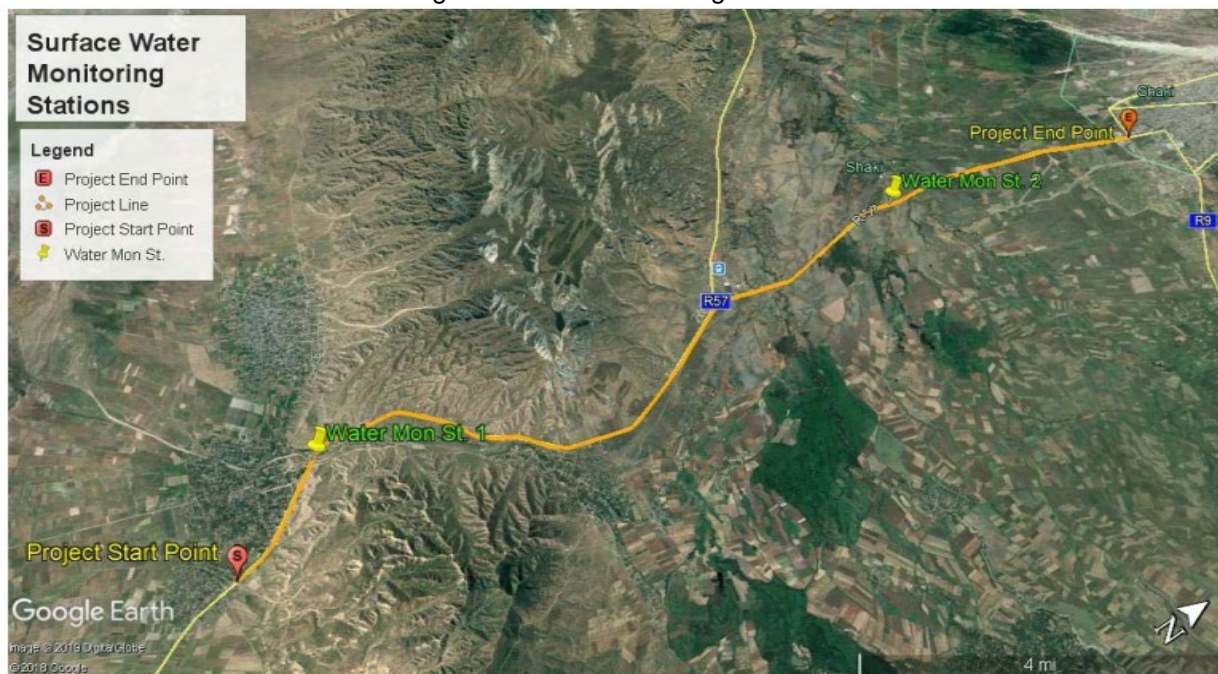
D. Instrumental Monitoring Results: Lot 2

50. 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 a sample of instrumental monitoring results in Annex 2.

51. **Water quality monitoring:** 2 water monitoring stations are located within the Project's start and end points (figure 7). The results of monitoring of samples taken during the reporting period show that some determinants in some monitoring stations were above Azerbaijan national standards (Table 4). However, this is not related to construction works as its normal baseline was high. Below is summary of results:

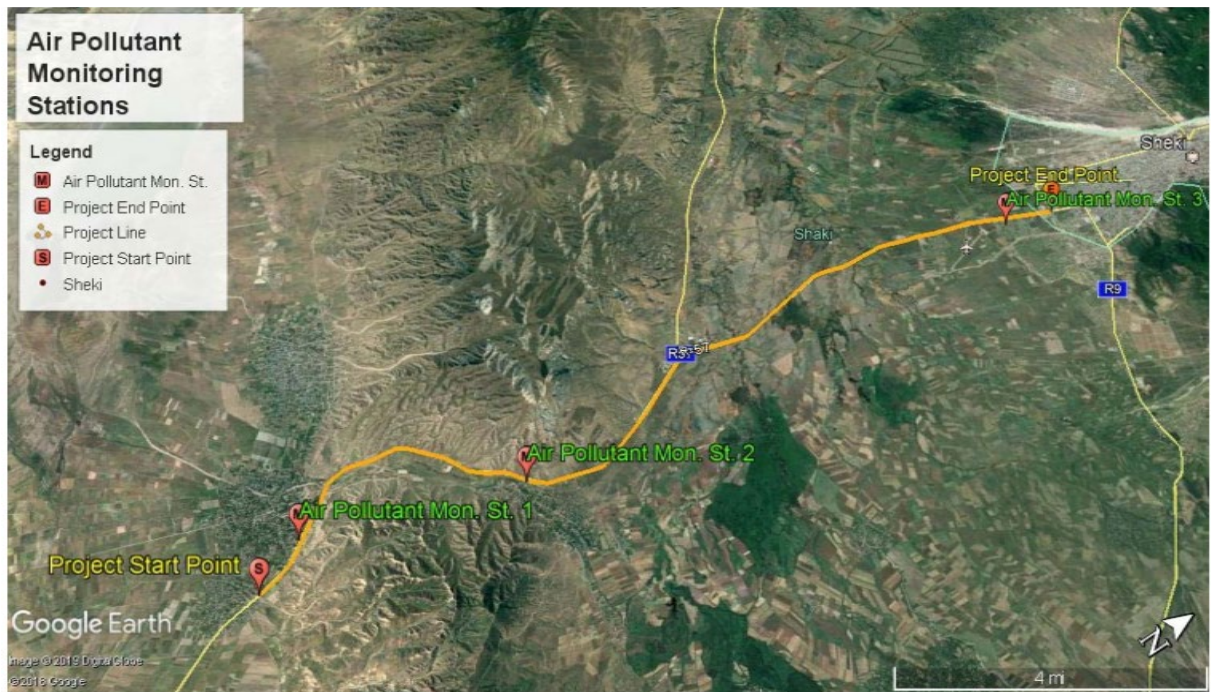
- Sheki Town, R57 road had generally higher pH;
- Turbidity in Sheki Town, R57 road was higher than the permitted limit and it was below than the permitted limit in Yukhari Shirvan channel;
- Heavy metal levels are all well below the national standards;
- Nitrates/Nitrites and other major ions are well below the standards at all locations;
- Oil and grease levels are below than the permitted limits.

