

Bi-Annual Environmental Monitoring Report

Project Number: 45389-004
June 2018

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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CURRENCY EQUIVALENTS

(As of 30 June 2018)

Currency Unit – Azerbaijan New Manat (AZN)

AZN 1.00 = USD 0.592

USD 1.00 = AZN 1.69

ABBREVIATIONS

ADB	–	Asian Development Bank
AAY	–	State Agency of Azerbaijan Automobile Roads
EIA	–	Environmental Impact Assessment
EMP	–	Environmental Management Plan
EMS	–	Environmental Management System
GRM	–	Grievance Redress Mechanism
SEMP	–	Site Environmental Management Plan

WEIGHTS AND MEASURES

cm	–	centimeter
km	–	kilometer
l	–	liter
m	–	meter
mg	–	milligram

Bi-annual Environmental Monitoring Report

July 2018

Republic of Azerbaijan:

Road Network Development Program, Project: Tranche 2
Construction Supervision of the Alat-Astara Highway
Jalilabad Intersection to Shorsulu Intersection

(Financed by the Asian Development Bank)

Report 5: 1st January 2018 to 30th June 2018

Project Number: 45389-004

Loan: 3144-AZE

Prepared by **Azerbaijan Automobile Roads State Agency** for Asian Development Bank

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Abbreviations

ADB	Asian Development Bank	The Funding Agency
AQP	Air Quality Plan	
AAR	Azerbaijan Automobile Roads State Agency (formerly AzerAvtoyol Open Joint Stock Company)	The Implementing Agency
CC	Construction Contractor (Kolin)	The Construction Contractor
EIA	Environmental Impact Assessment	
EMP	Environmental management plan	
EO	Environmental Officer	
ERP	Emergency Response Plan	
GRM	Grievance Redress Mechanism	
HDDV	Heavy Duty Diesel Vehicles	
HSP	Health and Safety Plan	
Kolin	Kolin Construction Tourism Industry & Trade Co. Inc.	The Construction Contractor (CC)
MENR	Ministry of Ecology and Natural Resources	
PIU	Policy Implementation Unit	Implementation Unit of the Executing Agency
SC	Supervision Consultant (TERA)	The Supervision Consultant
SSEMP	Site Specific Environmental Management Plan	Contractor Generated Document
TERA	TERA International Group. Inc	The Supervision Consultant (SC)
WMP	Waste Management Plan	
END		

I. PART I -INTRODUCTION

A. Project Information, Construction activities and progress during last 6 months

1. General information

1. The Project, a 30Km section of the Alat-Astara Motorway (M3), commences at the Bilasuvar Interchange (Km80+600) and runs in a generally south westerly direction ending at the Jalilabad Interchange (Km 110+700). It forms part of the road connection from Baku to the Iranian border (Astara). The road alignment passes through the Mahmudchala and Akchala wetlands. The location of the alignment within Azerbaijan is shown in Figure 1 and a schematic arrangement of the project is presented in Figure 2.

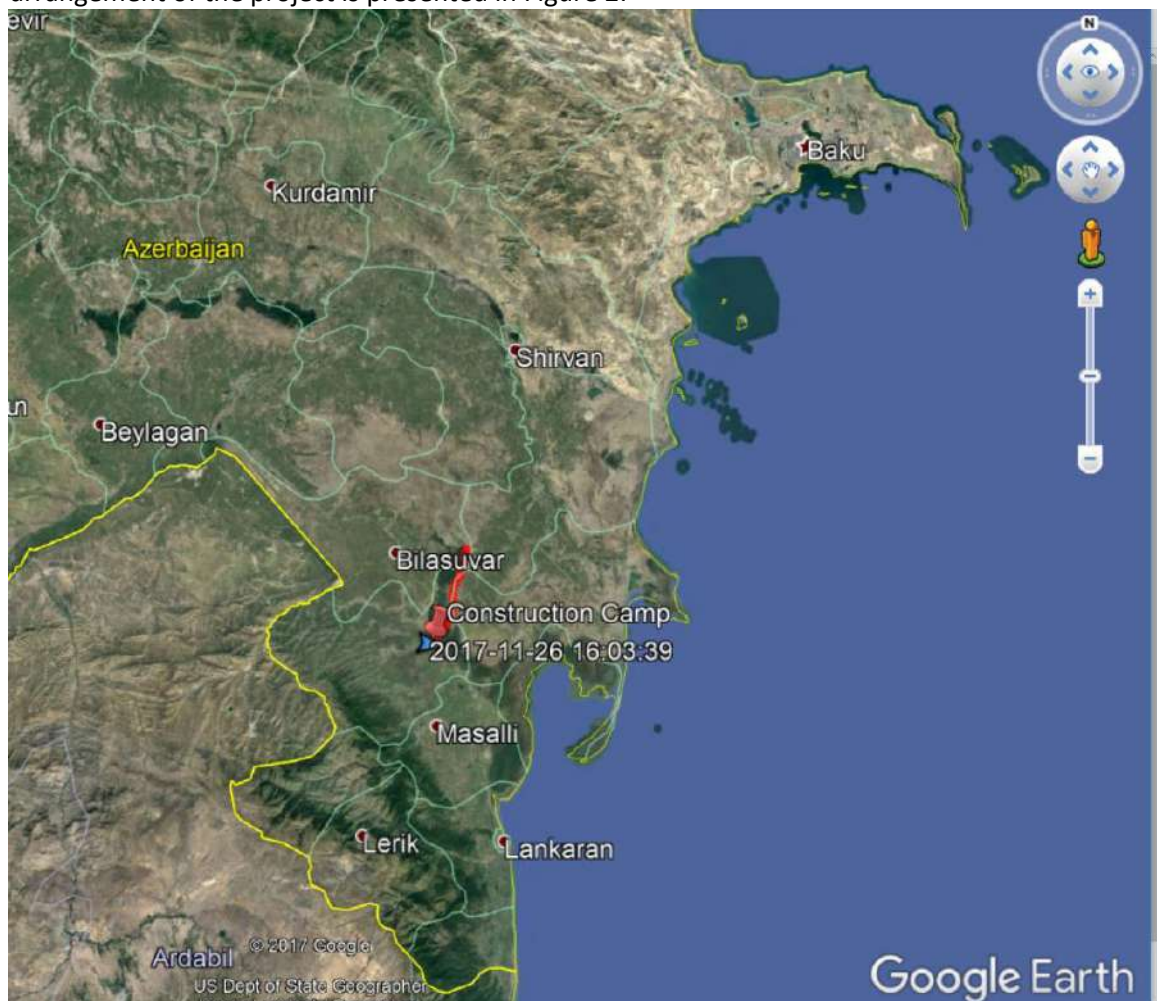


Figure 1: Location of the alignment within Azerbaijan

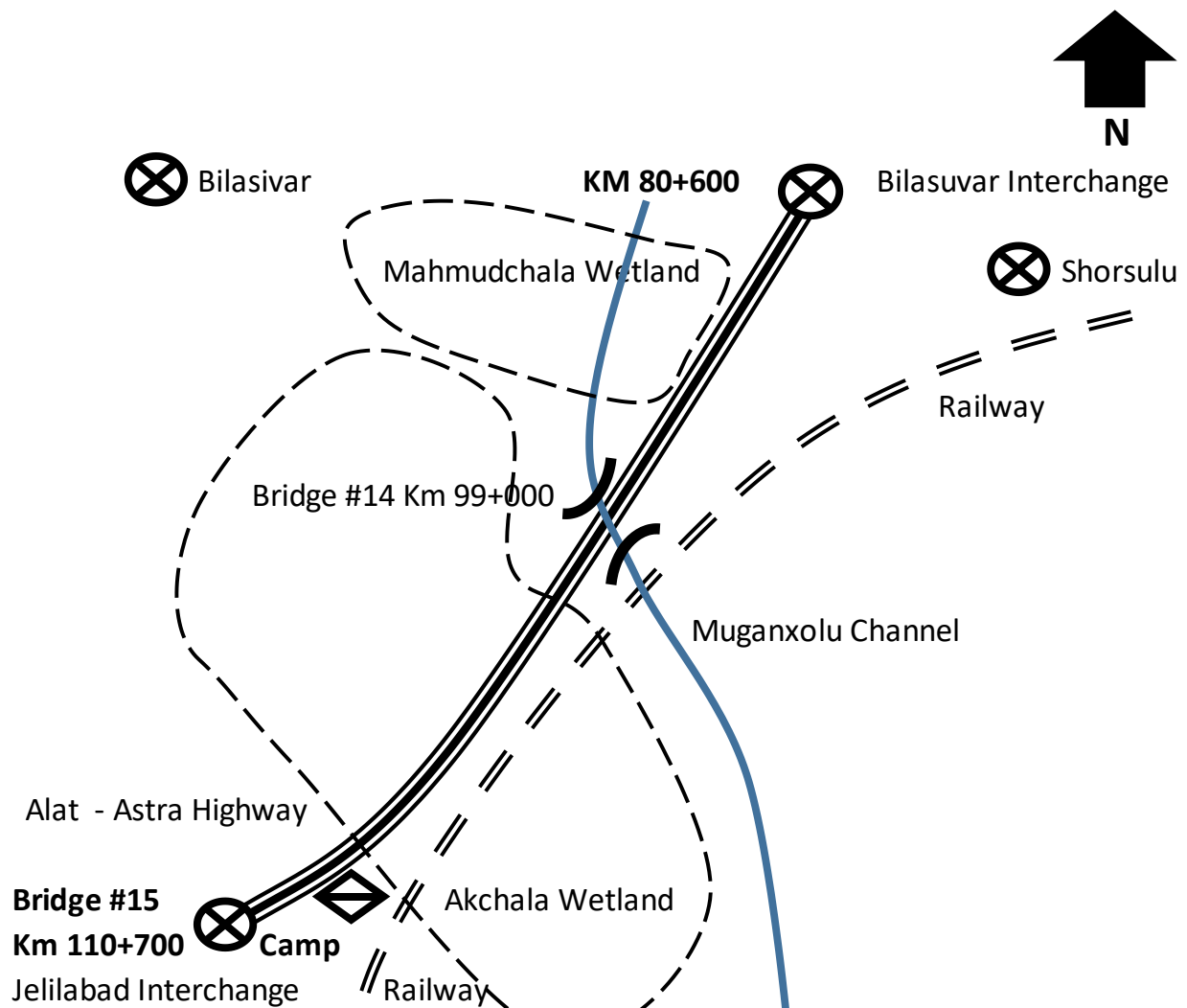


Figure 2: Schematic arrangement of the alignment

2. The Implementing Agency for the project is the Azerbaijan Automobile Roads State Agency (AAR) formerly AzerAvtoyol Open Joint Stock Company (AOJSC).
3. An Environmental Impact Assessment (EIA) was carried out for the project in 2007 and included an Environmental Management Plan (EMP) that set out the environmental requirements for the project. The EIA report was approved by AAR and Asian Development Bank (ADB) in 2012¹, and has served as a basis for the development of the specification and contract documents, and for the preparation of the Contractor's Site Specific Environmental Management Plan (SSEMP).
4. The SSEMP includes a set of 4 main plans (Camp, Workshop, Plant Operation and Road Construction) and 8 sub plans (Water, Air Pollution, Noise, Waste, Soil, Site Drainage, Borrow Pit, Flora & Fauna and Cultural and Archaeological Find and Grievance Redress Mechanism).