Figure 8. Water Monitoring stations



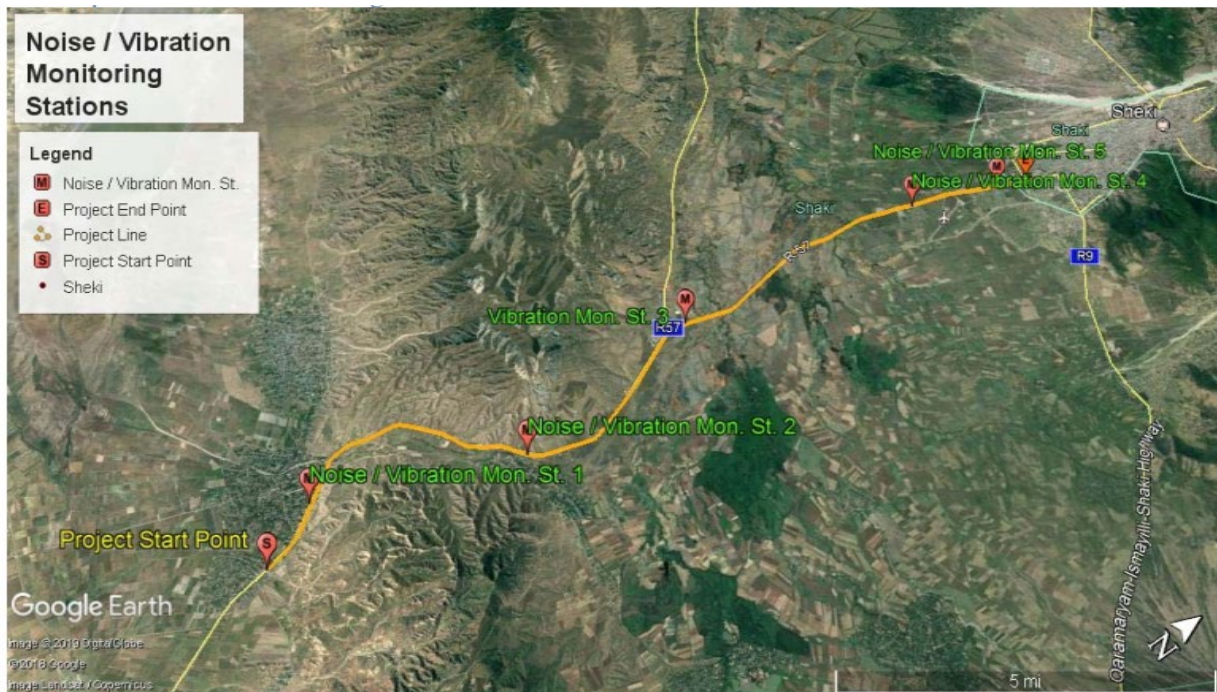
52. **Air quality monitoring:** 3 air monitoring points are located within the Project's start and end points (figure 8). All monitoring results for all determinants in all monitoring stations are below Azeri national standards.

Figure 9. Air Monitoring stations



54. **Noise and vibration:** 4 noise and vibration monitoring stations are located within the Project's construction area (figure 9). Monitoring results are all below the permitted limits.

Figure 10. Noise and vibration monitoring stations



55. **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

56. 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 Contractor's 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.

57. ADB Audit Team have visited both Lot 1 and Lot 2 on 16 September 2019. ADB Technical Mission Team including Mr. Faraj have visited the site on 9 October 2019 and 22 November 2019 under the reported period.

58. Based on the environmental 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:

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

60. **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.

61. **Borrow Areas.** The Supervision Engineer's local and International Environmental Specialists have visited the borrow areas, provided instructions to the Contractor's staff about proper utilization of borrow areas and traffic management during materials transportation. The Contractor has obtained permit from the authorities for use of the borrow area.

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

63. Hazardous waste is stored in the bounded hazardous waste storage area. According to the agreement with the Ujar District municipality service Flat Communal Exploitation (FCE) it is collected once a week and transported for disposal as per laws of Azerbaijan.

64. Domestic waste generated in the camp site are collected daily from each facility and stored in special wastebaskets (as per Waste Management Plan). According to the agreement with FCE of Sheki Town, all waste is transported from the camp periodically and disposed and utilized as per laws of Azerbaijan.

65. Sewage and waste water are collected from each building, pass through the system of preliminary sedimentation tanks and then finally discharged into a number of concrete septic tanks, which are regularly emptied by a cesspool truck of the FCE of Sheki Town, transported from the camp site and utilized following Azerbaijan regulations and Waste Management Plan.

66. **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 with slopes or other accident risk. However, lack of safety ribbons observed in some road sections despite the needs. The Contractor should ensure the safety ribbons, warning and road signs in the entire road being under construction.

67. **Public safety and fencing in road construction sites.** To improve public safety in construction sites especially close to the settlements and pedestrians, including in road construction sites, the Contractor should (i) fence the construction areas to not allow the entrance of unauthorized people (especially children) to the construction area to avoid accidents and health and life risks, and train more its workers about safety at work sites.

68. **Dust control and trucks uncovered.** Dust control have been an issue during summer months of the reporting period. Supervision Engineer instructed to control continuously dust by regular water sparkling and regulating traffic speed. With start of the rains and winter season dust issue has been less critical, however, the Contractor should still take measures to control dust and use water sparking in no precipitation days.

69. Materials transported from the borrow area in trucks should be covered. During site inspections, the observed vehicles carried materials from the borrow area uncovered.

70. **Unsuitable materials and bitumen debris in road sides.** Dumping these materials in road side has been observed. The Contractor has been warned to stop this malpractice and the already dumped materials should be removed immediately.

71. **Workers accommodation camp.** In general, the workers accommodation facility is clean and properly arranged. The camp is provided with toilets, shower rooms with cold and hot water. The rooms have air-conditioning (heating and cooling for winter and summer) and electricity. Each room has a direct access to corridor and exit, and a window to outside. Fire extinguishers are available in the corridors and entrance. In total, 360 workers live in the workers accommodation as of 31 December 2019, making 2 to 6 men living in one room (equal to 4,5 sqm per person).

72. However, some shortcomings are observed such as (i) lack of air ventilations, (ii) lack of smoke detector and fire alarms, and (iii) domestic waste in the camp and workshop yard (e.g. smoked cigarettes, papers, plastic bags thrown on the ground), and (v) non-hazardous construction waste has also been observed in the workshop areas.

73. The Contractor should set up (i) air ventilation and smoke detector and fire alarms, and (ii) more disciplinary rules for workers not to through such waste on the yard ground, sort out domestic waste in designated containers, and (iii) provide more training and awareness raising to staff and workers about waste management, separating hazardous and domestic waste in designated containers, and (iv) keep working sites and workshop areas clean.

74. **Fuel and oil spills.** Though oil and fuel are kept in the covered containers at the covered area with concrete surface, spill off oil on ground (soil) have been noticed. This is mainly due to repairing and maintenance of vehicles have been 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

75. The monitoring and site inspection routine for the Lot 2 have been similar as described 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, with additional ad hoc visits as required.

76. The observed shortcomings are common for both Contractors. Based on 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.

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

78. Hazardous waste is stored in the special bounded area. According to the agreement with FCE of Sheki District hazardous waste is collected once a week and transported for disposal following the laws of Azerbaijan.

79. Domestic waste is placed in dedicated bins and are emptied daily into larger containers, which are then emptied twice a week by FCE of Sheki District and disposed following the laws of Azerbaijan.

80. Sewage and waste water are collected from each building and work sites, pass through the preliminary sedimentation tanks and then finally discharged into a number of concrete septic tanks, which are regularly emptied by a cesspool truck of the FCE of Sheki Town, transported from the camp site and utilized following Azerbaijan regulations and Waste Management Plan.

81. **Public safety and fencing in road construction sites.** To increase the public safety, the Contractor should (i) fence the construction areas close to the settlements and pedestrians not allow the entrance of unauthorized people to the construction area to avoid accidents and health and life risks; (ii) provide more training and awareness raising to its personnel and workers about safety at work sites.

82. **Road Safety and Traffic Management.** The Contractor has installed required signs and speed limit signboard in road construction sites to guide the road traffic. Any driver who violates the speed limit is subject to fines and other disciplinary actions according to the national regulations. The Contractor have also 18 flagmen to guide the traffic at places of interference. Reportedly, the flagmen received training on traffic management by provided by the Engineer and Contractor's OHS team. The Supervision Engineer monitors regularly the traffic management and instruct the Contractor to address any identified traffic safety issues.

83. Safety ribbons placed in road sides in most road construction sites. However, it lacks in some sections where construction works have been started and the slopes in the roadsides and other landscape conditions may cause road accident risks (e.g. especially in night when the drivers may not notice). The contractor should provide safety ribbons and warning signs throughout the road construction sites and improve road lightening in road construction sites.