¹ ADB project 45389-001 in Azerbaijan. Second Road Network Development Investment Program: Masalli (Sarcuvar) Interchange to Shorsulu (Bilasuvur) Interchange. <http://www.adb.org/projects/documents/second-road-network-development-investment-program-masalli-to-shorsulu-interchange-eia>

5. The Supervision Consultant (SC) appointed by AOJC is TERA International Group. Inc. (TERA). The Contract is Design and Build (DB)² and the Construction Contractor (CC) is Kolin Construction Tourism Industry and Trade Co. Inc. (Kolin).
6. In preparing this document the following reports have been referenced:
 - Project Environmental Impact Assessment (2012);
 - Site Specific Environmental Management Plan (KOLIN 2016)
 - SSEMP for Akchala & Mahmudchala Wetlands (KOLIN 2016)
 - SSEMP Quarterly Report 9 [Jan to March 2018] (KOLIN 2018)
 - SSEMP Quarterly Report 10 {Apr to June 2018} (KOLIN 2018)
 - Air Quality Noise and Vibration Monitoring Feb 2018 (KOLIN 2018)
 - Air Quality Noise and Vibration Monitoring May 2018 (KOLIN 2018)
 - Water Quality Monitoring Report June 2018 (KOLIN June 2018)
 - 8th AIDS Training for Construction Workers February 2018 (KOLIN 2018)
 - 9th AIDS Training for Construction Workers May 2018 (KOLIN 2018)
 - 5th Public Consultation for People located near the Project Road – Feb 2018 (KOLIN 2018)
 - Monthly Environmental Management Reports #22 to #26 – Jan to May 2018 (KOLIN 2018)
 - Monthly Progress Reports – Jan to June 2018 (KOLIN 2018)
 - Site Audits by TERA
 - Complaints Log (Held by KOLIN)
 - Grievance Redress Mechanism Log (Held by TERA)
 - Turtle Log (KOLIN 2018)
 - Minutes of Monthly Progress Meetings 2018

2. Progress in the last 6 months

7. During the reporting period, the CC (KOLIN) completed the major construction works on the alignment and a Certificate of Completion was issued to the CC on 1st June 2018³. Off-site sourcing of raw material (sand and gravel) ceased during the reporting period together with crushing and grading within the camp compound. Crushing and grading plant within the camp compound was decommissioned and removed from the camp. Concrete batching plant in the camp compound continued to produce concrete but pre-casting operations ceased.
8. The CC sourced bitumen products from an existing (approved and licensed) offsite Kolin facility immediately to the south of this project. With the completion of asphaltting works the facility was in process of decommissioning in June 2018.

²Design and Build is a method to deliver a project in which the design and construction services are contracted by a single entity (the Design and Build Contractor in this case is the CC (Kolin)).

³ The Certificate of Completion indicates that the major engineering works are complete (earthworks, road surfacing, bridges and culverts) but that minor works (signage, road markings, etc.) still remain. It represents the start of the two year maintenance period when the CC is responsible for maintaining the works on the alignment.

B. Objectives of Biannual Environmental Reporting

9. The purpose of the Bi-annual Environmental Monitoring Reports is to provide a summary of the key issues relating to environmental management over the past six months. The summary includes an update on overall project progress, the status of Site Environmental Management Plan (SSEMP) implementation, environmental monitoring results, and other issues such as non-compliance and corrective actions, and monitoring of the Grievance Redress Mechanism (GRM).

C. Site Activities

10. The 30.1 Km. site has been handed over to the CC and major construction is now complete. Aggregate production for subbase and asphalt is complete and stockpiles have been drawn down to minimal quantities. Major construction work (involving material processing and diesel powered heavy mechanical equipment) has ceased with only the installation of signage, barriers and fencing and white lining remaining.
11. In January to June 2018, weather conditions have moved from cooler winter temperatures to hot and dry summer conditions. There was 2.5cm of snow recorded in January and normal precipitation in the reporting period.
12. Kolin has a lease on former railway sidings at km 110 +700 and established a construction camp (including office, residential accommodation and canteens) and a manufacturing area (concrete batching, precast concrete units manufacture and laboratory testing). In the reporting period material stockpiles have been drawn down and crushing and grading plant moved offsite. There are small stockpiles of inert materials (including sand, gravel and out of specification precast concrete units), ferrous metal and other construction material as well as construction plant and machinery, the office and residential accommodation, workshops and concrete batching plant that will be moved from site during camp decommissioning.
13. During the reporting period there has been no supply of raw material from quarry sites. The quarries operated by KOLIN during construction were visited to assess progress of vegetation re-establishment.







Figure 3: Quarries used by the Contractor

Table 1: Quarries used by the Contractor during the Jan June 2018 reporting period

Site	Material	Jan	Feb	Mar	Apr	May	Jun	Current status
Alar	Fill	x	x	x	x	x	x	Not used in reporting period
Yardimli	Rock for fill in Wetland	x	x	x	x	x	x	
Bilesuvar	Fill	x	x	x	x	x	x	
Sabirabad	Fill	x	x	x	x	x	x	
Asurlu	Rock for fill in Wetland	x	x	x	x	x	x	
Behramtepe	Concrete and capping	x	x	x	x	x	x	
Lenkeran	Capping	x	x	x	x	x	x	
Vilash	Capping	x	x	x	x	x	x	
(Jalilabad)	Fill and Rockfill	x	x	x	x	x	x	
(Yusufily)	Rock for fill in Wetland	x	x	x	x	x	x	

14. Kolin opened and operated quarries at Yardimli and Asurlu (rock), Alar and Sabirabad (Sand). These sites have now ceased operation and the following figure shows the historic and current status of the sites. Other sites at Lankeran (river stone) were used by multiple operators and the site at Behramtepe is a commercial quarry operation where the contractor is sourcing processed product. The following photographs show historic and current conditions at the quarry sites.

Yardimli		
		21 April 2016
		21 Nov 2016
		21 November 2017
		21 June 2018

Asurlu	
	21 Nov 2016
	21 Nov 2017
	21 Jun 2018



21 Jun 2018

Vegetation naturally regenerating on the site

Sabirabad (operated with Alar to the North)



21 Nov 2016

Alar (operated with Sabirabad to the South)

	21 November 2017
	21 June 2018

D. Project organization and environmental management team

15. The organization structure for the project is shown in Figure 4 and the members of the Environmental Management Team are identified in Table 2.

Figure 4: Organization Structure for the Project

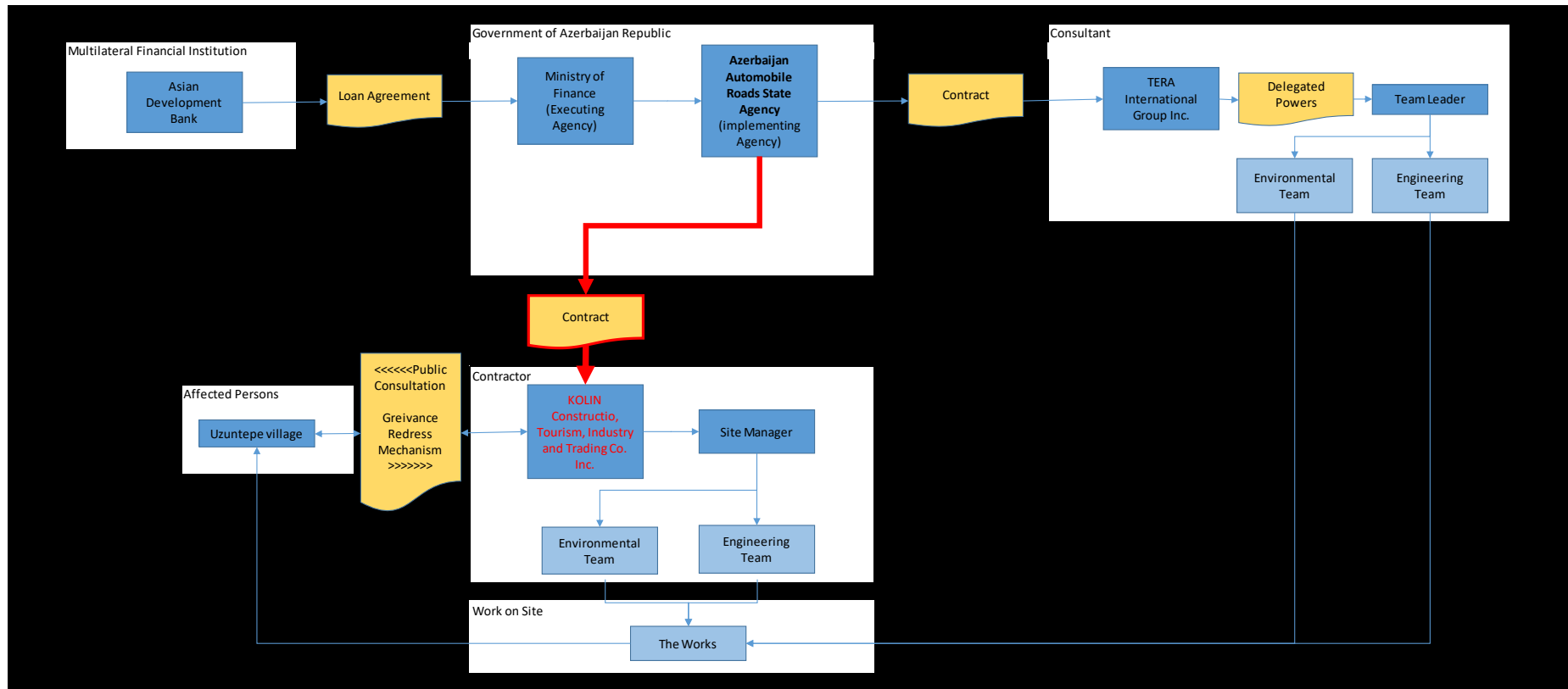


Table 2: Environmental Management Team active on project

Organization	Name	Title	Responsibilities	On project
AzerAvtoyol OJSC PIU	Arastun Guliyev Yusuf Atakishiyev	Social and Environmental Specialist	Responsible ensuring for the delivery of the project in line with Republic of Azerbaijan and ADB`s social and environmental requirements	Site inspection with ADB on 1 Feb 2018
TERA (SC)	Andrew Taylor	International Environmental Specialist	Confirming acceptable levels of environmental performance on site in line with the EIA and environmental legislation of the Republic of Azerbaijan	(1) 31 Mar 2016 to 28 Apr 2016 (2) 17 Nov 2016 to 27 Nov 2016. (3) 6 Nov 17 to 6 Dec 2017 (4) 11 Jun 2018 to 4 July 2018
	Alizamin Mustafayev	National Environmental Specialist	Day to day observation and recording of environmental performance on site of the Contractor.	From 11 Feb 2016 to date
	Prof. Luca Luiselli	Turtle Expert	Assessment of turtle population on site and production of Turtle Action Plan	25 Apr 2016 to 7 May 2016
KOLIN (CC)	Hafiz Abilhasanov	Environmental Manager	Confirm that the works are being carried out within the requirements of legislation of the Republic of Azerbaijan, the EIA and its associated EMP and the Contractor SSEMP	Day to day observation
	Elchin Kerimov	Health and Safety Officer		
		Environmental Protection Team		
		Turtle Catch Group	Implement the turtle management plan, ensure fencing, notices are in place and workers are aware of turtle issues	
Asian Development Bank	Shahin Isayev	National Environmental Safeguards Specialist, Resident Mission in Baku	Confirming that the works are being implemented in line with ADB policy and the specific requirements of the Environmental Impact	Site inspection with AAR on 1 Feb 2018. Site meeting TERA 23 Jun 18

	Paula Araujo	Environmental Specialist, Central and West Asia Department	Assessment prepared for the project	Site inspection with AAR on 1 Feb 2018
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E. Relationships with contractors, owner, lender, etc.

16. The relationships between Funding Agency (ADB), Implementing Agency (AzerAvtoyol), Supervision Consultant (TERA) and Construction Contractor (Kolin) are considered to be normal working relationships.

17. At the working level, communication with regards to environmental issues remains good and interaction with the public is good.

Table 3: Contractors environmental management subcontractors on the project

Activity area	Organization	Description of work
Laboratory	KOLIN	The CC (KOLIN) operate a materials testing facility in the construction camp. The facility is audited by TERA under the requirements of the Quality Plan. There is no environmental testing carried out onsite by KOLIN
Environmental Monitoring	EKO-LAB LLC of Azerbaijan	Carry out noise, air and water quality sampling. Water quality testing is carried out by the Azerbaijan National Laboratory
Solid Waste Management	KMK of Jalilabad	Collect solid waste from camp twice each week and transport it to the Jalilabad municipal facility for disposal.
Liquid Waste Management		Collect Liquid waste from camp septic tanks each week and transport it to the Jalilabad municipal facility for disposal.