84. **Dust control and loaded trucks uncovered.** This issue is also similar to the Lot 1. In summer months, dust control needed improvement. With rain and winter season, it is less critical now. However, in all the observed trucks which were carrying soil materials, the load was uncovered. The Supervision Engineer instructed Contractor to ensure the trucks carrying soil materials are covered. The Contractor should also use water sparkling even in winter season on no precipitation days, and more water sparkling when in spring and summer.

85. **Accident.** No fatal or serious accidents are reported in the reporting period except minor injuries of workers (e.g. small cuts and bruises as per the doctor at the workers accommodation camp).

86. **Workers accommodation camp.** The workers accommodation in general are well arranged, provided with toilets, shower rooms, hot and cold water, personal sanitary items (soap in in toilets sinks 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 access to the corridor and exit, and a window. In the corridors and the entrance, there are fire extinguishers. In total, 95 workers live in the workers accommodation as of 31 December 2019, making 2 to 4 men living in one room (equal to 4,5 sqm per person).

87. Domestic waste (cigarettes, papers, aluminum beverage cans) have been observed in the camp and workshop areas of the Contractor of Lot 2 too. Similar to the situation in Lot 1, the following shortcomings should be addressed:

- (i) Lack of air ventilations; ventilation shall be installed in the workers accommodation;
- (ii) Lack of smoke detector and fire alarms; these should be installed in the workers accommodation, canteens, site laboratory and any other applicable premises;
- (iii) Domestic waste in the camp and workshop area (e.g. smoked cigarettes, papers, plastic bags, construction waste, thrown on the ground);
- (iv) Necessary (a) to set up more disciplinary rules for workers not to through waste on the yard ground, sort out domestic waste in designated containers, (b) provide more training and awareness raising to staff and workers about waste management, (iii) separating hazardous and domestic waste in different containers, and (c) keep work sites clean.

88. **Workshop for vehicles maintenance and repairing.** The Contractor has built a workshop for vehicles' maintenance and repairing to avoid the vehicles' oil spills everywhere. But the built workshop is likely not big enough to meet the maintenance and repairing needs of all vehicles of the Contractor. Some vehicles' maintenance and repair took place outside the workshop in the camp area and resulted in spills of vehicles oils' in soil. To avoid, the Contractor should:

- (i) Prohibit its staff to carry out vehicles maintenance and repairing outside the workshop premise; and
- (ii) Instruct staff and arrange the queue system in vehicles' maintenance and repair in the existing workshop or build additional workshop if this space is not enough.

G. Occupational Health and Safety: Lot 1

89. 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 for storage of medicines, and other first aid kits. The doctor provides first aid for minor injuries and basic health care services to the workers. The serious injuries in case of any accident should be transferred to the regional hospital. The following shortcomings observed:

- (i) The Contractor should ensure the doctor and first aid kits are always available in worksites and workers accommodation;
- (ii) Personnel should not store food and personal belongings in the fridge/freezer designated for medicines.

90. **Personal Protective Equipment (PPE)** shortcomings are observed like in Lot 1. Workers lack of the PPE. The Contractor should ensure all workers are supplied with and wear the complete sets of PPE (some workers reflective vest, but missed helmets, gloves, working jackets and trousers while others missed even the reflective vests). The Contractor should immediately provide:

- (iii) Full set of the PPE to every single worker as their jobs require;
- (iv) Training and awareness raising to workers about OHS, health and life and health importance of PPE;

91. **Site laboratory.** In general, meets the environmental requirements. However, the following should be addressed:

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

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

93. **OHS and HIV/AIDS Training.** As per reports, the second OHS and HIV/AIDS Training was held on 4 August 2019. However, the Contractor should put efforts to have increased number of participants in each training sessions to outreach at soonest as many workers as possible.

H. Occupational Health and Safety: Lot 2

94. 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 for first aid and minor injuries. Any serious injuries in case of any accident should be transferred to the regional hospital.

95. **PPE.** In Lot 1 also, it is observed that not all the workers have and wear the PPE. They also lack of complete set of PPE (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 missed respiratory masks). The Contractor should ensure:

- (i) Supply enough quantity and full set of the PPE to every single worker as their jobs require;
- (ii) More training and awareness raising to workers about OHS, health and life importance of PPE;
- (iii) Control the workers wear full set of PPE.

96. **Site laboratory.** The status and issues are similar to the site laboratory for Lot 1; in general, it meets the environmental requirements. But the Contractor should address the following shortcomings:

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

97. **Accidents.** No accidents 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). The doctor has a book of records for every case and worker's visit and examination.

98. **OHS and HIV/AIDS Training.** As per reports, the second OHS and HIV/AIDS Training was held on 4 August 2019. However, the Contractor should put efforts to have increased number of participants in each training sessions to outreach at soonest as many workers as possible.

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

99. The Contractor has maintained satisfactory performance on the required environmental management measures provided in the EMP and SEMP. However, some non-compliance practices and shortcomings have been also observed which the Supervision Engineer has communicated with the Contractor regularly both in formal and written forms. The issued instructions and corrective actions in written form are in Table (Table 6).