II. PART II - ENVIRONMENTAL MONITORING

A. Physical monitoring of water, noise, vibration and air quality

1. Water Quality

18. In terms of water quality the construction of a bridge over the Muganxolu channel, a primary watercourse through the Akchala wetland, is identified as a potential water quality impact area and monitoring points were identified upstream and downstream from Bridge (Km 99+000). There is no specific requirement in the EIA for regular physical monitoring but pre construction and post construction monitoring was carried out in addition to weekly visual inspections by CC and SC. Figure 5 indicates the location of the water quality monitoring points. The pre-construction monitoring exercise was carried out in 2016 and post construction monitoring was carried out in June 2018. During works, the location was visually inspected on a daily basis to confirm that there were no incidents of silty runoff and identifiable pollution by petroleum products in the watercourse.



Figure 5: Water quality monitoring at the Muganxolu channel bridge crossing (Km 99+000)

Source: Approved CEMP

2. Noise, vibration and water quality

19. The camp is considered to be a potential source of noise and dust impact due to the presence of a large manufacturing area (rock stockpiling and processing and operation of a concrete batching plant). The camp is located immediately to the west of Uzuntepe village and monitoring points are located at the closest sensitive receivers to the camp boundary. Figure 6 is a schematic of the camp showing its noise and dust generating activities in relation to Uzuntepe village.

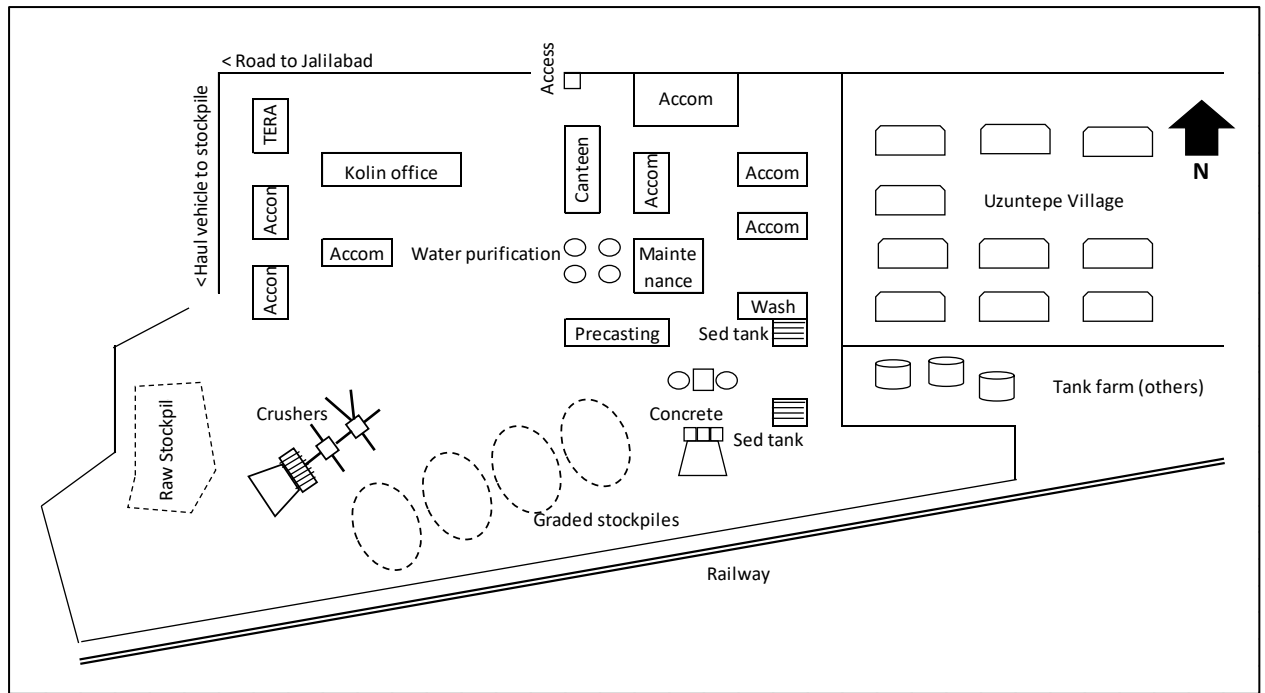


Figure 6: Schematic of Camp at Km 110+600 and proximity to Uzuntepe village

20. The Contractor operated a major sand extraction for fill material at Sabirabad and Alar about 1 Km north of the camp / Uzuntepe village. Operation of this borrow area has potential to generate adverse noise and dust impact and a sampling point was included to monitor levels of impact.
21. Therefore, air, noise and vibration monitoring points have been identified at three locations in Uzuntepe Village (immediately east of the camp see Figure 7) and the sand borrow pit (located north of Uzuntepe Village see Figure 8).

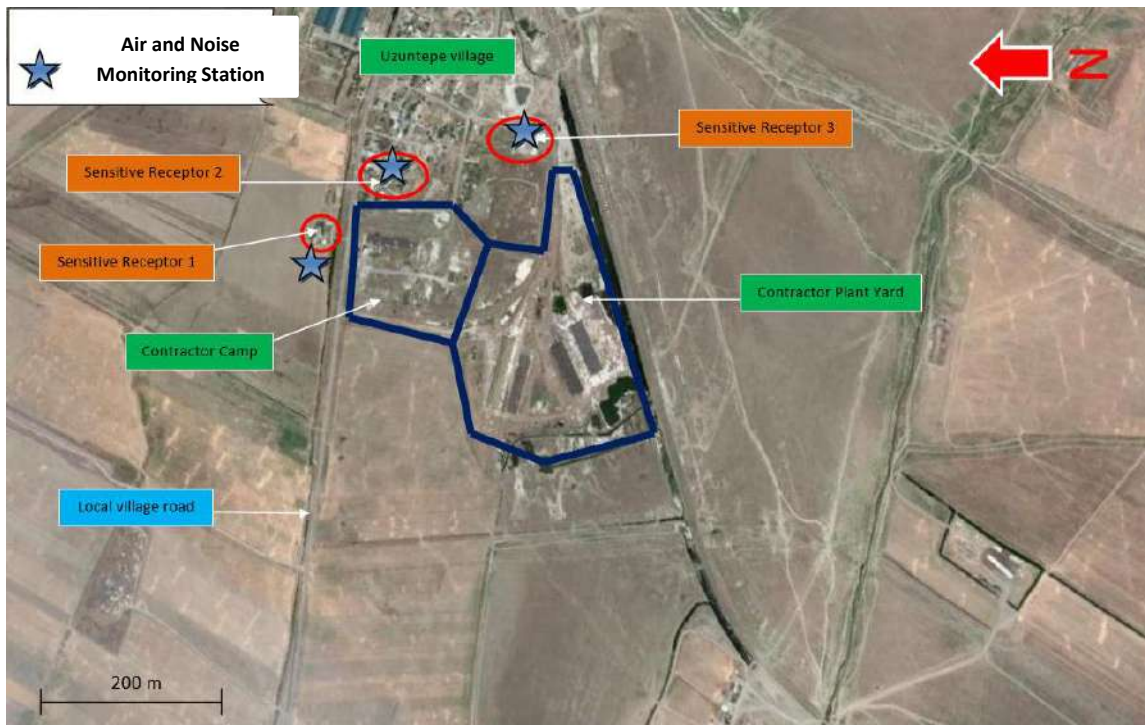


Figure 7: Location of three air, noise and vibration monitoring points close to Camp

Source: Approved SEMP

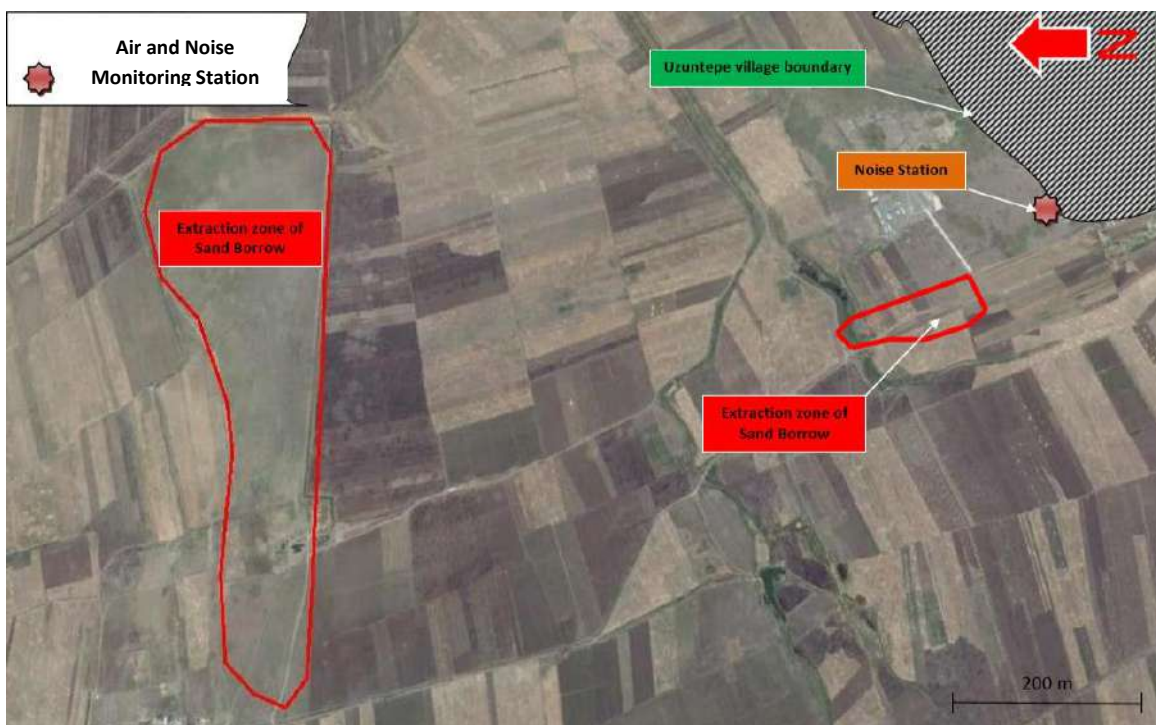


Figure 8: Location of air, noise and vibration monitoring points south of sand borrow (Sabirabad)

Source: Approved SEMP

3. Physical air, noise and vibration monitoring programme

22. Pre-construction monitoring was carried out on 7th February 2016. The monitoring comprised six air quality, noise and vibration monitoring locations and one water quality site at Muganxolu channel (upstream and downstream from Bridge No1 Km 99+000).

2016 year monitoring of air, noise and vibration

The first round of construction phase monitoring was carried out on May 21, 2016.

The second round of construction monitoring was carried out on August 06, 2016.

The third round of construction monitoring was carried out on November 13, 2016

2017 year monitoring of air, noise and vibration

The fourth round construction monitoring was carried out on February 18, 2017.

The fifth round construction monitoring was carried out on May 21, 2017

The sixth round of construction monitoring was carried out on 5 Aug 2017

The seventh round of construction monitoring was carried out on 5 November 2017.

2018 year monitoring of air, noise and vibration

The eighth round construction monitoring was carried out on February 11, 2018.

The ninth and final round of construction monitoring was carried out on May 11, 2018

Post construction monitoring of water quality at Muganxolu channel was carried out on June 20, 2018

B. Monitoring Results

23. The following tables set out the results of the pre-construction and ongoing construction phase environmental monitoring programme.

Table 4: Pre and post-construction Water Quality Monitoring Results (at Muganxolu channel)⁴

Parameter	Units	7 February 2016		20 June 2018 at 09:00		Allowable
		Upstream	Downstream	Upstream	Downstream	
pH		6.8	7	6.5	6.8	6.0 – 9.0
Conductivity	X10 ³ cm/cm	0.18	0.182	0.172	0.175	-
Limpidity	cm	16.7	16.8	14	14	<30
Turbidity	mg/l	18.4	18.6	17.8	18.1	<30
Dissolved Oxygen O ₂	mg/l	4.1	4.2	3.1	3.1	4.6 – 6.0
BOD	mg/l	2.3	2.4	2.1	2.3	3
Roughness		5.1	5.2	5	5.3	7
Calcium Ca ²⁺	mg/l	128.1	129	124.4	126	180
Magnesium Mg ²⁺	mg/l	43.2	43.4	46.7	47.2	200
Chloride Cl ⁻	mg/l	144.8	145	145.3	145.9	350
Sulphate SO ₄ ²⁻	mg/l	221.3	221.4	220.6	221.5	500
Bicarbonate HCO ₃ ⁻	mg/l	198.2	198.4	198	198.3	-
Na ⁺ & K ⁺	mg/l	168.4	167.8	155.1	155.9	-
Sum of Ions	mg/l	904	905.1	901.1	902.3	1000
Ammonium NH ₄ ⁺	mg/l	0.434	0.435	0.421	0.422	0.39
Nitrite NO ₂ ⁺	mg/l	0.012	0.012	0.014	0.014	0.02
Nitrate NO ₃ ⁺	mg/l	6.4	6.6	6.2	6.2	9
Oil & grease	mg/l	0.002	0.002	0.001	0.001	0.05
E-coli	Per liter	837	840	921	923	1000
Total SS	mg/l	0.238	0.24	0.23	0.237	0.25
SSAM	mg/l	0.03	0.04	0.02	0.02	0.1
Phenol	mg/l	0.0001	0.0001	0.0001	0.0002	0.001

24. The pre and post construction monitoring exercises indicate that there has been no meaningful change from pre and post construction conditions. Both pre and post construction monitoring exercises indicated slightly elevated ammonium concentrations, perhaps indicating presence of fertilizer runoff from agricultural activities. The slightly depleted dissolved oxygen levels may be a result of the elevated ammonium concentrations.

Table 5: Air Quality Monitoring Results

Air Quality Close to the Camp (Uzuntepe village)												
Units (mg/m ³)	N of camp			E of Camp			SE of camp			S of sand borrow		
	Dust	NO ₂	CO	Dust	NO ₂	CO	Dust	NO ₂	CO	Dust	NO ₂	CO
Allowable	0.5	0.085	5	0.5	0.085	5	0.5	0.085	5	0.5	0.085	5

⁴ There has been weekly visual inspection of the channel as part of ongoing monitoring and audit

09:00 7 Feb 16 Pre-construction	0.1	0.32⁵	1	0.1	0.034	1	0.1	0.035	1	0.2	0.038	2
11:30 21May2016	0.3	0.045	2	0.3	0.042	3	0.2	0.040	2	0.3	0.048	3
11:30 6 Aug 16	0.3	0.040	3	0.3	0.048	3	0.2	0.042	3	0.3	0.044	3
11:30 13 Nov 2016	0.2	0.032	1	0.2	0.043	2	0.2	0.036	2	0.3	0.03	1
11:30 18 Feb 17	0.1	0.037	1	0.1	0.039	1	0.1	0.036	1	0.1	0.042	2
11:30 21 May 17	0.3	0.048	2	0.2	0.050	2	0.2	0.045	2	0.3	0.042	2
11:30 5 Aug 17	0.3	0.045	3	0.3	0.057	3	0.3	0.046	2	0.3	0.044	2
11:30 5 Nov 17	0.2	0.041	2	0.2	0.053	2	0.2	0.040	2	0.2	0.045	2
11:30 11 Feb 18	0.2	0.041	2	0.2	0.045	2	0.2	0.038	2	0.3	0.048	3
11:30 13 May 18	0.2	0.04	2	0.2	0.044	2	0.2	0.039	2	0.3	0.47	3

⁵ The 0.32mg/m³ result could be a transcription error, as the other results on the same day were 0.034, 0.035, 0.038, 0.039 and 0.036mg/m³.

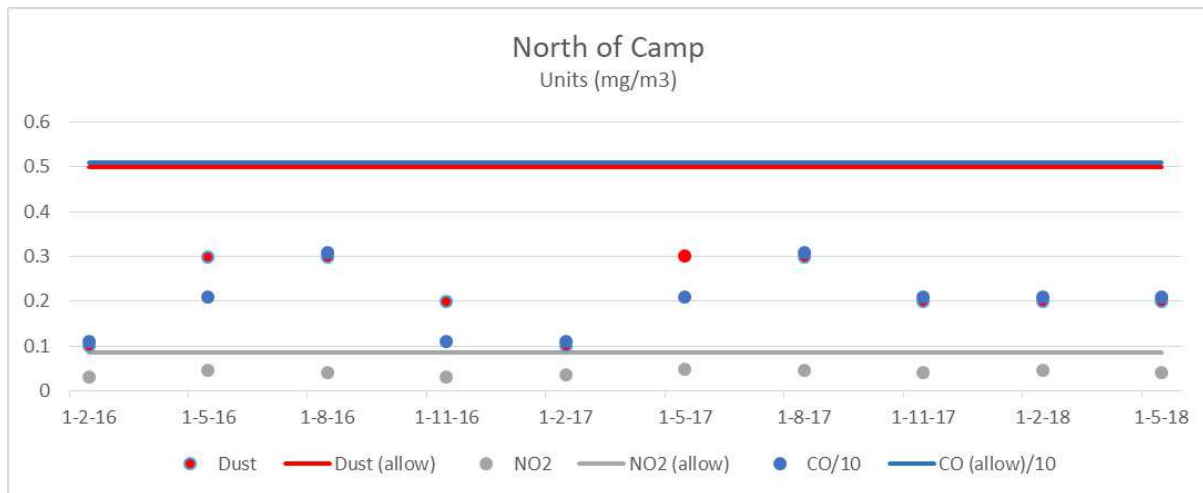


Figure 9: Air Quality Monitoring North of Camp – graphical representation

Note: For presentation purposes the Carbon Monoxide (CO) results have been reduced by a factor of 10

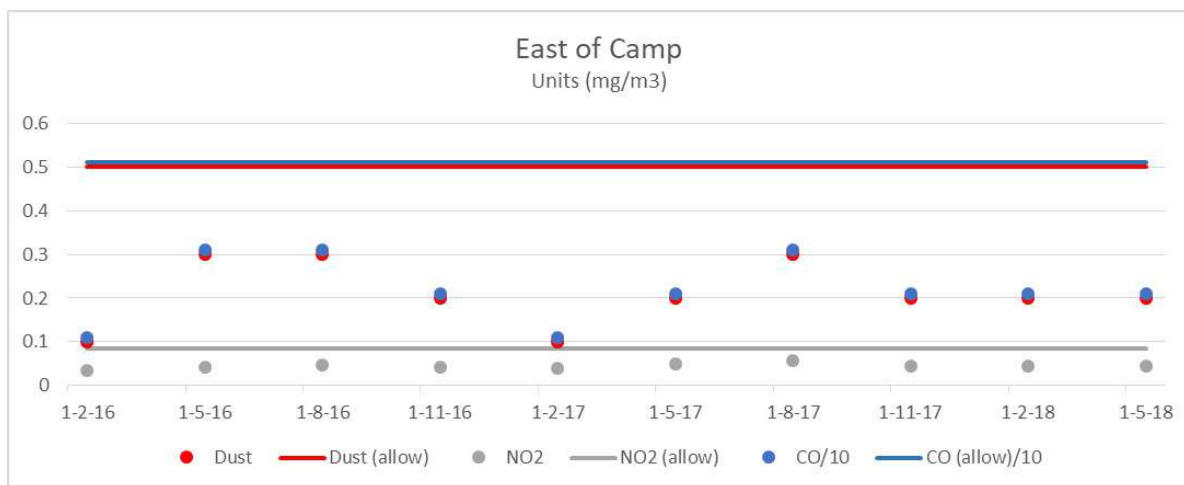


Figure 10: Air Quality Monitoring East of Camp – graphical representation

Note: For presentation purposes the Carbon Monoxide (CO) results have been reduced by a factor of 10

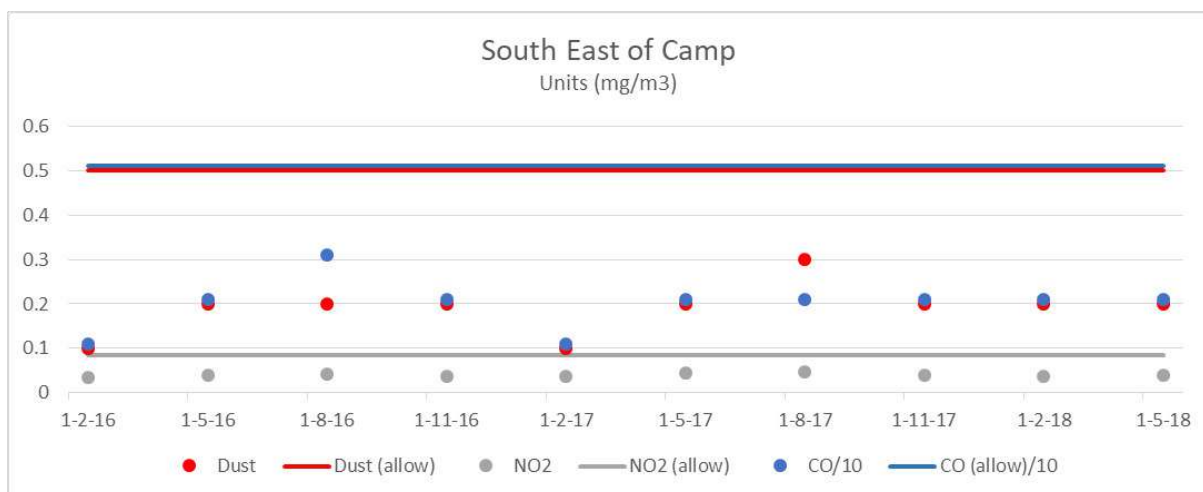


Figure 11: Air Quality Monitoring South East of Camp – graphical representation

Note: For presentation purposes the Carbon Monoxide (CO) results have been reduced by a factor of 10

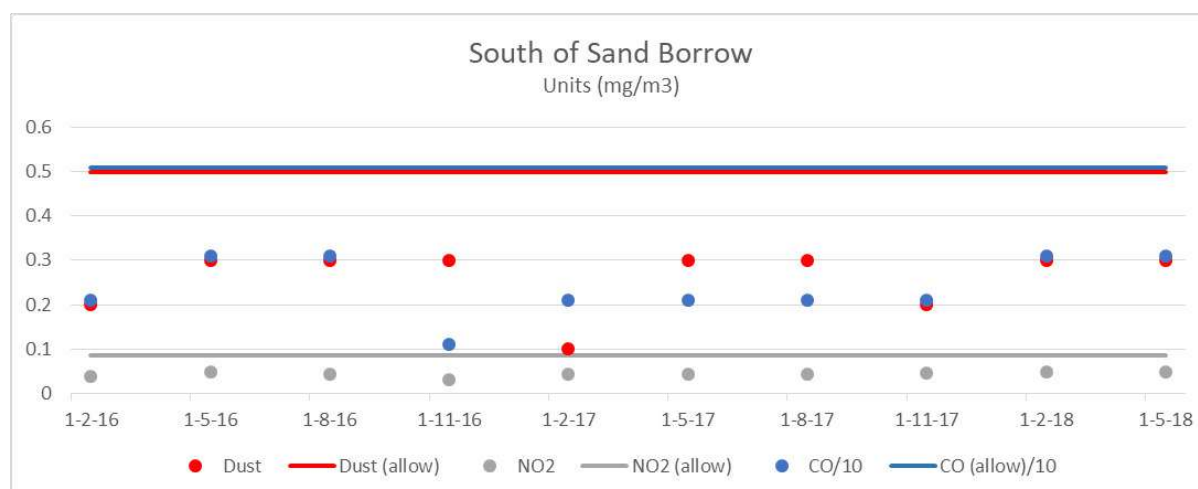


Figure 12: Air Quality Monitoring South of Sabirabad borrow area – graphical representation

Note: For presentation purposes the Carbon Monoxide (CO) results have been reduced by a factor of 10

25. The air quality monitoring carried out in the reporting period indicates that construction dust and vehicle emissions (Nitrogen di-oxides [NO₂] and Carbon mon-oxide [CO]) emissions are within the allowable criteria.