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

100. As for the Lot 1, the routine and requirements for the environmental management and monitoring were similarly required. This Contractor has also in general maintained satisfactory performance on the required environmental management measures as per the EMP and SSEMPs. However, similar shortcomings have been also observed in Lot 2 and the Supervision Engineer has communicated them with the Contractor regularly both in verbal and written forms. The issued instructions and corrective actions in written form are in Table 7.

101. Both Contractors put efforts and addressed most of the mentioned non-compliances immediately during the reporting period. However, these types of impacts may re-occur easily and frequently, therefore, require continuous efforts. The Supervision Engineer's team should continue regular follow-up and monitoring to ensure any possible non-compliances are timely addressed, and where applicable, their re-occurrence is prevented. Nevertheless, environmental management in general has been acceptable during the reporting period.

Table 6. Official letters on non-compliances issued to the Contractor under the reporting period Lot 1

Month	Non-compliance issues	Official note issued	Corrective action	Status	Further actions/ comment
26/07/ 2019	Health, Safety and Environmental issues at the Site: <ul style="list-style-type: none"> The workers don't follow the health and safety rules on the bridge, culvert construction areas and working without PPE; Workers don't use respiratory protection against milling asphalt substances which might cause lung cancer risk; Traffic Safety signs are not adequate - observed lack of reflective safety ribbons, night traffic lights; Signaling system of the machines aren't working when driving backside. 	AH-AVT-19-M 5- Lot 1-121, Health, Safety and Environmental issues at the Site	Follow the OHS and EMP, SSEMP	Improved	
28/09/ 2019	Traffic Safety – Increasing accidents; Signs and measures	AH-AVT-19-M5- Lot 1-159 Traffic Safety – Increasing accidents	(i) The working area shall be properly cordoned by barricades, warning sign, and there shall be flagmen to control traffic for full time of the working areas, (ii) Take adequate steps to prevent the constructional traffic related accidents in future	Improved	
10/09/ 2019	Delay in submitting the Public Consultation report	AH-AVT-19-M5 Lot 1-147 Public Consultation	Submit the Public Consultation report as soon as possible.	Submitted	
01/11/ 2019	Notice to days off-closing work sites	AH-AVT-19-M5- Lot 1-169- Notice of days off – closing work	(i) Arrangements of service road maintenance and rescuing crew at emergencies at sites during 3 days off. (ii) Ensure safety and security is in place at site.	Improved	

06/11/2019	Delay in submission of Monthly Health, safety report	AH-AVT-19-M5- Lot 1-173 Submission of Monthly Health, Safety and Environmental reports	Submit the Health, Safety and Environmental reports without further delay.	Submitted	
12/11/2019	Delay in submission of the Environmental Monitoring Report	AH-AVT-19-M5- Lot 1-176 Environmental Monitoring	Submit the Environmental Monitoring reports at soonest.	Submitted	
26/11/2019	Implementation of traffic safety measures in Khanabad village area	AH-AVT-19-M5- Lot 1-178	Ensure traffic safety signs and measures in the site including: (i) Road marking in the center line of the road; (ii) Installation of additional safety signage such as speed limit and truck weight limitation; (iii) Complete the installation of plastic ribbon signage at both sides of the road and keep a proper maintenance of the existing one.	Improved	

Table 7. Official letters on non-compliances and corrective actions issued to the Contractor under the reporting period Lot 2

Month/ 2019	Non-compliance issues	Official note issued	Corrective action	Status	Further actions/ comment
September	Delay in submitting the report on Public Consultation	AH-AVT-19-M5- Lot 2-110	Submit the Public Consultation report as soon as possible	Improved	
September,	Traffic Safety – Increasing accidents; Signs and measures	AH-AVT-19-M5- Lot 2-124 Traffic Safety - Increasing accidents	(i) The working area shall be properly cordoned by barricades, warning sign, and there shall be flagmen to control traffic for full time of the working areas; (ii) Take adequate steps to prevent the constructional traffic related accidents in future.	Improved	
November	Delay in submitting the HSE report	AH-AVT-19-M5- Lot 2-132 Submit Environmental, health and safety report	Submit Environmental, OHS report without delay.	Submitted	
November	Delay in submitting the Environmental monitoring report	AH-AVT-19-M5- Lot 2-135 Mitigation and monitoring of Environmental issues.	Submit environmental monitoring reports at the soonest	Submitted	

IV. PUBLIC CONSULTATIONS AND GRIEVANCE MANAGEMENT

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

Table 8. Public Consultation schedule for Lot 1 and Lot 2

Months/year Location	03/ 2019	06/ 2019	09/ 2019	12/ 2019	03/ 2020	06/ 2020	09/ 2020	12/ 2020	03/ 2020
Sheki Town	x	x	x	x	x	x	x	x	
Villages of Districts	x	x	x	x	x	x	x	x	

103. The Project has a Grievance Redress Mechanism (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

104. **Public consultations.** During the reporting period one public consultation was held in Khanabad village on 11 September 2019 respectively. The key issues discussed included: (i) construction process and schedule; (ii) HIV awareness; and (iii) the Grievance Redress Mechanism. The photos in Annex 5.