Table 6: Noise Monitoring Results

Noise Close to the Camp (Uzuntepe village)				
Units (dB)	N of camp	E of Camp	SE of camp	S of sand borrow
Allowable	70	70	70	70
09:00 7 Feb 16	59.4	50.0	56.7	59.4
11:30 21 May 2016	57.2	51.9	49.0	45.6
11:30 6 Aug 2016	50.7	47.8	51.7	49.1
11:30 13 Nov 2016	46.4	42.4	49.7	40.7
11:30 18 Feb 17	52.3	47.4	46.8	48.5
11:30 21 May 17	49.3	48.6	45.7	48.2
11:30 5 Aug 17	49.2	43.9	48.9	47.5
11:30 5 Nov 17	48.4	42.6	47.1	47.9
11:30 11 Feb 18	45.4	35.9	43.1	46.3
11:30 13 May 18	56.8	47.1	51.7	46.3

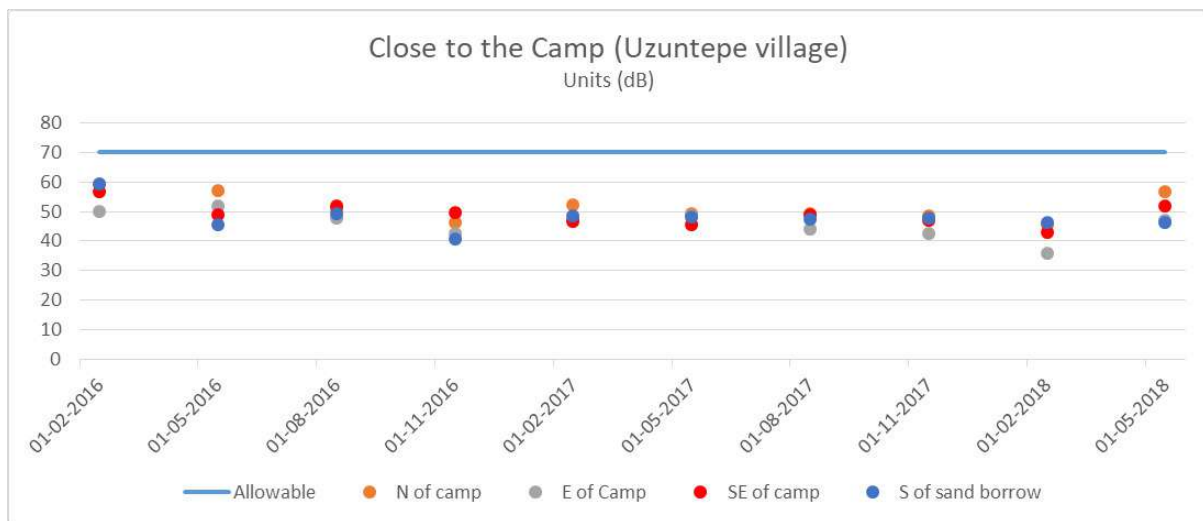


Figure 13: Noise Monitoring – graphical presentation

26. Noise monitoring carried out in the reporting period indicates that construction noise is being maintained within allowable criteria.

Table 7: Vibration Monitoring Results

Vibration Close to the Camp (Uzuntepe village)				
Units (dB)	N of camp	E of Camp	SE of camp	S of sand borrow
Allowable	77	77	77	77
09:00 7 Feb 16	65	56	63	65
11:30 21 May 2016	64	58	47	52
11:30 6 Aug 17	57	54	59	46
11:30 13 Nov 2016	52	49	56	47
11:30 18 Feb 17	58	52	51	54
11:30 21 May 17	57	56	53	56
11:30 5 Aug 17	59	57	55	56
11:30 5 Nov 17	54	50	52	55
11:30 11 Feb 18	51	42	49	53
11:30 13 May 18	63	53	57	52

Allowable levels from: DÜST 17187 (State General Standards & Requirements), (presidential decree No 796, 8th of July, 2008)

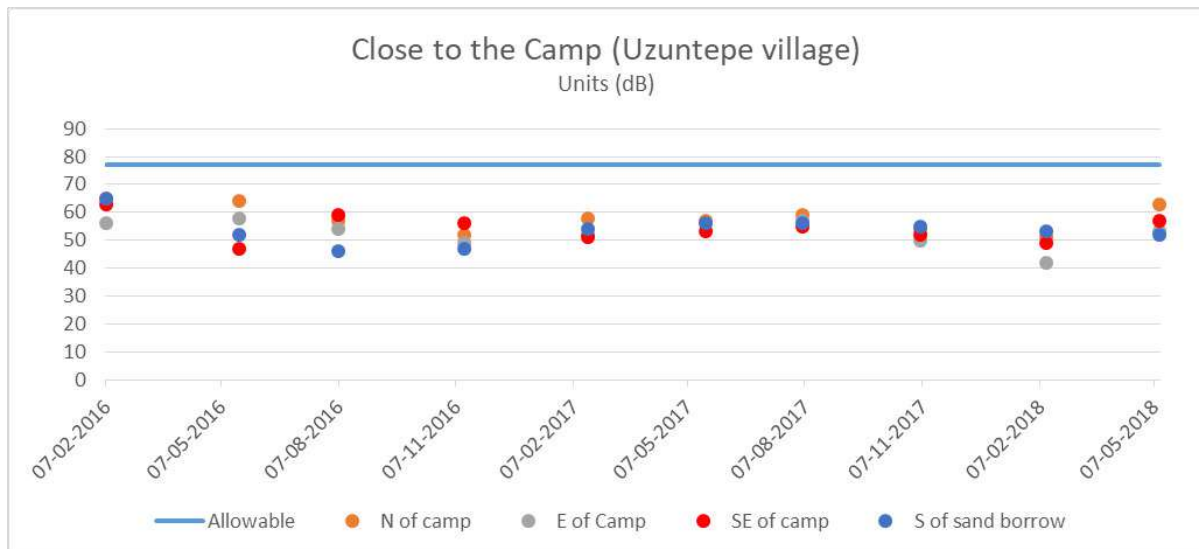


Figure 14: Vibration Monitoring – graphical representation

27. Vibration monitoring carried out in the reporting period indicates that vibration levels are being maintained within the allowable criteria.

III. PART III - ENVIRONMENTAL MANAGEMENT

A. The environmental management system (EMS), site-specific environmental management plan (SSEMP), and work plans

28. The EMS for the project functions procedures identified in the SSEMP that is based on the on the EIA including the Contractors operating procedures and site specific information, that was not known when the EIA was prepared. The SSEMP is made up of a series of four Management plans for Camp operations, Workshop, Plant operation and Road Construction and supporting plans for environmental indicator areas (air, noise, water, etc.) and turtle management (See Figure 15)

29. In addition to daily informal monitoring by the TERA and KOLIN environmental teams there is a weekly inspection by KOLIN and a monthly audit by TERA of the camp and working sites. Kolin use a monitoring template identified in the SSEMP covering all aspects of the works, TERA use a modified template covering specific site activities. Observations are that work was carried out in accordance with the environmental requirements of the EIA its EMP and the SSEMP during the reporting period. There were no environmental non-conformities recorded in the reporting period, though there were a small number of minor “observations” that the CC dealt with promptly.

B. Status

30. Major construction on the project was completed during the reporting period but the focus on meeting environmental requirements of the project have been maintained.

C. Documents

31. The guiding environmental documentation used on the project are the EIA and the Contractors SSEMP. The SSEMP is made up of a series of four sub-plans (Management plans for Camp, Workshop, Plant Operation and Road Construction. The Management plans are fed from ten supporting plans representing the environmental indicator areas identified in the EIA (water, air, noise, solid and liquid waste, soil contamination, site drainage / runoff, borrow pits, flora and fauna, cultural heritage and the GRM / complaints mechanism) and a unique turtle management plan for work in wetlands (See Figure 15).

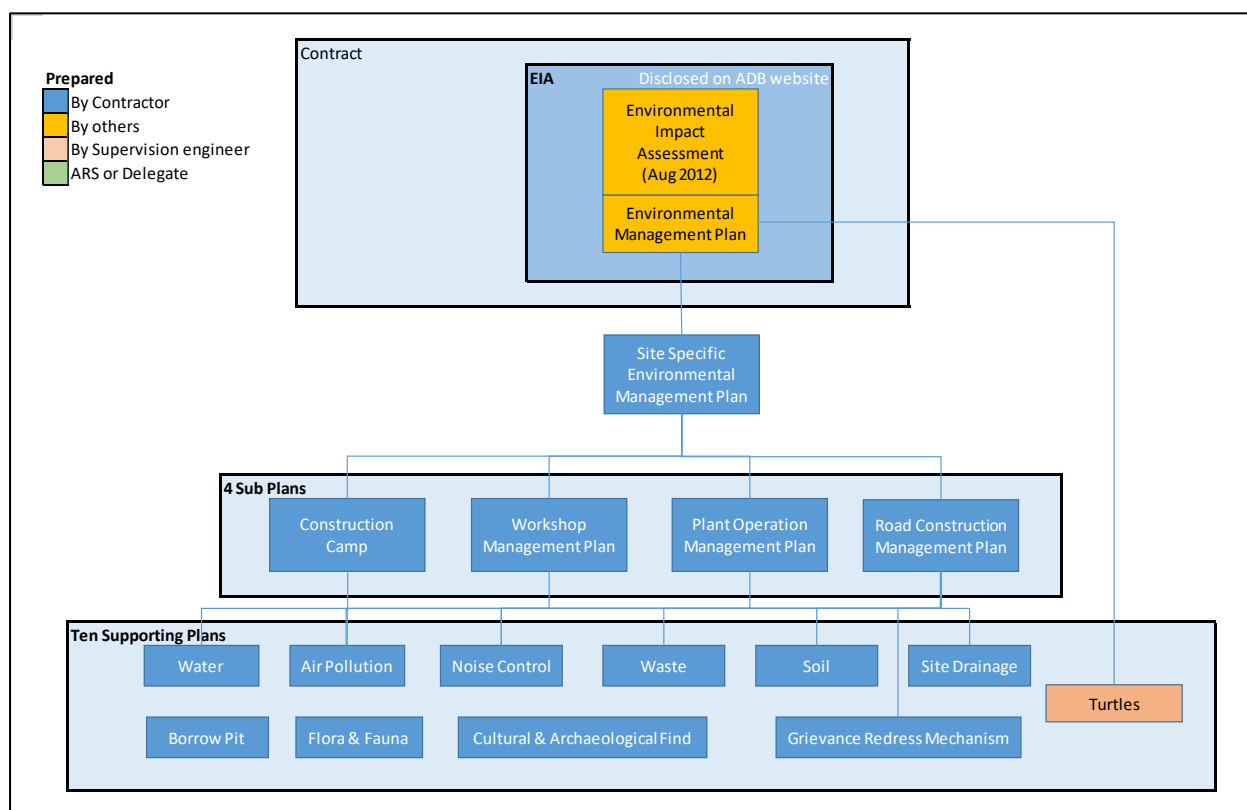


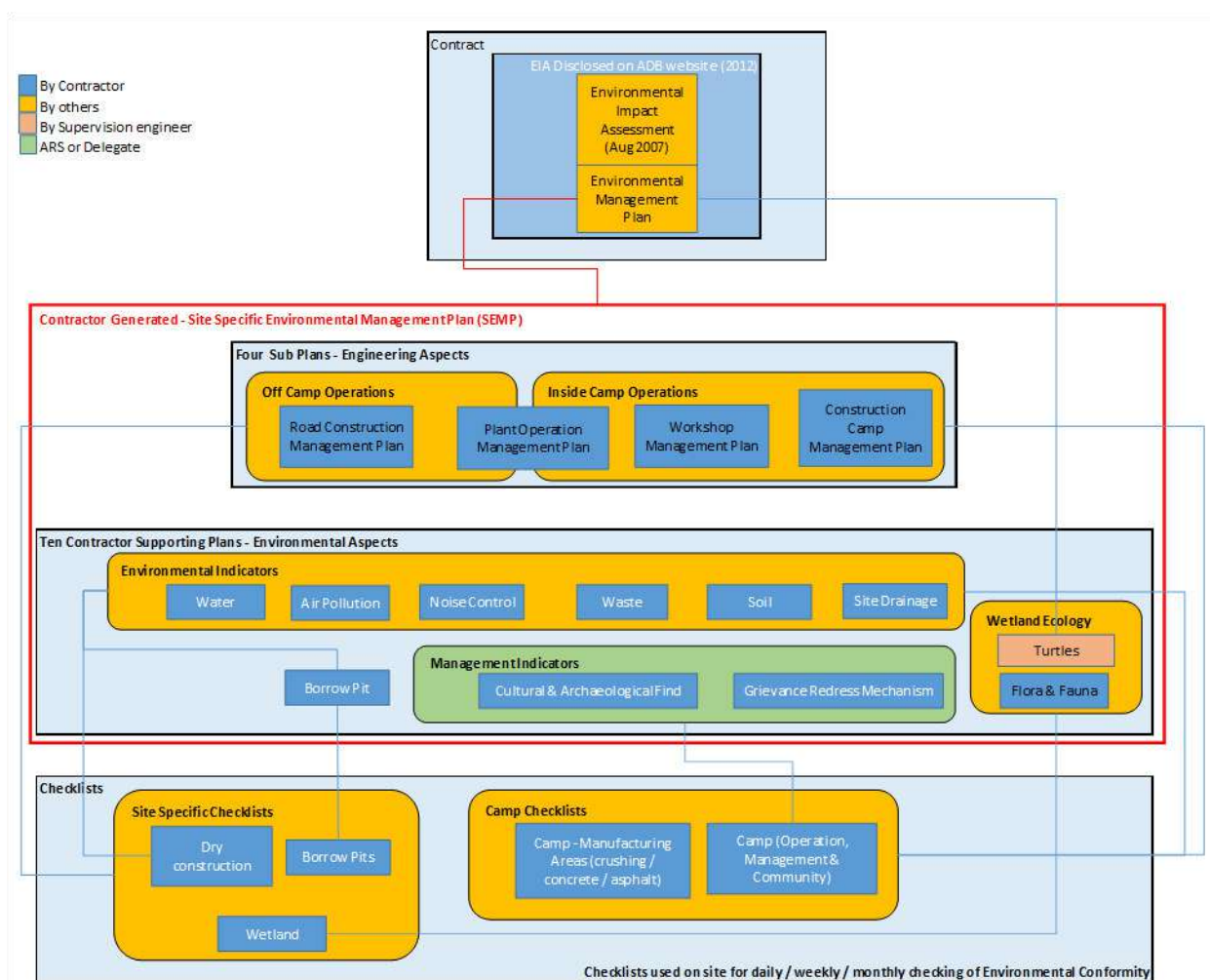
Figure 15: The Environmental Management System for the project

D. Inspections and Audits

1. Inspection procedures and documentation

32. Kolin carry out formal weekly site audits and TERA carry out formal monthly audits covering all operational sites and the camp compound. Kolin use a checklist identified in the SSEMP comprising a single document that covers all work aspects. Kolin have developed this document over a number of years and projects and they find that it provides the detail that they need to monitor environmental performance of the works. TERA use a modified document comprising a series of one page sheets covering specific aspects of the work.
33. The TERA checklists feed from the Contractor generated SSEMP. The following figure illustrates the relationship.

Table 8: TERA checklist concept – Feeding from Contractor SSEMP



34. The TERA checklists cover:

- Camp (including the offices, canteen, recreation areas and accommodation units)
- Crushing plant (including the pre-processing and post-processing stockpiles)(not in use from April,2017)
- Concrete Plant (Including the batching plant stockpiles and settlement tanks);
- Workshop Area (including bundled storage of liquids, wash down& settlement tanks);
- Borrow Pits (Operation activities including dust & noise control, and runoff control)
- Wetland (activities within the wetland)
- Management and Community (Environmental document control, Grievance Redress)

35. The TERA sheets also include options for recording three level of impact:

- Observation – a potential for localized environmental impact but none has occurred;
- Opportunity for Improvement – a recurrent “observation” requiring action but again no incident has occurred.
- Non Conformity – recurrent OFI or an incident has occurred and a Corrective Action Plan (CAP) and staff retraining / education may be required

Table 9: Log of Audits carried out Jan to June 2018

Date	Weekly Joint monitoring		Monthly TERA Audit by:	Observations, <u>Opportunity for Improvement</u> , Non-conformity
	Kolin	TERA		
11 Jan 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
15 Jan 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Alizamin	No incidents recorded
24 Jan 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
31 Jan 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
7 Feb 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
1 Feb 18			Site visit by ADB and AAR	1) Waste Management – remove unused equipment 2) Trash in site compound 3) Oil spills in camp storage area All resolved within 48 hrs.
16 Feb 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
17 Feb 18			Alizamin	No incidents recorded
23 Feb 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
2 Mar 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
9 Mar 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
13 Mar 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
23 mar 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
26 Mar 18			Alizamin	Some oil spotting on alignment where refueling had been carried out. Closed out with toolbox talk to workers..
1 Apr 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
6 Apr 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Some issues with PPE on alignment and at concrete and asphalt plant. Tool box talk for workers
12 Apr 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Some housekeeping (trash) on alignment. Dust masks ignored at

				concrete and asphalt plant. Tool box talk for staff.
15 Apr 18			Alizamin	Some oil spotting on alignment where refueling had been carried out. Closed out with toolbox talk to workers.
18 Apr 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		PPE on alignment and at concrete and asphalt plant. Tool box talk to staff.
25 Apr 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		PPE on alignment and at concrete and asphalt plant. Tool box talk to staff.
26 Apr 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		PPE on alignment and at concrete and asphalt plant. Tool box talk to staff.
3 May 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		PPE on alignment and at concrete and asphalt plant. Tool box talk to staff.
11 May 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
17 May 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		No incidents recorded
18 May 18			Alizamin	No incidents recorded
24 May 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		PPE at asphalt plant. Tool box talk to staff.
1 Jun 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Trash at carwash. PPE at asphalt plant. Tool box talk to staff.
7 Jun 18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		PPE at asphalt plant. Tool box talk to staff.
20 Jun 18			Alizamin	No incidents recorded
End of reporting period				

Notes

- 1) In the reporting period there have only been 'incidents' in the "observation" and "opportunity for improvement" category (see para 35) that are addressed promptly without major intervention and do not initiate "non-conformity" actions.
- 2) Detail of the incidents are presented in Annex 2 - Environmental Issues Tracking Register

2. Non-Compliance and Corrective Actions

36. The Contractor, Kolin, has registered minor deviations from the Environmental Management Plan in the project EIA. These deviations are considered to be in the lowest level of “non-conformity” at a level of “observation” and have been promptly addressed by the CC.
37. The ADB has prepared a document to assist in the management of projects by the PIU⁶. This document includes suggestions on how information should be presented in the BAEMR in order to assist ADB in monitoring and auditing of multiple projects by standardizing the reporting process. The project has adopted the reporting template⁷ for Non-conformities and it is included in this report as Annex 2 and summarized in the following tables.

Table 10: Environmental Issues Tracking Register Summary (Jan to June 2018)

Total Number of Issues for the Project	25
Number of Open Issues	1
Number of Closed Issues	24
Percentage Closed	96.0%
Issues Opened in this reporting period	25
Issues Closed on time	24
Percentage by Closed Issues	100.0%
Percentage by Open Issues	n/a
Average Days open for all issues	
Average days open of open issues	
Average days to close	11.8

E. Consultations, Grievance Redress Mechanism and Training

1. Public Consultations

38. In the SSEMP Kolin identifies formal public meetings at six monthly intervals to inform the local community of project activities. The first public meeting was on 5th February 2016 in the Kolin Camp for the villagers of Uzuntepe village, that is immediately east of the camp. Subsequent public meetings have been held in the Kolin camp at six monthly intervals with the latest held on 17th February 2018. Kolin briefed attendees on the works progress and explained the Grievance Redress Mechanism, specifically how complaints can be made. There were no questions raised by the public at the meeting. There are no further public Meetings scheduled but if necessary Kolin will convene a final consultation.

⁶ ADB Manual for Monitoring of Environmental Safeguards Implementation: The Role of the Project Implementation Unit (PIU) [ADB Feb 2018]

⁷ Environmental Issues Tracking Register identified in Appendix 3 of the ADB Manual for Monitoring of Environmental Safeguards Implementation: The Role of the Project Implementation Unit (PIU) [ADB Feb 2018].

Table 11: Schedule of Public Consultations

Scheduled in SSEMP	Amended Schedule	Actual	Venue	Discussion Items	Attendees
20 Dec15	Feb 16	5 Feb 16	Kolin Camp	Construction schedule & Grievance Redress Mechanism	21 – No comments from attendees.
15 Jun 16	Aug 16	27 Aug 16	Kolin Camp	Construction schedule & Grievance Redress Mechanism	16- complaints about some dust problem from attendees
10 Dec 16	Feb 17	13 Feb 17	Kolin Camp	Construction schedule & Grievance Redress Mechanism.	19-no questions from attendees
5 Jun 17	Aug 17	5 Aug 17	Kolin Camp	Construction schedule & Grievance Redress Mechanism	21-no questions from attendees
10 Dec 17	Feb 18	17 Feb 18	Kolin Camp	Construction schedule & Grievance Redress Mechanism	17 -no questions from attendees
15 Jun 18	Aug 18	29 Jun 18 (Last formal consultation)	Kolin Camp	Final works – any public concerns outstanding. Option for tolling of road.	13- No questions. Attendees expressed thanks and look forward to road opening. Would prefer not to toll

2. Grievance Redress Mechanism

39. The Grievance Redress Mechanism (GRM) is included in the EMP and has been developed in the Kolin SSEMP. A Grievance Focal Point has been established for the Uzuntepe – Celilabad

Area with two hotlines. No complaints were registered in the complaints log in the reporting period. The Grievance Redress Committee has not had course to convene in the reporting period January to June 2018. A complaints register is held in the KOLIN offices at Camp and the GRM log is held in the TERA office at Camp. Complaints recorded in the recording period are set out in Table 12: Complaints and Compliments Table 12.

Table 12: Complaints and Compliments

Date	Number	Description	Resolved
Jan 2018	No incidents recorded	-	-
Feb 2018	No incidents recorded	-	-
Mar 2018	No incidents recorded		-
Apr 2018	No incidents recorded	-	-
May 2018	No incidents recorded	-	-
Jun 2018	No incidents recorded	-	-

3. Staff Training and Education

40. Environmental Training – TERA presented a training workshop about turtle preventive action to the Kolin Turtle Capture Team⁸ on 10 September 2017. The KOLIN turtle capture team has continued to collect data and a summary of the findings of the analysis of turtle capture / release data is presented in Annex 1 – Analysis of turtle catch release data.

⁸The Kolin Turtle Capture Team is a dedicated team who are called to site when turtles are detected on the alignment. They capture and release turtles 200m from the alignment. They are also responsible for maintaining signage and confirming that turtle fencing is in place.

Tisbağaları Yaxalama Qrupunun Qeydləri

Layihənin adı: Dölet – Astara Avtomobil Yolu, Cəlilabad Kəsişməsindən Şorsulu Kəsişməsinədək (km 110+700 - km 80+600)

April 2017

No	Ölçmənin tarixi	Tarixi / Vaxtı	Ölçmənin növü	Səhə işləri, aparıcıda olan təbəqələrin sayı	Xüsusi və ya yəqinləşmə işləri	Qeyd
1	km 103+300	05.04.2017	10 x 20 m	2 x 20 m	Qeydlənən təbəqələr 200 m aralı uşaqlar xüsusi	
2	km 103+100	18.04.2017	5 x 20 m	5 x 20 m	Qeydlənən təbəqələr 200 m aralı uşaqlar xüsusi	

Figure 16: Extract from Turtle Capture / Release log (April 2017)

41. Turtle Management Plan –Dr. Luca Luiselli (Ecologist – Turtle Specialist) presented the Turtle Management Plan to members of the KOLIN site team on 05 May 2016. The main items covered were how to protect turtles from construction impacts. Both direct impact from construction activity (e.g. siltation, fatalities due to turtle plant interaction) and indirect actions (e.g. disruption of breeding activities) and the identification of locations of turtle exclusion fencing along the alignment in wetland areas.



Figure 17: Example of turtle exclusion fencing erected alongside the alignment in wetland areas.

Table 13: Staff training

Date	Subject	Venue	Presenter	Attendees
------	---------	-------	-----------	-----------

14 April 2016	Site Specific Environmental Management Plan (SSEMP)	TERA office, Kolin Camp at Km110	A Taylor – International Monitoring Specialist (TERA)	7
05 May.2016	Turtle Management Plan	TERA office, Kolin Camp at Km110	Mr. Luca Luiselli-Ecologist – Turtle Specialist (TERA)	5
25 May 2016	Water Pollution	TERA office, Kolin Camp at Km110	Alizamin Mustafayev – Environment/Safeguard specialist (TERA)	4
28 April 2017	Turtle Prevention Action	TERA office, Kolin Camp at Km110	Alizamin Mustafayev – Environment/Safeguard specialist (TERA)	4
10 Sept 2017	Turtle Prevention Action	TERA office, Kolin Camp at Km110	Alizamin Mustafayev – Environment/Safeguard specialist (TERA)	4
27 Sept 2017	Turtle Protection Actions for CC staff	On the alignment	Elchin Karimov – Health and Safety Manager (KOLIN)	
30 Nov 2017	Analysis of Turtle capture data	TERA office, Kolin Camp at Km110	A Taylor – International Monitoring Specialist (TERA)	6

Meeting schedule from SSEMP (April 2016 Pg 198)

4. HIV / AIDS

42. During the reporting period Kolin presented an HIV / AIDS briefing for site staff on the 4th August and 15th November 2017. The presentation was made by Mr. Murselov (Camp Doctor of Kolin) and was attended by 22 and 23 members of the Kolin team respectively.



Figure 18: HIV / AIDS briefing session 15th November 2017

Table 14: Programme of HIV / AIDS briefing by KOLIN (CC)

Scheduled	Actual	Venue	Presenter	Attendees
20 Apr 16	11 Apr 16	Kolin Camp at Km 110	Dr Murselov (Camp Doctor of Kolin)	33
20 Jul 16	No influx		No influx, meeting deferred	-
20 Oct 16	12 Nov 16		Dr B. Hasanov (Camp Doctor of Kolin)	35
20 Jan 17	21 Feb 17		Dr Murselov (Camp Doctor of Kolin)	19
20 Apr 17	15 May 17		Dr. B.Hasanov(Camp Doctor of Kolin)	18
20 Jul 17	4 Aug 17		Dr Murselov (Camp Doctor of Kolin)	22
20 Oct 17	15 Nov 17		Dr Murselov (Camp Doctor of Kolin)	20
	15 Feb 18		Dr. B.Hasanov(Camp Doctor of Kolin)	23
	12 May 18		Dr. E Ibrahimov	10

Meeting schedule from SSEMP (April 2016, Pg. 198)

F. Emerging Issues

43. With the completion of construction no specific emerging environmental issues have been identified but with the “end in sight” Kolin must be vigilant and focused on the potential for adverse impact and continue implementing the mitigation measures identified in the Contractor Site Specific Environmental Management Plan (SSEMP). There has been a notable increase in incidences of poor waste management (trash and plastic bottles on site). This has been addressed through tool box talks for the workforce and focused litter pickups.

Table 15: Status of Environmental Management System Plans

Management Plan	Responsibility	Status
Environmental Impact Assessment (EIA)	Pre project	Completed – uploaded to ADB website
Environmental Management Plan (EMP)		As part of approved EIA
Turtle Management Plan (TMP)	TERA – Turtle expert.	Prepared and included in CC SSEMP
Site-Specific EMP (SSEMP)	CC - KOLIN	Submitted, approved
Monitoring plan		Submitted and approved as part of CC SSEMP

IV. PART IV – ACTION PLAN FOR THE NEXT PERIOD

- 44. The Contractor will continue with minor works (erecting signs, fencing, white lining, etc.)
- 45. The camp will be demobilized and all plant and machinery removed. All potentially polluting elements must be rendered inert i.e. fuel tanks removed, spills cleaned up, settlement tanks pumped out and decommissioned.
- 46. TERA will prepare post project completion reporting comprising:
 - (a) Final SAEMR (template Annex 7 of Role of PIU document [ADB 2018]); and
 - (b) Post Construction Audit (template Annex 6 of Role of PIU document [ADB 2018]).

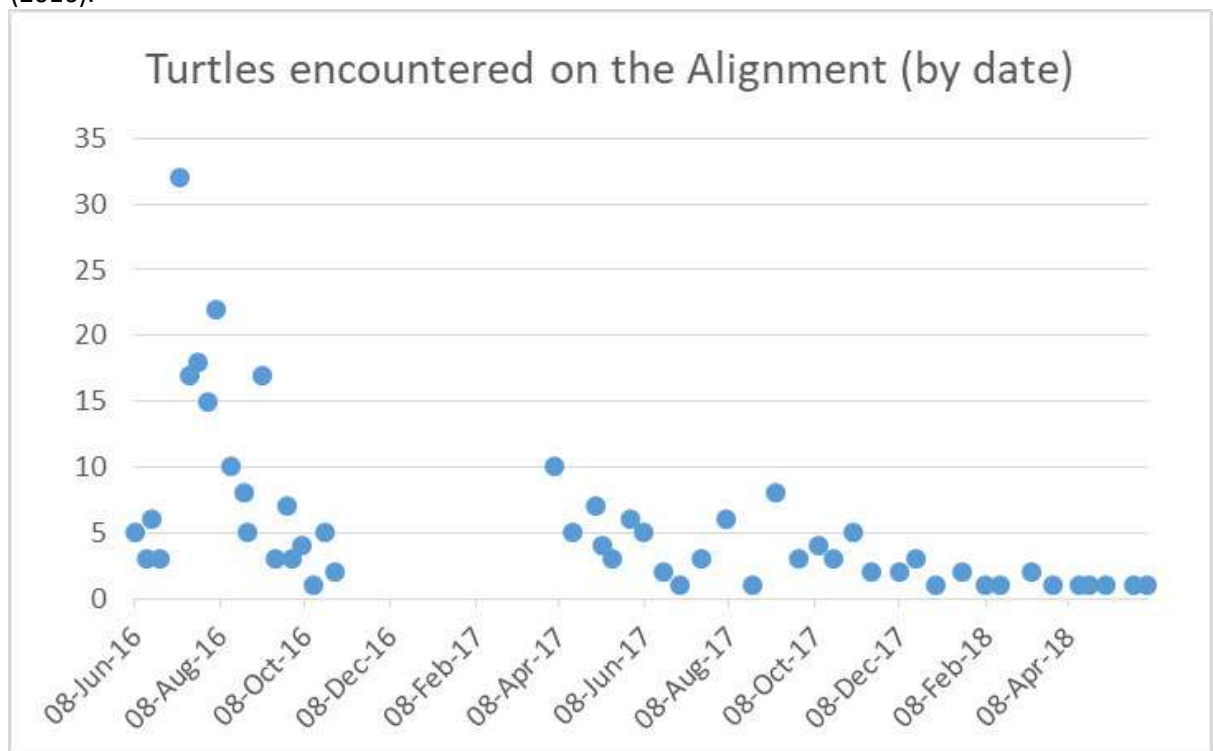
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V. ANNEXES:

Annex 1: Analysis of turtle catch release data

47. The Contractor, through the Turtle catch group, has recorded turtle catch release data on the alignment since June 2016.

48. Figure 19 presents the number of turtles that have been captured and released since June 2016 and Figure 20 presents the same information by year showing how the capture / releases have been significantly reduced in 2017 due to the presence of physical barriers through wetland areas. Figure 19 shows the release capture information by location. The information broadly corresponds with the areas for fencing identified in the Turtle Management Plan (2016).



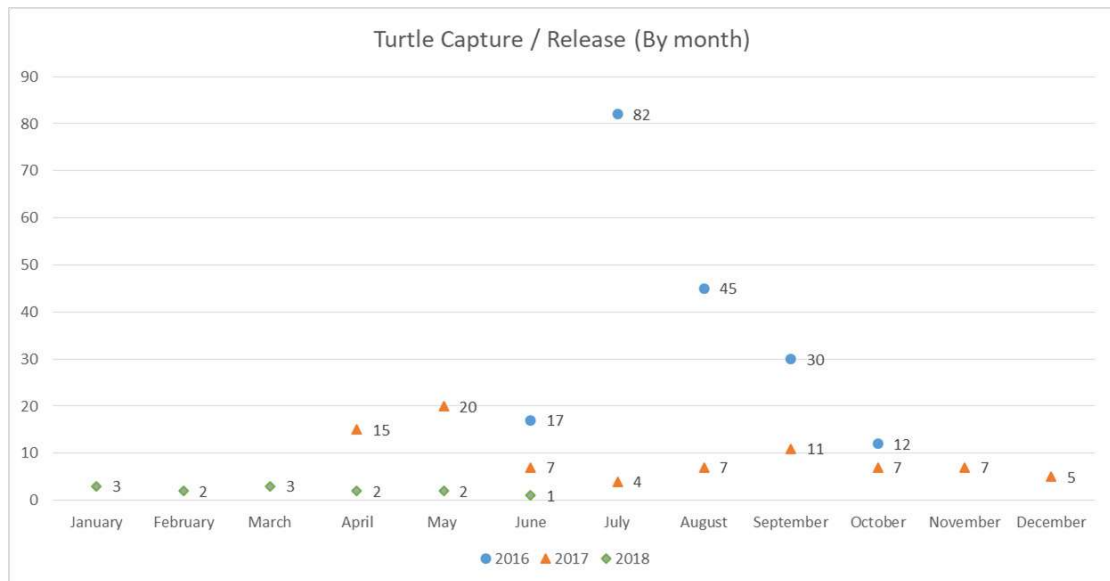


Figure 20: Turtle Capture release information (by year)

49. The Contractor installed fencing to prevent turtles straying onto the alignment in October 2016. Installation of these physical barriers appears to have significantly reduced the number of turtles straying onto the alignment. The temporary fencing has been replaced by permanent vertical concrete barriers at the edge of the alignment through wetland sections (82+700 to 83+600 [Mahmudchala] and 99+000 to 108+000 [Akchala]) see Figure 21. To allow turtle and other mammal access across the alignment there are 21 hydraulic culverts and vehicular access options through the two wetland areas.



Figure 21: Proposed edge barriers on alignment through wetland sections to prevent turtle access

50. To allow water to drain from the alignment the edge barriers have drainage slots incorporated into the base. It was observed that turtles were using these drain holes and gaining access to

the alignment. The CC was asked to incorporate a grill / mesh to prevent this access. The following figure shows this arrangement.



Figure 22: Drainage hole in edge barrier incorporating mesh to prevent turtle access

51. The hydraulic requirements of the design require that hydraulic structures allow free passage of water between the east and west sides of the alignment. These hydraulic structures also provide a wildlife corridor for turtles and other fauna to pass through the alignment embankment.

Table 16: Location of wildlife crossings in the wetlands

No	Chainage		Type of passage			Distance between (m)		
			Pipe culvert	Box Culvert	Underpass	Max	Ave	Min
1	108+540	Akchala Wetland Km 99 to Km 108			6.00 X 4.60	912m	679m	18m
2	107+700		1000Ø					
3	107+120			2.00 x 2.00				
4	106+683				3.50 x 3.50			
5	106+665			2 x (4.00 x 2.50)				
6	106+010			2 x (4.00 x 2.50)				
7	105+250		1000Ø					
8	104+500		1000Ø					
9	103+675			2.00 x 2.00				
10	102+825			4.00 x 2.50				
11	102+000		1000Ø					

12	101+215			2.00 x 2.00				
13	100+303			4.00 x 2.50				
14	99+920			2.00 x 2.00				
15	99+028				3.50 x 3.50			
16	83+613	Mahmunchala Km 82.7 to 83 +600		2 x (4.00 x 2.50)		315m	214m	92m
17	83+300		1500ø					
18	83 +013		1500ø					
19	82+850				3.50 x 3.50			
20	82+758			2 x (4.00 x 2.50)				
			6No	10No	4No			

52. A workshop on the analysis of the Turtle data was held on 30th November 2018. Members of the Turtle Capture Team and TERA attended.

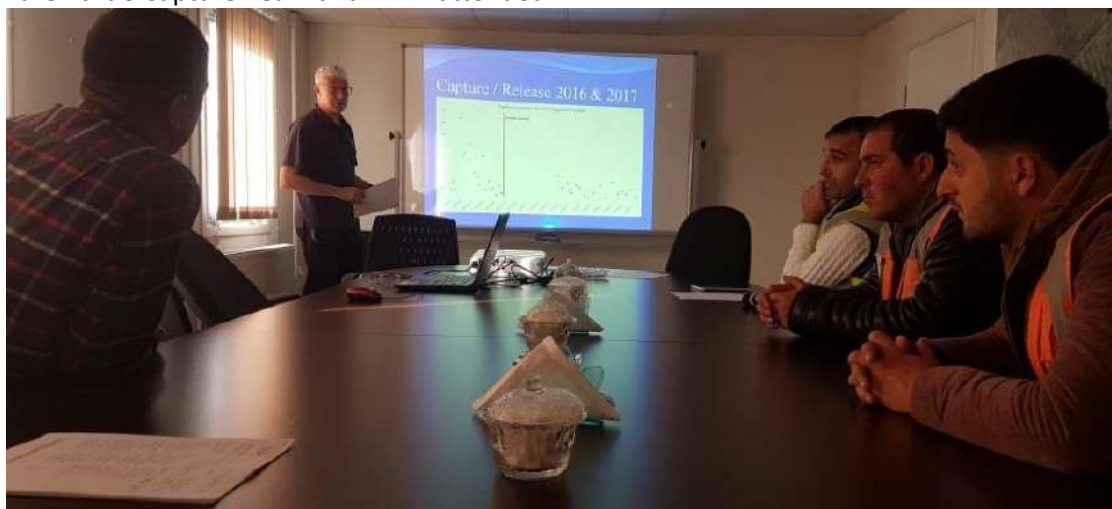


Figure 23: Attendees at the Turtle data analysis workshop held on 30th November 2017

Annex 2: Environmental Issues Tracking Register

An Environmental Issues Tracking Register is identified in Appendix 3 of the ADB Manual for Monitoring of Environmental Safeguards Implementation: The Role of the Project Implementation Unit (PIU) [ADB Feb 2018]. In the following pages the information collected from January 1st 2018 to 30th June 2018 is presented and summarized.

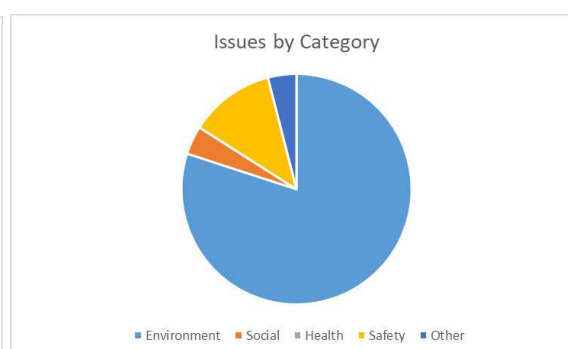
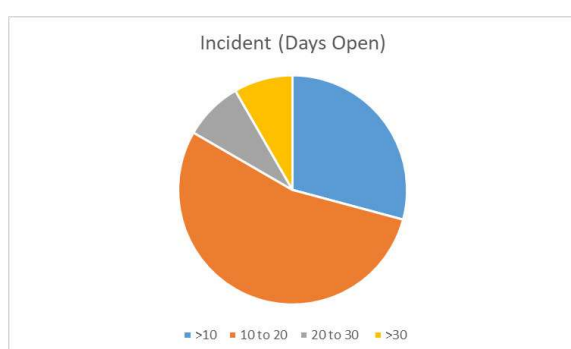
Summary Tables:

Total Number of Issues for the Project	25
Number of Open Issues	1
Number of Closed Issues	24
Percentage Closed	96.0%
Issues Opened in this reporting period	25

Issues Closed on time	24
Percentage by Closed Issues	100.0%
Percentage by Open Issues	n/a

Average Days open for all issues	
Average days open of open issues	
Average days to close	11.8

Issues by Category	
Environment	20
Social	1
Health	0
Safety	3
Other	1
	25



No	Site / Location	Date Recorded	Category	Description of Issue	Corrective Action(s)	NCN No ^{Note1}	NCN Level	Due Date	Priority	Person Responsible ^{Note2}	Status	Date Closed	Comments ^{Note 3}
1	On Alignment	31-Jan-18	Safety	Road signs damaged	Replace defective signs	Obs1	N/A	14-Feb-18	Low	KOLIN - By letter	Closed	13-Feb-18	Issue not critical as alignment closed to public
2	On Alignment	31-Jan-18	Safety	Not all staff using correct PPE	Tool box talk on PPE	OFI1	Minor	14-Feb-18	Medium	Tera-Azer-	Closed	13-Feb-18	
3	On Alignment	31-Jan-18	Environment	Waste Management - Trash	Tool box talk and litter patrol	OFI2	Minor	14-Feb-18	Medium	Kolin_585	Closed	13-Feb-18	Confirmed in TERA Audit 17 Feb 18
4	Camp compound	01-Feb-18	Environment	Waste Mangement (generators, lighting towers)	Remove from site	Obs2	N/A	15-Feb-18	Low	KOLIN Yard Manager	Closed	03-Feb-18	Observations made during an ADB / PIU site
5	Camp compound	01-Feb-18	Environment	Waste Mangement - Trash in the Camp compound	Tool box talk and litter patro	Obs3	N/A	15-Feb-18	Medium	KOLIN Yard Manager	Closed	03-Feb-18	visit. Rectified within 24 hrs and confirmed by
6	Camp compound	01-Feb-18	Environment	Oil spills in Camp storage area	Dig up, encapsulate, dispose.	Obs4	N/A	15-Feb-18	Medium	KOLIN Yard Manager	Closed	03-Feb-18	TERA NES (photo record)
7	On Alignment	21-Feb-18	Environment	Waste Management Asphalt / plastic	Tool box talk and litter patrol	OFI3	Minor	07-Mar-18	Medium	KOLIN - By letter 602	Closed	26-Mar-18	Confirmed in TERA Audit 26 Mar 18
8	Documentation	26-Feb-18	Social	Public Consultation Report not in English	Prepare English translation	Obs5	N/A	12-Mar-18	Low	KOLIN - By letter 605	Closed	12-Mar-18	
9	On Alignment	14-Mar-18	Environment	Waste Management - Asphalt / concrete	Tool box talk and litter patrol	OFI4	Minor	28-Mar-18	Medium	KOLIN - By letter	Closed	26-Mar-18	Confirmed in TERA Audit 26 Mar 18
10	On Alignment	14-Mar-18	Environment	Waste Management - Trash / metal	Tool box talk and litter patrol	OFI5	Minor	28-Mar-18	Medium	Tera-Azer-	Closed	26-Mar-18	Confirmed in TERA Audit 26 Mar 18
11	On Alignment	14-Mar-18	Environment	Large excavated stone not removed - visual impact	Inert - Move to better location	Obs6	N/A	28-Mar-18	Low	Kolin_612	Closed	26-Mar-18	Confirmed in TERA Audit 26 Mar 18
12	On Alignment	26-Mar-18	Environment	Refueling - oil drips from plant refueling	Drip tray . Tool box talk	Obs7	N/A	09-Apr-18	Low	KOLIN Foreman	Closed	15-Apr-18	Identified in TERA March Audit, confirmed
13	On Alignment	26-Mar-18	Environment	Waste Mangement - Spoil not removed from site	Remove to camp for reuse as fill	Obs8	N/A	09-Apr-18	Low	KOLIN Foreman	Closed	15-Apr-18	closed in 15 April Audit
14	On Alignment	17-Apr-18	Environment	Waste Mangement - Trash / plastic	Tool box talk and litter patrol	OFI6	Minor	01-May-18	Medium	KOLIN - By letter 634	Closed	18-May-18	Identified in TERA Audit 15 April 2018 and confirmed closed in TERA Audit 18 May 18
15	On Alignment	24-Apr-18	Safety	Safety Signage - higher speeds on alignment	Rethink positioning	OFI7	Minor	08-May-18	Medium	KOLIN - By letter	Closed	26-Apr-18	
16	On Alignment	24-Apr-18	Environment	Waste Mangement - Domestic waste	Toolbox talk / more site bins	OFI7	Minor	08-May-18	Medium	Tera-Azer-	Closed	26-Apr-18	Closed out in KOLIN Letter 0796 26 April
17	On Alignment	24-Apr-18	Environment	Waste Management - Asphalt / concrete	Tool box talk and litter patrol	OFI8	Minor	08-May-18	Medium	Kolin_635	Closed	26-Apr-18	
18	On Alignment	09-May-18	Environment	Waste Mangement - Trash / plastic	Tool box talk and litter patrol	OFI9	Minor	23-May-18	Medium		Closed	21-May-18	
19	Bridge 14	09-May-18	Environment	Waste Management - Asphalt / concrete	Remove to dump and tool box ta	OFI10	Minor	23-May-18	Medium	KOLIN - By letter	Closed	21-May-18	
20	On Alignment	09-May-18	Environment	Waste Management - damaged precast concrete	Remove to camp and tool box ta	OFI11	Minor	23-May-18	Medium	Tera-Azer-	Closed	21-May-18	Closed out in KOLIN Letter 0811 dated 21 May
21	On Alignment	09-May-18	Environment	Large excavated stones - visual impact	Landscape	Obs9	N/A	23-May-18	Low	Kolin_645 9 may 18	Closed	21-May-18	18. Confirmed in TERA audit 18 May 18
22	On Alignment	09-May-18	Environment	Waste Management - gravel	Remove to camp and tool box ta	OFI12	Minor	23-May-18	Medium		Closed	21-May-18	
23	Km95+000	09-May-18	Environment	Waste Management - bitumen waste	Remove to camp and tool box ta	OFI13	Minor	23-May-18	Medium		Closed	21-May-18	
24	Km99+000	13-Jun-18	Other	Monitoring - please conduct post construction WQ	Carry out sampling and testing	Obs10	N/A	27-Jun-18	Low	KOLIN - By letter 655	Closed	20-Jun-18	Closed out KOLIN Letter 0825
25	On Alignment	20-Jun-18	Environment	Refueling - oil drips from plant refueling	Drip tray . Tool box talk	Obs11	N/A	04-Jul-18	Low	KOLIN Foreman	Open		Identified in TERA Audit 20 Jun 18
	Notes:												
	This table is based on the Environmental Issues Tracking Register identified in Appendix 3 of the ADB Manual for Monitoring of Environmental Safeguards Implementation: The Role of the Project Implementation Unit (PIU) [ADB Feb 2018]												
	1) NCN No. On this site incidents are graded on a three level scale: Observation (verbal instruction to rectify); Opportunity for Improvement (Letter written); Non Conformity (Letter written, requires Corrective Action Plan												
	2) Person Responsible. On this site Observations are generally delivered to the site foreman on-site; OFI and NC are issued uder a formal letter to Colin for rectification. An NC requires preparation of a Corrective Action Plan.												
	3) Comments. This column is used to define how the incident wa confirmed to have been closed out.												

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