105. **Grievances.** No grievances reported during the reporting period.

B. Public Consultation and Grievance Management: Lot 2

106. **Public consultations.** During the reporting period one public consultation was held in Construction Camp in Dahna village on 11 September 2019. The key issues discussed included: (i) construction process and schedule; (ii) HIV awareness; and (iii) the Grievance Redress Mechanism. The photos in Annex 6.

107. Women participation in Public Consultations should be improved.

108. **Grievances.** There were 3 grievances recorded in the reporting period. The grievances were related to (i) a question regarding safety in constructing a cattle underpass is near the complainant's house; (ii) cracks occurred to the complainants' house and stable due to the construction. The grievances are solved (Table 9).

Table 9. Grievance Redress Mechanism Book.

No	Tranche	Location	Date received	Grievance received by	Complaint	Description of the issues/complaints	Contact details	Undertaken actions	Status
1	Lot-2	Sheki region,Bo yuk Dahna	21.08. 2019	Official Letter	Niftaliyeva Suret	If all the safety measures are considered when the cattle underpass is constructed near the complaint's house.	0504416166	All the safety measures have been taken during the mentioned cattle underpass was constructed.	Solved
2	Lot-2	Sheki region, Goybulaq village	05.11. 2019	Official letter	Ramazanova Sunbul; Maksimov Musa; Isagov Mehdi	Cracks occurred at the complaint's houses due to movement and haulage of heavy machineries nearby	Sheki region, Goybulaq Municipality	During the review and checking the houses, it was clear that the houses are very far more than 30 meters from the road.	Solved
3	Lot-2	Sheki region, Jafarabad village	12.12. 2019	Official letter	Nabiyev Bakhtiyar	Cracks occurred at the complaint's house and stable	Sheki region, Jafarabad Municipality	The cracks are not due to road construction as the houses are located very far 100 meters from the road.	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 maintain environmental management in general acceptable standard and follow the EMP and SSEMPs. No major specific environmental issues have been emerging under the reporting period. ADB and the Supervision Engineer have been conducting monitoring and providing technical support to the Contractors as needed on environmental management.

110. Though the environmental management had been satisfactory, number of shortcomings are observed in performance of the Contractors for both Lot 1 and Lot 2. The observed shortcomings and areas for improvement are common for both lots. Below are summarized the observed shortcomings common to both Contractors for Lot 1 and Lot 2 and should be improved:

- (i) Waste management in work sites, workshops, accommodations camps yards;
- (ii) Full supply of the complete sets of PPEs to all workers and control they wear it;
- (iii) Safety in road traffic and construction works sites;
- (iv) Ensure 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 site premises;
- (vi) Do not dump the unsuitable materials in the road side and remove the dumped ones,
- (vii) Outreach more workers in trainings on OHS and HIV/AIDs;
- (viii) Improve dust management (loaded trucks should be covered);
- (ix) Conduct regular public consultations and informing communities about the project GRM.
- (x) Improve women participation in public consultations and in any other relevant community events arranged by the project.

111. Addressing the above-said require ongoing and constant follow-ups and monitoring by the project environmental team of the 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 on the Contractors, make and help them to improve their performance for better compliance.

Annex 1. Instrumental Monitoring Results: Lot 1

**MINISTRY OF ECOLOGY AND NATURAL
RESOURCES OF THE REPUBLIC OF
AZERBAIJAN**

**NATIONAL MONITORING DEPARTMENT
ON ENVIRONMENT**

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« 27 » 11 2019

№ [19/384](#)

To:

**The project manager of Azvirt
LLC Arastun Goyushov**

Dear Mr. Arastun,

We kindly submit to you the monitoring results carried out at the indicated points based on the contract no.6 dated 24 July 2019.

Attach: 5 sheets

Sincerely,

Director

Ramal Bagirov

Concentration of pollutants in the
Atmosphere air(mg/m³)

Monitoring points	Ingredients	Amount of the components (Point 1)	Allowable consistency limit
Yevlakh town.Upper Salamabad set.(Km1+700)	PM2.5	0.018	0.025
	PM10	0.035	0.050
Yevlakh town. Khanabad set.(Km 9+800)	PM2.5	0.019	0.025
	PM10	0.041	0.050
Sheki town. Suchma village (Km 28+600)	PM2.5	0.024	0.025
	PM10	0.049	0.050

Voice Levels (dBA)

Monitoring points	Parameters	Measurement results (Point 1)	Allowable consistency limit
Yevlakh town.Upper Salamabad set.(Km1+700)	Voice	48.4	70
Yevlakh town. Khanabad set.(Km 9+800)	Voice	51.2	70
Sheki town. Suchma village (Km 28+600)	Voice	58	70
Sheki town. Suchma M5 road (Km 1+100)	Voice	56.1	70
Sheki town. Sovkhoz village. M5 road (Km 7+750)	Voice	57	70
Sheki town. R57 road (Km 24+000)	Voice	55.6	70

No	Ingredients	Measureme nt unit	Sheki Suchum village MS road (km2 :300)	Yawiaki town Allan river (km1 :700)	YVOU
1	pH	-	8,0	7,8	6,0-9,0
2	Electroconductivity	X10 ³ Cm/cm	0,439	0,515	-
3	Turbidity	mg/l	55	40	>30
4	Transparency	cm	19	22	>30
5	Solved oxygen	(mg/l,%)	6,73 66,5	5,0 62,6	4-6
6	Biological consumption of oxygen (OBS5)	mg/l	0,4	0,9	3
7	Calcium ion, Ca ²⁺	mg/l	40,3	48,0	-
8	Magnesium ion, Mg ²⁺	mg/l	7,6	13,4	-
9	Chloride ion, Cl	mg/l	30,1	41,6	350,0
10	Sulphate ion, 3 CO ₄ ⁻²	mg/l	59,6	58,3	500,0
11	Bicarbonate ion, HCO ₃ ⁻	mg/l	49,8	25,3	-
12	Carbonate ion, CO ₃ ⁻²	mg/l	0	0	-
13	Na ⁺ +C ⁺ ions	mg/l	13,9	22,0	-
14	Ammonium ion, NH ₄ ⁺	mg/l	0,2	1,3	3,3
15	Nitride ion, NO ₂ ⁻	mg/l	1,6	0,8	45,0
16	Nitrate ion, NO ₃ ⁻	mg/l	0	0,2	0,5
17	Sum of ions, Σ	mg/l	203,1	210,9	<1000
18	E-Coli	unit/liter	10000	13000	1000

Annex 2. Instrumental Monitoring Results: Lot 2



MINISTRY OF ECOLOGY AND NATURAL
RESOURCES OF THE REPUBLIC OF
AZERBAIJAN

NATIONAL MONITORING DEPARTMENT
ON ENVIRONMENT

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« 27 » 11 2019

№ [19/388](#)

To:

The project manager of
“Kolin Inshahat Tourisim
Sanaye” Engin DER

Dear Mr. Engin DER,

We kindly submit to you the monitoring results carried out at the indicated points based on the contract no.6 dated 24 July 2019.

Attach: 5 sheets

Sincerely,

Director

Ramal Bagirov

Concentration of pollutants in the
Atmosphere air(mg/m³)

Monitoring points	Ingredients	Amount of the components (Point 1)	Allowable consistency limit
Sheki town. Suchma village (Km 1+100)	PM2.5	0.025	0.025
	PM10	0.049	0.050
Sheki town.Sovkhoz village.(Km 7+750)	PM2.5	0.021	0.025
	PM10	0.047	0.050
Sheki town. R 57 road (Km 24+000)	PM2.5	0.020	0.025
	PM10	0.046	0.050

Noise Levels (dBA)

Monitoring points	Parameters	Measurement results (Point 1)	Allowable Noise limit
Sheki town. Suchma village (Km 1+100)	Noise	56.1	70
Sheki town.Sovkhoz village.(Km 7+750)	Noise	57	70
Sheki town. R 57 road (Km 24+000)	Noise	55.6	70

Vibration level (dBA)

Monitoring points	Parameters	Measurement results (Point 1)	Allowable Noise limit
Sheki town, Suchma village M5 road (1+100)	Noise	61	70
Sheki town. Sovkhoz village. M5 road (Km 7+750)	Noise	59	70
Sheki town. R 57 road (Km 24+000)	Noise	60.4	70
Sheki town, Suchma village (km 28+600)	Noise	59.6	70

№	Ingredients	Measurement unit	Yevlakh town. Upper Shirvan canal	YVQH
1	pH	-	8	6,0-9,0
2	Electroconductivity	X10 ³ Cm/cm	0,439	-
3	Turbidity	mg/l	55	>30
4	Transparency	cm	19	>30
5	Solved oxygen	(mg/l,%)	6,73 66,5	4-6
6	Biological consumption of oxygen (OBS5)	mg/l	0,4	3
7	Calcium ion, Ca ²⁺	mg/l	40,3	-
8	Magnesium ion, Mg ²⁺	mg/l	7.6	-
9	Chloride ion, Cl	mg/l	30,1	350,0
10	Sulphate ion, 3 CO ₄ ⁻²	mg/l	59,6	500,0
11	Bicarbonate ion, HCO ₃ ⁻	mg/l	49,8	-
12	Carbonate ion, CO ₃ ⁻²	mg/l	0	-
13	Na ⁺ +C ⁺ ions	mg/l	13,9	-
14	Ammonium ion, NH ₄ ⁺	mg/l	0.2	3.3
15	Nitride ion, NO ₂ ⁻	mg/l	1,6	45.0
16	Nitrate ion, NO ₃ ⁻	mg/l	0	0.5
17	Sum of ions, Σ	mg/l	203,1	<1000
18	E-Coli	unit/liter	10000	1000

Annex 3. Progress and shortcomings photos Lot 1



1. Unattended waste at camp site



2. Waste were cleaned properly



3. Unattended waste near the propane balloons area



4. Unattended waste was removed properly



5. Domestic waste around Firefighting Equipment



6. Domestic waste was removed properly



7. Oil tank storage area were spilled with oil



8. Oil spillages were removed appropriately



9. Fuel station area were spilled with oil spills



10. Oil spillages were cleaned appropriately



11 and 12. The trees alongside the road alignment preserved from cutting



13 and 14. All the road construction alignment was provided with road safety speed limit, directional and prohibited safety signs



15 and 16. The workers in left side photo have PPE but in the right-side photo lack PPE in work site



17 and 18. The project instrumental monitoring by the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan – National Monitoring Department for Environment



19 and 20. Camp Fire Extinguishers



21 and 22. Camp Canteen and ventilation system



23 and 24. Camp storage area



25 and 26. Camp sewage tanks and electric cable area were fenced for safety

Annex 4. Progress and shortcomings photos Lot 2



1. Vehicle repairing area was in a mess



2. Vehicle repairing area was cleaned



2. Unattended oil tanks at camp site



4. Oil tanks were removed necessarily



5. Propane balloons were unattended



6. Propane balloons were placed appropriately



7. Oil spillages were observed at the Camp



8. Oil spillages were removed necessarily



9 and 10. Earthworks are carried out as per EMP



11 and 12. The trees alongside the road alignment were preserved from cutting



13 and 14, Waste bins were provided at camp but in some parts also observed improper waste management



15 and 16. Smoking area provided but also in some parts smoked cigarettes are thrown on the ground



17 and 18. Camp Fire Extinguishers are provided but among the inspected, this was found filled with waste



19 and 20. Oil spills and occasional improper management of waste



21. The cable area must be fenced with reflectrive material to ensure visibility to vehicles and pedestrians in camp and workshop area especially during the nights



22 and 23. Asphalt Plant is used for both lots Crushing plant is used for both lots



24 and 25. Jafarabad Borrow Pit is used for both Lot-1 and Lot-2



26. Crushing plant is used for both lots

Annex 5. Public Consultation photos: Lot 1

Photo 1 and 2

Upgrading of Yevlakh-Zagatala-Georgian Border Road, Lot 1

Public Consultation

..

Meeting Pictures:



Figure 1. List of participants

PUBLIC CONSULTATION - ATTENDANCE REGISTER				
No	Surname	Name	Location	Signature
1	Alayev	Vugar		[Signature]
2	Aliyev	Viktor		[Signature]
3	Rafullayev	Tigir		[Signature]
4	Kadizli	Bakur		[Signature]
5	Mirza	Yaghi		[Signature]
6	Mammadov	Shahmammad		[Signature]
7	Mammadov	Tarzi		[Signature]
8	Rafullayev	Eldar		[Signature]
9	Muradov	Abul		[Signature]
10	Mirzaev	Deron		[Signature]
11	Mirzaev	Shah		[Signature]
12	Kadizli	Mahir		[Signature]
13	Kadizli	Ozan		[Signature]
14	Kadizli	Tural		[Signature]
15	Imamov	Rafidat		[Signature]
16	Mammadov	Shah		[Signature]
17	Allahverdiyev	Qudus		[Signature]
18	Alayev	Azad		[Signature]
19	Rafullayev	Kamil		[Signature]
20	Kadizli	Chuan		[Signature]
21	Tchikov	Mif		[Signature]

Annex 6. Public Consultation photos: Lot 2

Photo 1 and 2

Upgrading of Yevlakh-Zagatala-Georgian Border Road, Lot 2

Public Consultation

Meeting Pictures:



Figure 1. List of participants

PUBLIC CONSULTATION - ATTENDANCE REGISTER				
No	Surname	Name	Location	Signature
1	Nasirov	Famil		
2	Saidmurod	Hiqola		
3	Kudulayev	Elshan		
4	Jahromi	Kuram an		
5	Baronov	Asif		
6	Chiruv	Talimidi		
7	Bayramov	Arif		
8	Qasimov	Jerom		
9	Qasimov	Elgar		
10	Shonov	Furkhan		
11	Kingurov	Boatijan		
12	Kirimurov	Kanmurov		
13	Muyev	Abdullo		
14	Imurov	Saif		
15	Qasimov	Igdirin		
16	Shonov	Gulaglan		
17	Abdullo	Carburi		

Annex 7. Minutes of training on OHS and HIV/AIDS Lot 1 and Lot 2

Lot 1 and Lot 2 Contractors carried out HIV/AIDS trainings on 4 August 2019

Discussion topic: The discussion topic of this Seminar was mainly about the implementation of issues of the OHSSP/SSEMPs, to give full information and explain of important issues of OHS to all staff about health/safety and environmental protection measures. Because, people should understand that the health/safety is the first place in the human life, and I think, we could it.

In addition to seminar, AIDS Information also discussed with workers 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

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 to 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. After the 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 and 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

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

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. HIV/AIDS training at Lot 1 and Lot 2

Upgrading of Yevlakh – Zagatala – Georgian Border Road (M5), Lot 1: Khaldan – Suchma, km 00.300 – 33.100

HSE – AIDS Information / Training Seminar

August, 2019

Meeting Pictures:



