

Bi-annual Environmental Monitoring Report

Bi-annual Environmental Monitoring Report
(E-35, Hassanabdal – Havelian Expressway, Package –I and II)

January - June 2016

PAK: National Trade Corridor Highway Investment
Program (NTCHIP) Tranche – 2

NOTES

- (i) The fiscal year (FY) of the Government of the Islamic Republic of Pakistan and its agencies ends on 30 June.
- (ii) In this report, "\$" refers to US dollars.

This Bi-annual environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.



Asian Development Bank

Bi-annual Environmental Monitoring Report

CONSTRUCTION OF HASSANABDAL (BURHAN)- HAVELIAN (SAMLAILA) EXPRESSWAY SECTION OF E-35

January-June 2016

Islamic Republic of Pakistan

Financed by: Asian Development Bank and Government of the Pakistan

Project Number: 3121-PAK

Prepared by: Mr. Abdul Wakeel, Environmental Specialist
Dohwa Engineering Co, LTD and Associated JVs

Reviewed by: National Highway Authority, Head Quarter Islamabad

For: **National Highway Authority HQ Islamabad**

This report does not necessarily reflect the views of ADB or the Government concerned, and ADB and the Government cannot be held liable for its contents.

Asian Development Bank

TABLE OF CONTENTS

TITLE PAGE

ABBREVIATIONS

Table of Contents

1.	INTRODUCTION
1.1.	Project Background
1.2.	Project Description and Scope of Work and Conversion from 4 lanes to 6 lanes
1.1.2.	Package 2
1.2.	Construction Supervision
1.3.	Progress of Environmental Safeguards on all three packages in reporting period 2016
1.4.	Summary of environmental, health and safety plans of E35 Project
1.5.	Project Supervision Consultants and Contractor
1.6.	Organizational Chart of Consultant staff
1.7.	Grievance Reporting and Resolution
1.7. 1.	Grievance Redressal Cell/Committee (GRC) local members on Package 1.
1.7.2.	Grievance Redressal Cell/Committee (GRC) local members on Package 2.
1.8.	Environmental Impact Assessment (EIA) and Environmental Approval from EPA
1.9.	Project Data
2.	PHYSICAL WORK PROGRESS OF CONSTRUCTION CONTRACTS
2.1.	Project Location Map of Construction of Hassanabdal (Burhan)-Havelian (Samlaila) Expressway Section of E-35
3.	STATUS OF ENVIRONMENTAL MANAGEMENT ON PACKAGE 1, 2
3.1.	Institutional Arrangement and Organization Chart for Environmental Safeguards Implementation on Project E35 Phase-I
3.2.	Tool Box Talks and Training Session on Project
3.2.1.	Daily Tool Box Talks on Package-1
3.2.2.	Details of Tool Box Talks delivered on Package 2 during reporting period
3.3.	Asian Development Bank (ADB) Missions to Project on 26th April 2016
3.3.1.	Corrective Action Plan for Package 1



- 3.4. Child Labour and Labour Law
4. ENVIRONMENTAL MANAGEMENT ON PACKAGE 1
5. ENVIRONMENTAL MANAGEMENT ON PACKAGE 2

Attachments

Annexure 1: Compliance Monitoring Checklists

Annexure 2: Instrumental Monitoring of Environmental Parameters

Annexure 3: Photographic View

Annexure 4: Public Consultations

1. INTRODUCTION;

This is third Biannual Environmental Monitoring Report of Project “Construction of Hassanabdal (Burhan)-Havelian (Samlaila) Motorway. This BEPR provides the overall status of implementation of Environmental Safeguards including ADB Environmental Policies, EIA, EMP/SSEMP and Environmental NOC received from EPA. SSEMP and subcomponents of SSEMP such as Borrow areas Management, Temporary Traffic Management under Item 607 of Contract, Solid Waste Management and Instrumental Monitoring of Environmental Parameters etc. and Contractual Provisions of the Package 1 & 2 of E35 in reporting period.

Both the Packages of project were supervised and construction activities of contractor were monitored by the Engineer’s Representative including Environmental Specialist. Environmental Specialists of Consultant, Contractors of both the packages and NHA were mostly available on site. NHA Environment Team including Director Environment NHA Head Quarter and Assistant Directors NHA Head Office and KP have regularly visited project site in every month. Contractor has improved project environmental, health and safety measures according to requirement of international standards after frequent site visits and recommendations of some useful mitigation measures.

Several meetings were held in reporting six months period. On 30th April 2016, meeting was held by ADB in Country office Islamabad regarding work progress, environmental, health and safety safeguards, traffic management and overall project management. During meeting discussion and status of physical, financial progress and problems associated with each packages were evaluated. As project was changed from 4 lanes to 6 lanes on 29th April 2016 therefore during meeting requirements of Variation Order and Extension of Time (EOT) with the respective contractors were discussed. Next follow up meeting and sites visits were carried out on 12th May 2016

On 29th April 2016, ABD has issued letter regarding approval of conversion of 4 lanes expressway to 6 lanes motorway. All Contractors, Consultant and NHA were called for a meeting on 30th April 2016 regarding this matter. Variation Orders and Rates and work progress all were discussed in detail. Final date of project completion is 11th December 2017. In meeting all contractors were asked to improve overall implementation of Health, Safety and Environmental aspects on project.

Main emphasis was given to ADB Environmental Safeguards, Mitigation Measures of Site Specific EMP and Contractual Provision (Clauses) such as 4.18-Protection of Environments, 4.8-Safety Procedures, 6.4-Labour Law, 6.5- Working Hours, 6.6-Facilities for Staff and Labours, 6.7-Health and Safety, 6.6- Facilities for Staff and Labours, 6.15-Measures against Insect and Pest Nuisance, & 6.21-Child Labours and Specifications SP Item 706-Temporary Traffic Control Management.

During the last six months Jan ~ June 2016 the environmental conditions of the project area remained satisfactory because contractor is trying to minimize the impacts of construction activities on the environment. The dust suppression is being done by sprinkling water on service road and active working sites for embankment construction, Sub Base, Base construction and other construction activities. Solid waste is being collected and disposed off in Municipal Solid waste disposal sites. The waste water is being collected and treated by using septic tanks in all the camps. Safety engineering controls & administrative controls are being implemented at the site through JSAs. From 07 June 2016 duty hours reduced due to the holy month of Ramadan from 0530 hrs to 1300 hrs to reduce the work load.

In reporting period Contractors CGGC-GRC-Package 1, CGGC-AM-Package 2 have carried out environmental monitoring/testing of environmental parameters mandatory in EIA and approved SSEMPs. Results of Environmental testing/monitoring are attached with report for review and information of NHA and ABD and other readers.

Additionally, a domestic firm experienced in social and community development is also being procured as a Social Safeguards Management Consultant (SSMC). The main objective of engaging the SSMC is to support NHA and its field offices in capacity development, preparation and implementation of safeguards documents including internal monitoring and reporting. The Consultant will also verify and update baseline information, maintain an MIS system and develop relevant tools, protocols and systems which may be easily transferable for use by NHA in safeguards management.

NHA expects both consultants SSMC and the design review and supervisory consultant to coordinate between each other for efficient project management of E-35.

1.1. Project Background

The existing Hassanabdal – Mansehra Road is an important part of the entire communication network of Khyber Pukhtunkhwa and Northern Areas which links with Azad Jammu & Kashmir, Kaghan Valley and China via “Karakoram Highway (KKH)”. Existing Hassanabdal - Mansehra Road is a three-lane single carriageway road with a width of 10.5 meters. Heavy traffic load has been observed on this road since last ten years. To support sustained growth and increase competitiveness, Government of Pakistan (GOP) has taken a strategic approach to the transportation and has launched a major initiative to improve the trade and transport logistics chain in KPK and Punjab. National Highway Authority (NHA) planned to construct Hassanabdal - Mansehra Expressway (E-35) as a part of “National Trade Corridor (NTC)” Project. The proposed project is financed by the “Asian Development Bank (ADB)” and Government of Pakistan.

This Express Highway project is entitled as “Hassanabdal – Havelian section of E-35” is a new highway alignment which starts from Burhan Interchange of Islamabad-Peshawar Motorway (M-1) and finally alignment is ended at Havelian near Hazara University of Hazara Campus. This Project will connect and facilitate three districts namely Attack, Haripur and Abbottabad. It curves away to north-west of existing N-35 passing near Shin Gali and Jabbar and then curves back passing near Kuldarra, Chhaprian & Kalu Pind and finally crosses existing N-35 at Jarikas. From here, it again curves away to north-east of existing N-35 crossing Hattar and Khanpur Roads at Kot Najeebullah and Chichian respectively. Finally, the alignment ends at Havelian near Hazara University, Havelian Campus. Total length of the E-35 Phase-1 alignment (Hassanabdal - Havelian Section) is 59.0 Km with total Right of Way (ROW) of 80m for first 2 Packages and 60m ROW for Package 3.

The design speed of the Expressway E35 is 110 Km/hr. The new expressway is intended to provide a safe, quick and more efficient passage to KKH/ Northern areas and China via KKH.

The new expressway E35 is intended to provide a safe, quick and more efficient passage to KKH/ Northern areas and China via KKH. It will be a limited access, six-lane dual carriageway facility with six lanes structures. It is located in mostly plain and partly hilly terrain.

Currently all packages have been commenced for construction. Express Highway (E-35) the construction of Express Highway E35 Burhan to Havelian is a Project under the “Pakistan National

Trade Corridor Highway Investment Program–Tranche 2 (Hassanabdal–Havelian Section)” of the

Government of Pakistan sponsored/ funded by the Asian Development Bank (ADB). The National Highway Authority is the Client of the Project and the key responsible Government Department.

1.2. Project Description and Scope of Work and Conversion from 4 lanes to 6 lanes

Initially this Express Highway project was entitled as “Hassanabdal – Havelian section of E-35” was a new highway alignment which starts from Burhan Interchange of Islamabad-Peshawar Motorway (M-1) and finally alignment is ended at Havelian near Hazara University of Hazara Campus. On 29th April 2016, ADB has issued approval of 6 lanes motorway. Right of way of project will be identical and 6 lanes will be constructed. This Project will connect and facilitate three districts namely Attack, Haripur and Abbottabad. It curves away to north-west of existing N-35 passing near Shin Gali and Jabbar and then curves back passing near Kuldarra, Chhaprian & Kalu Pind and finally crosses existing N-35 at Jarikas. From here, it again curves away to north-east of existing N-35 crossing Hattar and Khanpur Roads at kot Najeebullah and Chichian respectively. Finally, the alignment ends at Havelian near Hazara University, Havelian Campus. Total length of the E-35 alignment (Hassanabdal - Havelian Section) is 59.0 Km with total Right of Way (ROW) of 80m to Package 1 & 2 (39.5Km) while 60m for remaining 19.5 Km (Packages 3). The design speed of the Motorway M35 is 110 Km/hr. The new motorway is intended to provide a safe, quick and more efficient passage to KKH/ Northern areas and China via KKH.

This project (59.0 km) is envisaged to be implemented in three packages presented as follows;

Package-I	: 20.3 Km	(Burhan - Jarikas)
Package-II	: 19.2 Km	(Jarikas - Sarai Saleh)
Package-III	: 19.5 Km	(Sarai Saleh - Havelian)

1.1.1. Package 1

Package-1 of E35 starts from 5km from Burhan Interchange towards Peshawar Motorway and ended at Jarikas with total 20.40km length. The proposed Express Highway Package-I of E-35 Project comprises the construction of six lanes carriageway from Burhan to Jarikas. Revised details of structures are 15 underpasses, 11 Bridges, 5 Flyovers and 72 Box Culverts. Work on these structures is in progress.

There are two interchanges included in scope of work of package 2 to be constructed by Contractor in total length 20.3 km from Burhan to Jarikas. There are total six lanes of main carriage way with internal and outer shoulders. Box Culverts and Underpasses are near to completion on Package 1. Work on other structures are in progress. Earth wok is also completed mostly on Package 1. Currently contractor has deployed about 350 labours on site and 150 staff at site office.

1.1.2. Package 2

Package-2 of E35 starts from 2 km from Jarikas toward Link road N-35 Crossing Hattar Haripur & Khanpur Road and ends at Sarai Saleh with 19.211 km length. The proposed Motorway M35 Package-II of E-35 Project comprises the construction of six lane carriageway from Jarikas to Sarai Saleh. The carriageway will include shoulders at inner 1.00m and outer sides 2.50m. The outer shoulder of each carriageway will be 2.500 meter wide. The proposed motorway will be divided in three construction packages.

- There are two interchanges included in scope of work of package 2 to be constructed by Contractor in total length 19.2 km from Jarikas to Sarai Saleh (Km 20+400 TO Km 39+611).
- There are total six lanes of main carriage way with internal and outer shoulders. There are about 13 Bridges, 12 box culverts and 2 flyovers, and 9 underpasses.

On Package 2, Contractor has expedited work progress on structures such as box culverts, bypasses, and bridges. Box Culverts and Bypasses are almost near completion. Earth work and other embankment construction work is in progress with sufficient speed now.

1.2. Construction Supervision

The Supervision Consultant while supervising construction works will make all necessary arrangements for quality control and implementation of the works. The task of the Consultant will include but not be limited to:

- Give Notice to contractor to commence works.
- Assure submission and advise NHA on the adequacy of the Contractors' insurance policies, performance bonds, and advance payment guarantees.
- Review and approve the Contractor's work programs and progress schedules ensuring that the Contractors have incorporated/ followed the most effective and expeditious methodology of carrying out the works.
- Provide advance advice to NHA concerning the Schedule of handing over of sites, and possible delays due to lack of possession with a view to assure that the Contractors are given Possession of Site in accordance with the agreed work programs.
- Assess construction equipment, plant and machinery requirements, and Contractors' equipment.
- Assure the receipt of and maintain as permanent records of all warranties.
- Check and approve the contractors' Working Drawings, Method Statements and Temporary Works proposals.
- Carry out any subsequent design changes, and expeditiously issue supplementary drawings, site instructions, variation orders and day work orders.
- Review and approve the traffic management and safety plan.
- Check the Contractors setting out including staking the right-of-way limits, centerline, and grade and confirm permanent monuments in the construction area.
- Inspect quarries and borrow pits, and crushing plants, and order tests of materials and approve the sources of materials.
- Monitor the Contractors' laboratory testing, evaluate the Portland cement concrete and bituminous mixture designs.

- Assure quality of the works during construction, continuously inspect the soils and materials; construction operations and the works with regard to workmanship and approve or disapprove and certify the works.
- Give notice to the Contractors of any defects and deficiencies, and issue instructions for the removal and substitution of the improper works.
- Attend and make measurement and computation of quantities of the completed works.
- Undertake project performance monitoring and evaluation.
- Monitor and appraise progress of the works.
- Issue monthly-consolidated progress reports on a format.
- Check the Contractor's periodic statement of the estimated value of work.
- Issue the interim certificates to NHA for payment to the Contractors.
- Assist with interpretation of the Contract Documents, explain and or reconcile any ambiguities and or discrepancies in the Contract Documents.
- Advice NHA on need for effective liaison with local authorities, police, landowners, utility owners, the public and other organizations.
- Carry out the duties related to environmental mitigation.
- HIV/AIDs and Human Trafficking. Monitor that the contractors comply and carry out required actions as provided in the respective contract documents.
- Jointly inspect with NHA the completed civil works, and assist in formal taking over and review and approve or prepare "as built" drawings.
- Inspect the completed works periodically during the defect liability period.
- Establish a comprehensive system of maintaining site records.

1.3. Progress of Environmental Safeguards on all three packages in reporting period 2016

In January-June 2016, most important environmental parameter testing quality of water, air and noise levels all were carried out on all three packages by Contractors in high quality supervision of lead supervision consultant. Consultations were carried out with project affected persons and sensitive receptors regarding environmental aspects of project and impacts due to construction activities. Mostly problem of dust was highlighted by PAPs.

Contractors are instructed to ensure regular water sprinkling. Pursuant to requirement of Project Contract document clause 4.18, Consultancy ToR of Engineer, and EIA requirement the Site Specific Environmental Management Plans have been prepared with the intention of fulfilling the requirements of the environmental clearance conditions of the Package-I, II and III: as part of National Trade Corridor (NTC) Projects from the Asian Development Bank. Final SSEMP of all packages have been submitted to NHA and Asian Development Bank. Final and approved Site Specific Environmental Management Plans (SSEMPs) of all packages are under implementation.

Environmental Trainings are have been delivered on site by Contractors and Consultant. Good EHS practices are followed by Project Implementers. Tool Box Talks, Fire Control practices, First aid facilities uses, use of good quality of PPEs are in practice. Fuel wood use is totally controlled on site on both the packages. Only LPG are used for cooking and heating purposes.

In Jan, Feb, March, April, May and June 2016, main focus of the Supervision Consultant

was to ensure cooling facilities at all base camps of all contractors. On Package 1, 2 water electric coolers are installed at base camp and room air coolers are also installed at some accommodations. On Package 2, Electric water coolers are already installed and in use.

- Daily HSE tool box talks (TBT) are in practice on both the packages.
- First Aid Facilities and Workers Welfare facilities are improved on both the packages. Regular monitoring and capacity building is required.
- Tagging and Labeling is done at mostly sites.
- Traffic Management is improved as much more sign boards are installed now on site.

1.4. Summary of environmental, health and safety plans of E35 Project

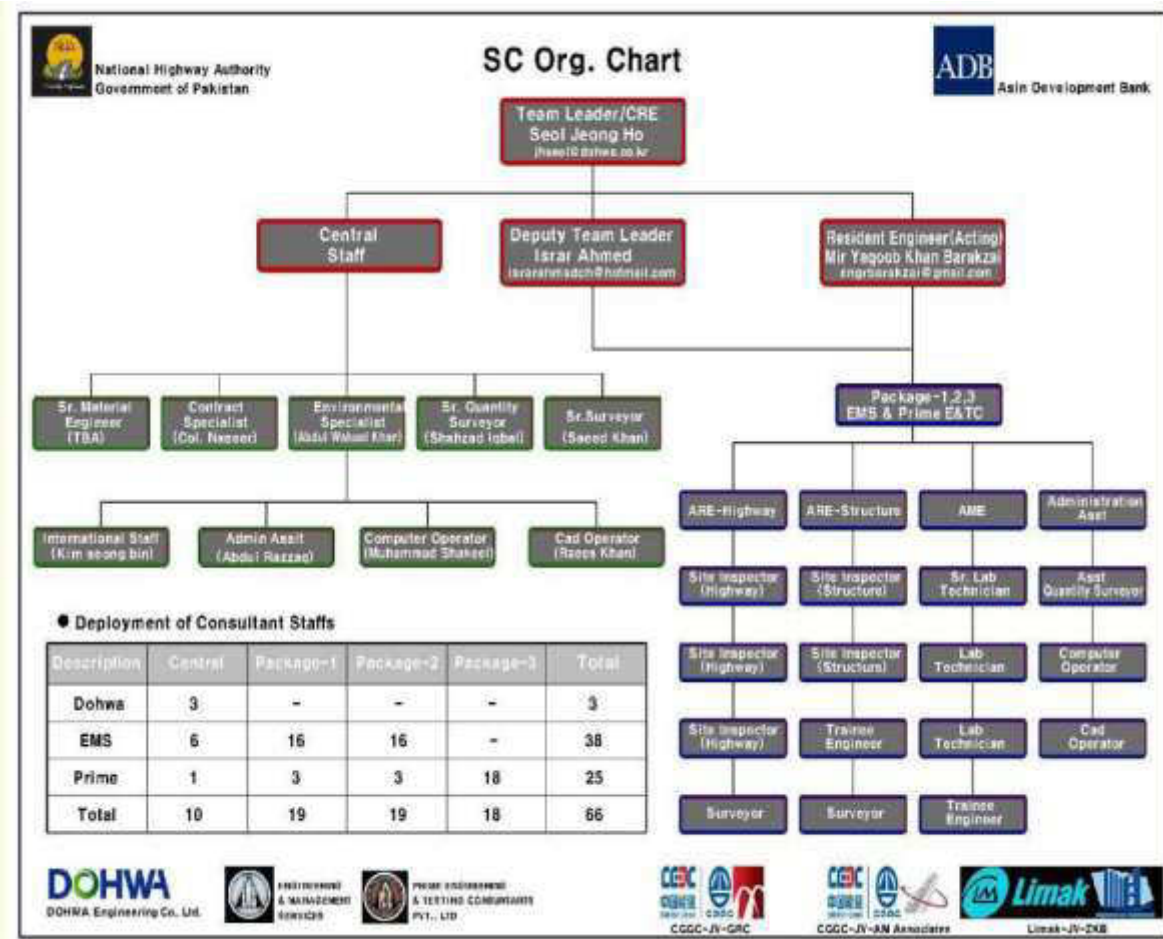
Names and Type of Plans	Package-1	Package 2
Site Specific EMP	Submitted and Approved	Submitted and Approved
Base Camp Layout Plan	Submitted and Approved	Submitted and Approved
Batching Plant Layout Plan	3 Batching Approved	3 Batching Plant Approved.
Solid Waste Management Plan	Submitted and Approved	Submitted and Approved
Traffic Management Plan	Submitted and under implementation	Submitted and under implementation
Borrow areas Management	Provisionally approved	Provisionally approved

1.5. Project Supervision Consultants and Contractor

The Lead Design Review & Construction Supervision Consultant is M/s DOHWA Engineering Co. Ltd in association with M/s Engineering & Management Services (Pvt) Ltd., Pakistan, and M/s Prime Engineering & Testing Consultants (Pvt) Ltd.

The Project's Construction Contractor for Package 1 & 2 is M/s China Gezhouba Group Company Limited in association with M/s Ghulam Rasool Company (GRC) and M/s Amin Jan Construction Company. Contractor CGGC and Associated JVs were mobilized on 5th March 2015. The Engineer had issued commencement letter to contractor for construction work.

1.6. Organizational Chart of Consultant staff



1.7. Grievance Reporting and Resolution

The Grievance Redressal Committees (GRCs) on these two packages have continually consulted the local residents this month, and during their regular site inspections, to inquire about their problems and issues arising from the construction activities. The Committee of each section/package is composed of the Environmental Specialist of Contractor, Admin manager of Contractor, Environmental Specialist of Supervision Consultant, Highway or Structure Engineers, Project Manager of Contractor and Environment Cell (AD Environment) of NHA, Deputy Director of NHA and Local Community members. A register has been established for documenting the complaints. Register on each package has been checked and updated.

1.7.1. Grievance Redressal Cell/Committee (GRC) local members on Package 1.

Name	Village	RD/Location	Contact Number
Mr. Ibrar	Kala Katha (E)	7+082	0300-5242046
Mr. Rehmat Ali	Jabber	3+862	0311-5278013
Mr. Zubair Khan	Padara	4+800	0314-5018520
Mr. Pervez Akhtar	Kala Katha (w)	7+943	0346-5963960
Mr. Zamarud Khan	Koi Dara	8+050	0334-5627456
Mr. Aksar Zaman	Aam Gah	11+925	0304-1156898

1.7.2. Grievance Redressal Cell/Committee (GRC) local members on Package 2.

Name	Village	RD/Location	Contact Number
Mr. Zahid Rehman	Sarai Saleh	39+200	0333-5341494
Mr. Nisa Rehmat Khosa	Monan	35+400	0322-5150796
Mr. Subha Sadiq	Motian	27+800	0314-5018520
Mr. Akhtar	Ballar Joghi	24+943	0346-5963960

Further in GRC NHA Environmental Staff, Contractor Staff and Consultant staff are included.

1.8. Environmental Impact Assessment (EIA) and Environmental Approval from EPA

As per requirement of ADB Environmental Safeguard Policy Statement June 2009 and Pakistan Environmental Protection Act (PEPA) 1997 and IEE and EIA Regulation 2000, NHA has carried out Environmental Impact Assessment (EIA) and got approval from ADB and Environmental Protection Agency (EPA). NHA has issued the Environmental NOC/Approval, received from EPA for these two Packages to the Engineer. The Engineer's Environmental Specialist has carefully reviewed this Environmental Approval and accordingly advising the Contractor for Compliance. There were twelve conditions/terms/actions issued with approval for project proponent to implement and follow-up during the construction and operational phase of project. Details of terms and conditions are as follows;

Environmental Terms/Conditions of NOC of Project issued by EPA	Status of Compliance
The proponent will adopt all precautionary and mitigation measures identified in EIA Report as well as any unanticipated impacts during the construction and operational phase of project.	EIA approved for project is broadly followed on project by project implementers. Site Specific EMP are prepared, approved and under implementation on the packages of project. Main theme of overall environmental safeguards is to protect all workers from any hazardous and ensure sustainable development.
The Proponent must submit bi-annual monitoring compliance report to EPA for review.	Since Project start, the Engineer has prepared and submitted 2 Biannual Environmental Monitoring reports to NHA and NHA onward submitted to EPA KP.
Land acquisition and resettlement plan must be submitted to this Agency before starting the physical work.	Land Acquisition and Resettlement Plans of Package 1, 2 are submitted to NHA and forwarded to EPA for their information and record. LARP of all three packages are underimplementation.
Afforestation plan must be provided to this Agency before the physical work is started on the site.	Afforestation plan will be finalized with NHA next year as during construction period plantation or preparing platform/area for plantation will be affected due to work progress.
Proper retaining and breast wall should be constructed where needed.	This requirement is already included in scope of work of project. Retaining and breast walls will be constructed.
Camp site must be located at least 500 meters away from the residential area.	Camps are well away from residential areas. All Camps sites are located away more 500m from residential areas. This measure is followed for all camps and plants facilities on the packages.

Regular sprinkling of water for the control of dust pollution during the construction phase must be maintained.	There are several water sprinklers on project for water sprinkling on project carriage way and other access and approach roads. Dust pollution issue is resolved to maximum level.
Proper culverts must be constructed for the rainy water.	On all three packages sufficient culverts (box & pipe) are included in scope of work and maximum culverts are completed and open for use.
Number of affected business, houses, trees, agricultural land/crops and their compensation plan must be provided to the Agency before starting the physical work.	LARP of Package 1, 2 already covered these requirements of Environmental NOC issued by EPA. LARPs of Package 1, 2 have been sent to EPA. (Task Completed)
Non-technical jobs must be provided to the local people in the area.	Already complied with requirements of Environmental approval (about 50% labours and some technical staff are from local project area.
Preference should be given to the local people in technical jobs	Contractor has appointed some technical staff from local community.

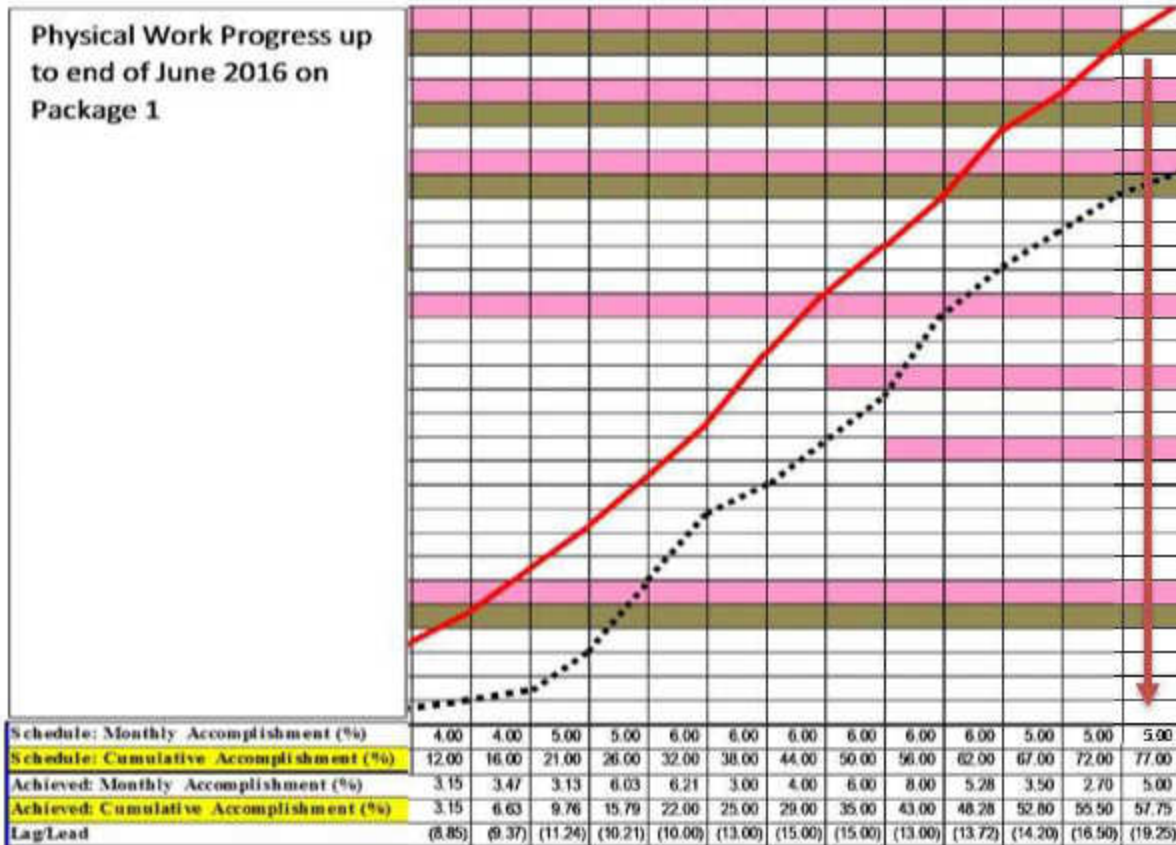
1.9. Project Data

Project Name	Consultancy Services Agreement for Design Review & Construction Supervision of Hassanabdal (Burhan) – Havelian (Samlaila) Expressway Section of E-35(57km)	
Employer	National Highway Authority	
Project Location	Districts Attock (Punjab) and Haripur (KPK)	
Project Start Date	March 5, 2015 (Package 1 & 2)	
Project stipulated End Date	March 4, 2017	
Project Funding Source	ADB Loan No. 3121-PAK GOP	
Feasibility and Design Consultant	NESPAK	
Project Features		
Packages Details	Package 1	Package 2
Length in KMs	20.400	19.211
Flyovers	3	4
Bridges	12	6
Underpass	8	9
Box Culverts	53	36
General	6 Lane Fenced Expressway with 110 Km/hr speed design	6 Lane Fenced Expressway with 110 Km/hr speed design

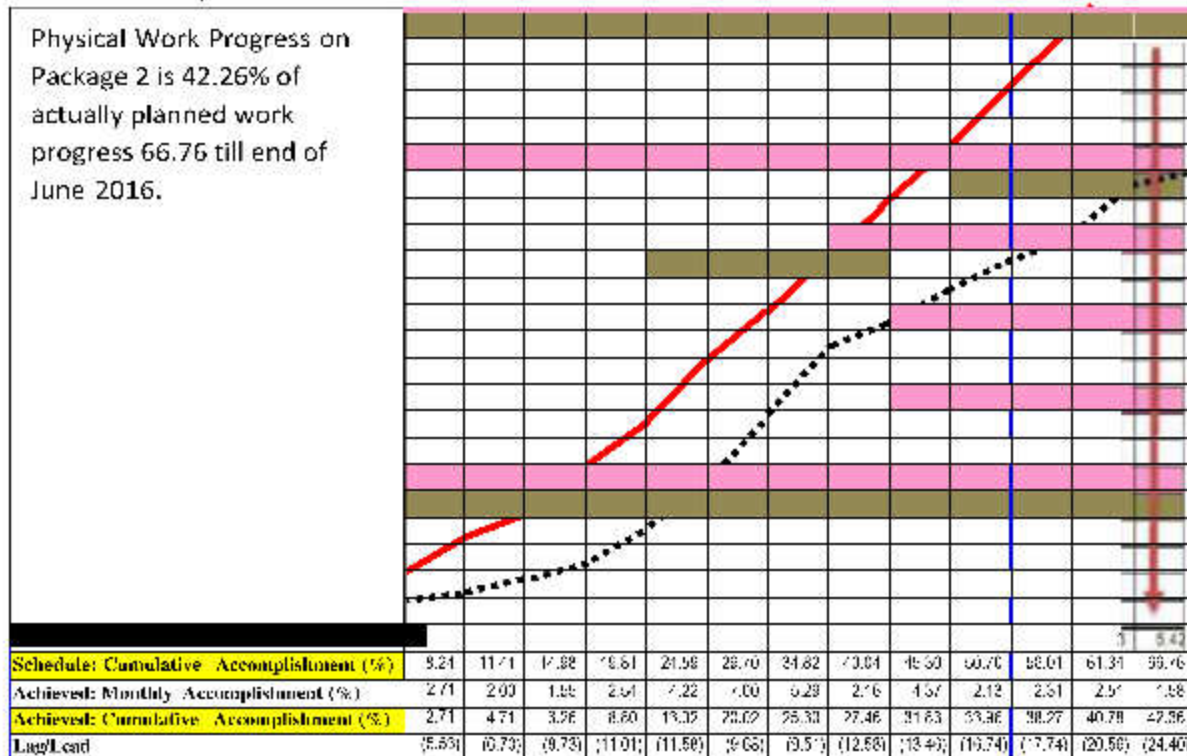
Employer's Representative	GM (E-35) NHA	
Engineer/Team Leader	Seol, Jeong-Ho	
Appointment of Engineer	1(9)/GM(E-35)/NHA/2015/05 dated 13 th February 2015	
Consultant	DOHWA ENGINEERING CO. LTD <i>in association with</i> EMS & PRIME ENGINEERING	
Consultant's Mobilization Date	4 th February 2015	
Design Review	Six (06) weeks from 4 th February 2015 to 22 nd March 2015	
Construction Contracts	Contractor	Contract Price
Package 1	M/s CGGC – GRC JV	Rs.7,376,968,486
Package 2	M/s CGGC – AM Associates JV	Rs. 6,775,233,160
Construction Contract Commencement Date	March 5,2015	Construction Contract Completion Date
Defect Liability Period	365 days	March 4,2017

2. PHYSICAL WORK PROGRESS OF CONSTRUCTION CONTRACTS

During reporting period these two packages were active and work on structures such as underpasses, box culverts, wing wall and bridges pile cap, flyover and earth work was in progress. On Package 1, Contractor has achieved 57.75% work progress while planned work progress was 77.00%. Contractor has deployed Environmental Specialist and assistants for implementation of Environmental Safeguards. Contractor has provided sufficient health protection measures except PPEs and safety measures at height. First aid facilities are provided to workers and staff on site. Fire protection is ensured with provision firefighting kits and awareness.



Work progress on Package 2 is slow and by the end of June 2016 actual achieved progress was 42.26% of total planned 66.76%



2.1. Project Location Map of Construction of Hassanabdal (Burhan)-Havelian (Samlaila) Expressway Section of E-35

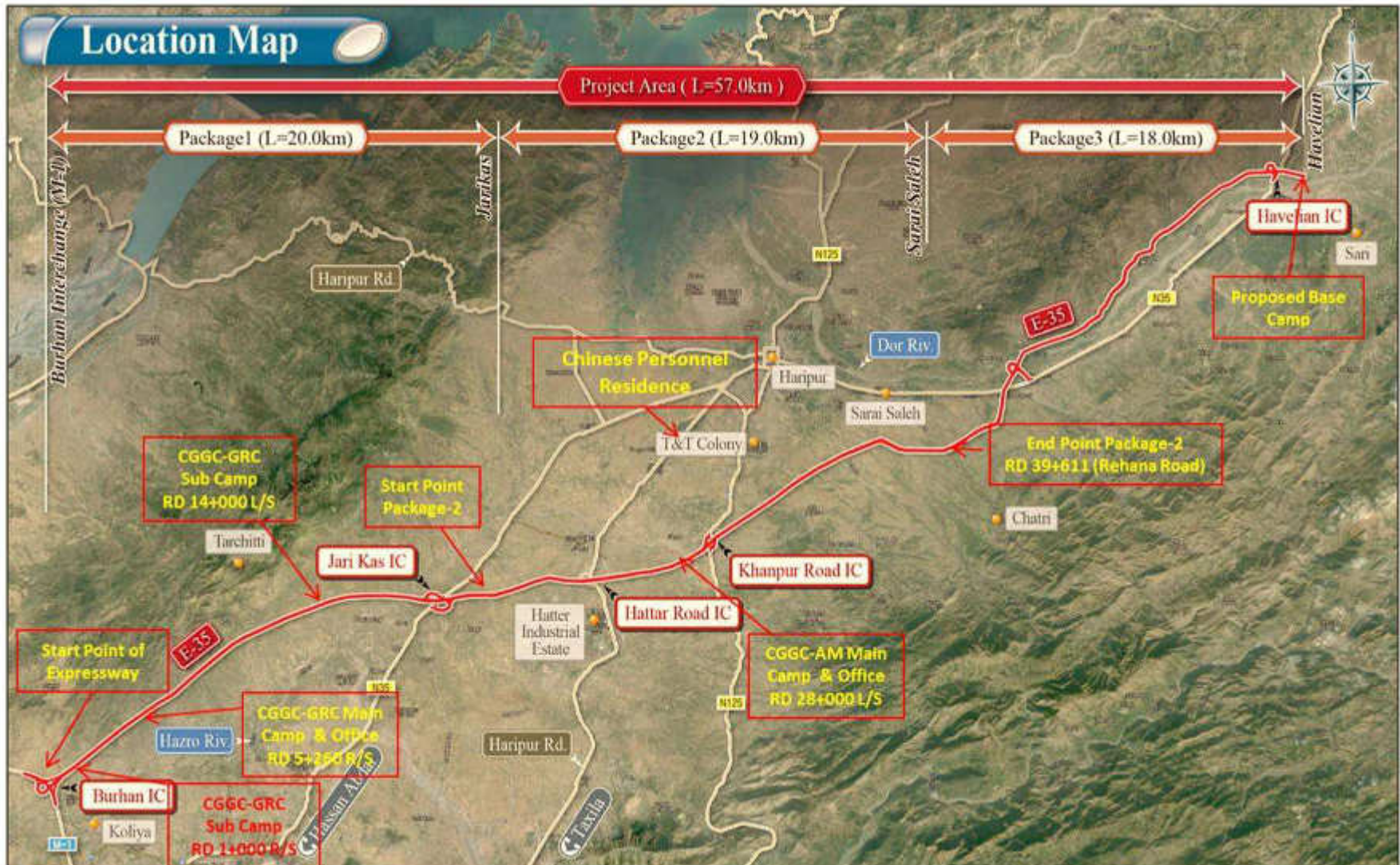


Figure 1 Project Location Map

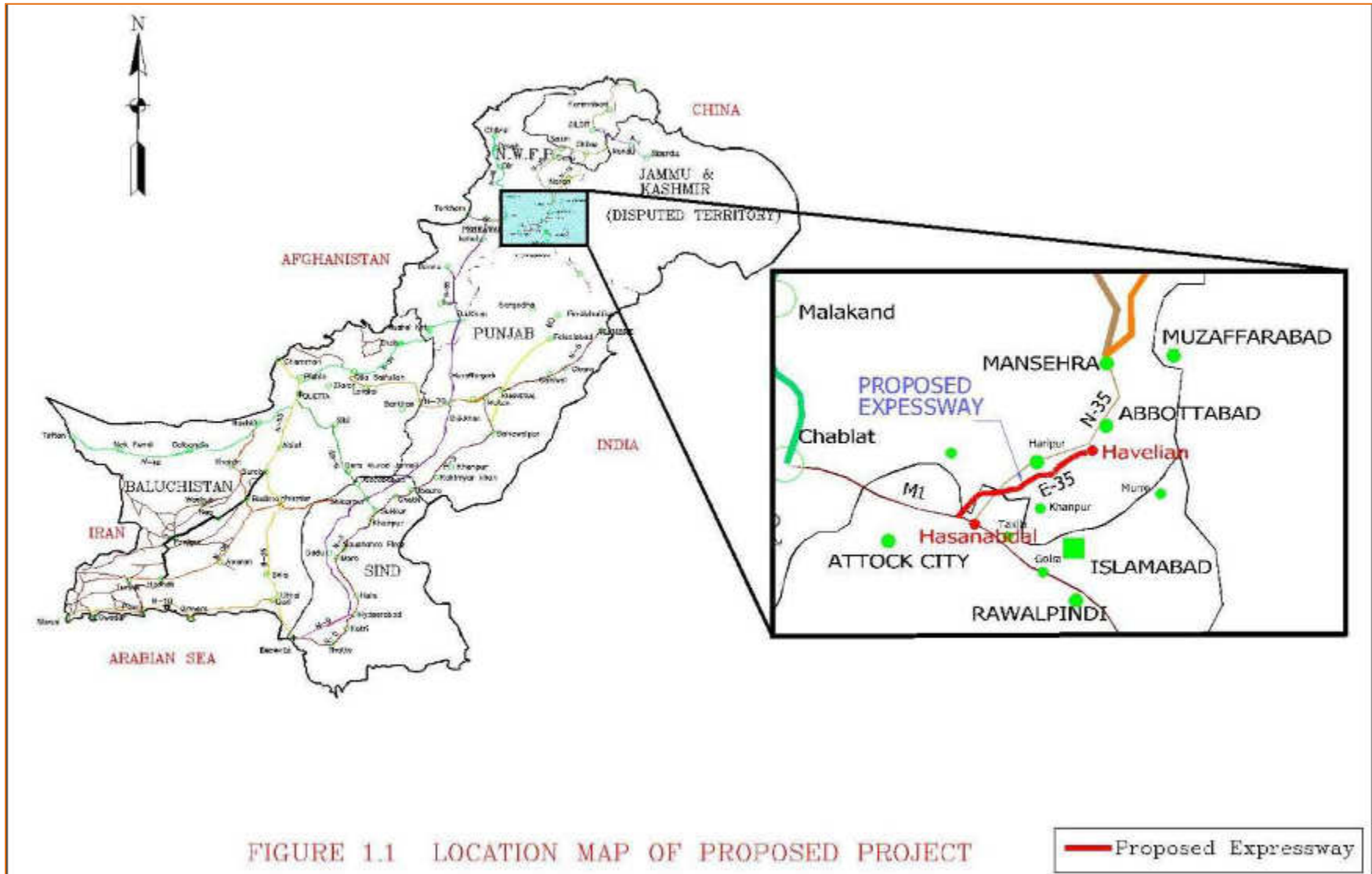


Figure 1.1 Location of Project on Country Map

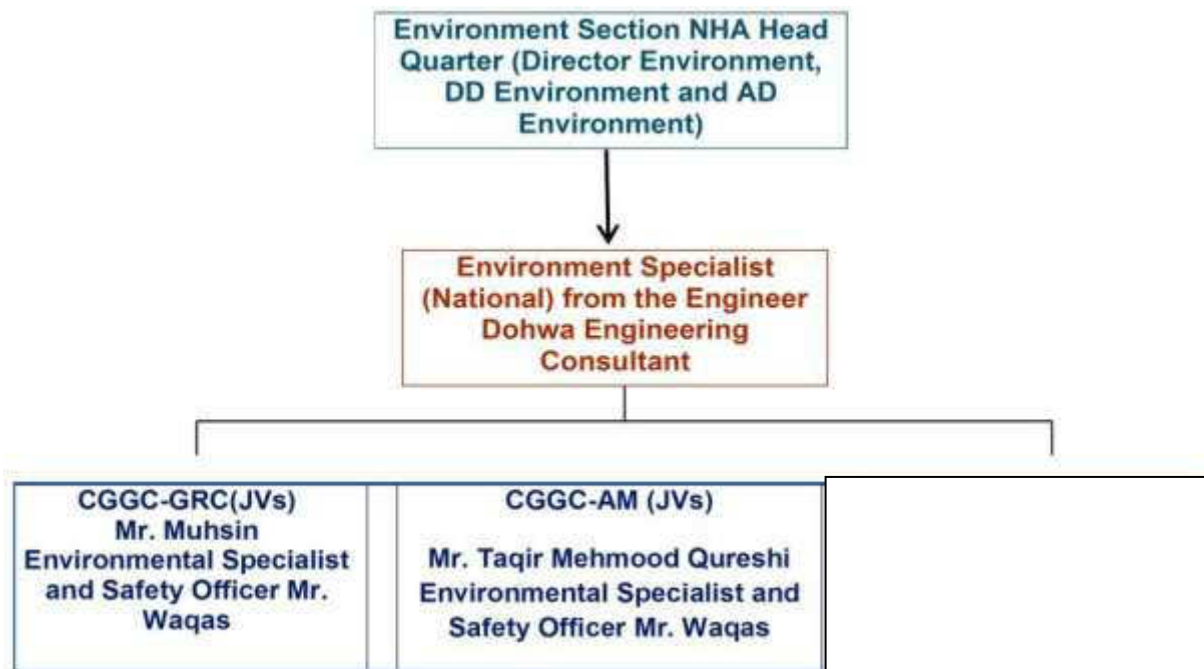
3. STATUS OF ENVIRONMENTAL MANAGEMENT ON PACKAGES 1&2

3.1. Institutional Arrangement and Organization Chart for Environmental Safeguards Implementation on Project E35 Phase-I

Institutional arrangement for proper implementation of Environmental Safeguards is important and necessary. National Highway Authority (NHA) and his Environment Section have carried out EIA and prepared EMP and got approval from ADB and EPA in October 2013. EMP is incorporated in Contract of project E35 (all three packages), signed and accepted by Contractor CGGC-GRC & AM (JVs) for implementation including contractual provisions (Clauses) such as 4.18-Protection of Environments, 4.8-Safety Procedures, 6.4- Labour Law, 6.5- Working Hours, 6.6-Facilities for Staff and Labours, 6.7-Health and Safety, 6.6- Facilities for Staff and Labours, 6.15-Measures against Insect and Pest Nuisance, & 6.21- Child Labours and Specifications SP Item 706-Temporary Traffic Control Management

- China Gezhouba Group Company Limited in association with M/s Ghulam Rasool Company (GRC) and M/s Amin Jan Construction Company. Contractor CGGC and Associated JVs were mobilized on 5th March 2015.

As per requirement of approved EIA and EMP of project and Contract document contractor have appointed environmental specialist on each package for to implement and handle and manage environmental compliance. The Engineer and his representatives (Environmental Specialist) are supervising and monitoring the overall Physical and Environmental Performance of Project's Contractors and responsible of overall contract implementation.



3.2. Tool Box Talks and Training Session on Project

In reporting period Contractors and Consultant have jointly arranged different training session on site for labours and staff. Tool Box Talks and Tool Box Meeting have been carried out by project Management and Environmental and HSE Team.

3.2.1. Daily Tool Box Talks on Package-1

Regular daily tool box talks are in practice by contractor. Contractor's Environmental Specialist and Store keeper both are involved in delivery of daily tool box talks for labours. Record is maintained and reflected in report. TBT are mostly given on housekeeping, use of PPEs, use of fuel, use of fire extinguishers etc.

Sr. No	Date	Topic	Location KM	No of Attendants
1	01/04/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	5+250	15
2	03/04/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	5+250	11
3	8/04/2016	PPEs, Tools Handling, BBS	5+270	09
4	12/04/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	14+400	11
5	17/04/2016	PPEs, Tools Handling, BBS	14+400	05
6	22/04/2016	POL Spillage, BBS, Cable Management, PPEs	Camp Workshop	06
7	26/04/2016	POL Spillage, BBS, Cable Management, PPEs	14+400	09
8	28/04/2016	Steel rebars handling & Cutting, BBS, PPEs	24+180	17
9	28/04/2016	Steel rebars handling & Cutting, BBS, PPEs	5+250	09

3.2.2. Details of Tool Box Talks delivered on Package 2 during reporting period

Sr. No	Date	Topic	Location KM	No of Attendants
1	01/04/2016	Welding Cutting & Grinding, Cable Management,	28+000	08
2	04/04/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	28+140	11
3	11/04/2016	PPEs, Tools Handling, BBS	24+100	08
4	14/04/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	35+560	13
5	17/04/2016	PPEs, Tools Handling, BBS	32+100	09
6	20/04/2016	POL Spillage, BBS, Cable Management, PPEs	Camp Workshop	16
7	22/04/2016	POL Spillage, BBS, Cable Management, PPEs	28+140	08
8	25/04/2016	Steel rebars handling & Cutting, BBS, PPEs	24+180	05
9	26/04/2016	Steel rebars handling & Cutting, BBS, PPEs	Camp Workshop	10
10	28/04/2016	Manual Handling, PPEs	Mech/Workshop	16
11	29/04/2016	Working at height, Tools Handling, PPEs	24+100	08

3.3. Asian Development Bank (ADB) Missions to Project on 26th April 2016

ADB Mission visited project on 26th April 2016 for supervision and support regarding all technical, financial and environmental matters of project. During Mission ADB visited all three packages and monitored work progress, discuss all about work progress including technical, financial, environmental and social aspects of project.

3.3.1. Corrective Action Plan for Package 1

Corrective Action Plan (CAP) was prepared by the Engineer's Environmental Specialist, shared it with Contractor Project Manager and discussed with GM of GRC on 10th September 2015. This Plan (CAP) was shared with NHA for comments and advise. Final version of this CAP was sent to Asian Development Bank. ADB Environmental Specialist shared comments and advised for implementation. Final version of ECAP was officially handed over to contractor for implementation on 16th September 2015. Contractor has mobilized Environmental Specialist in last week of September 2015. Details of ECAP are as under;

Task /Issue	Task Deadline	Activities to do/follow	Status of Action
Appointment of Environmental Specialist	20 th September 2015	Contractor will appoint/deploy an Environmental Specialist on Package 1 as per requirement of Contract stipulated EMP. He will be response of all environmental matters of project but the key staff of project will fully support and coordinate with him. (Mobilized in last week of September 2015)	Completed. Environmental Specialist is on project and Implementing Environmental Safeguards.
Instrumental monitoring of Environmental Parameters on quarterly basis	30 th September 2015	Agreement signed for instrumental monitoring with M/s SEAL Lahore base laboratory and final dates fixed for monitoring of environmental monitoring was 3 rd December 2015. Monitoring is carried out and results are submitted to the Engineer.	Done as required and Results have been submitted.
Preparation and submission of Traffic Management Plan for all and each intersection and access routes.	15 th October 2015	Temporary Traffic Management (TTM) is key part of project implementation of construction phase. According to Contract Item 706 and its sub components contractor has to provide and manage temporary traffic management during construction phase by using traffic sign boards, cones, reflection tap, hard barrication, flagmen etc. as mention in contract. Contractor will install at least three sign boards on M1 regarding speed limit and work zone of E35 for traffic to ward Islamabad.	Traffic Management Plan is approved by Motorway Police for M1 and other Diversion Plans are submitted to the Engineer and approved for implementation.
Submission of monthly environmental monitoring report	5 th October 2015	There are several intersection roads coming in RoW of Package 1. Traffic Management Plans for each intersection is required to be prepared and submitted on priority for review and approval and implementation. • Contractor will prepare and submit monthly environmental progress report to the Engineer by end of each working month.	In Practice and Monthly Environmental Monitoring Reports are submitted up to May 2016.

Water sprinkling schedule of project access and intersection routes/roads.	30 th September 2015	<ul style="list-style-type: none"> Contractor will submit a plan or schedule regarding water sprinkling according to requirement of site. Designated water sprinklers will ensure dust suppression at project approach and access roads. 	Improved and In Practice.
Pending documents of borrow areas (NOCs and lease agreements)	15 th October 2015	<ul style="list-style-type: none"> Contractor has utilized borrow areas on package 1. Material test have been carried out and restoration method is not submitted to the Engineer. Contractor will get approval through complete approval documentations and all closed/inactive borrow areas will be restored by contractor. 	Contractor has submitted NOCs of borrow areas and 8 lease agreements are submitted in December 2015 after repeated advises. Restoration is required
Ensuring Health and Safety of Labours and Staff (Provision of Personal protective equipments) and First Aid facilities at all site Batching plant)	10 th October 2015	<ul style="list-style-type: none"> Contractor has displayed Emergency Response Team with Contact numbers at each plant and camp. Maintain First Aid Clinic at Base Camp, hire or keep an ambulance all time on project site; medical staff will be at base camp for any health hazards/accident and care of labours. First Aid kits will be provided at all batching plants and Asphalt plant and a chart of emergency contact number will be displayed at each site for quick communication and handling or any accident. 	Contractor has deployed a paramedical staff at base camp for labours and staff and about 900 first aid cases have been handled by him in six months.
Construction of Fuel Storage Area at Base Camp 1 & 2.	30 th September 2015 for Base Camp 1 and 15 th October 2015 for Base Camp 2.	<ul style="list-style-type: none"> Contractor will complete fuel storage area construction at Base Camp-1 of Package 1. Construct fuel storage area base camp 2 at RD 14+400. Fuel will be stored in free leakage drum or tanks on impervious floor and area will be fenced and covered with shelter. Fire Extinguisher will be provided at fuel storage area. 	Contractor has arranged big fuels storage tank underground and covered and dispenser is also installed for fuel filling. Fire Extinguishers are available at this location. (Completed)
Traffic Management; Installation of more sign boards, traffic cones, reflecting tap, flagmen and delineators at each intersection where there is high risk of accident.	10 th October 2015	<ul style="list-style-type: none"> Contractor will installed four traffic sign boards on each intersection with cones and water sprinkling will be ensured. Contractor will install delineators and hard barrication at all diversion with reflecting tap. Contractor will deploy flagmen at diversion area of active sites. 	Work is in progress. Traffic Management is improved than previous status. TMP is also submitted and further advise regarding TMP is issued to Contractor.

Provision of Personal Safety Equipments (PSE or PPEs) to all labours at active construction sites.	30 th October 2015	<ul style="list-style-type: none"> • Contractor will give safety shoes to all workers and labours. Nobody will work without safety shoes. • Gloves and high visibility jacket will be provided to workers working at steel fixing and scaffolding site. • Long shoes will be provided to workers at concrete site. (Workers doing/filling concrete). • Welding and steel cutting bending all workers will wear goggles, gloves and mask. 	Improved. Safety shoes are purchased and provided to labours at steel yard areas in base camp 1 but labours at steel yard of base camp 2 have few safety shoes and gloves are still deficient. Welding staff have goggles and gloves.
1. Construction of Solid Waste collection three Chamber Tank at Base Camp 1.	30 th October 2015	<ul style="list-style-type: none"> • Contractor will construct a three chamber structure for solid waste collection, segregation and disposal at both camps. 	Contractor has provided 14 drums for solid waste but three chamber structures is yet not constructed.

3.4. Child Labour and Labour Law

Child Labour and Labour Law of Pakistani are incorporated in contract and under implementation on project. It is strictly and strongly instructed to contractors that as per contractual provision no labour with less than 18 years will be involved in construction work or hazardous work site. Child Labours were observed on site in previous reporting period. The Engineer has issued official letter for elimination of all such child labours. Now fully complied with Law.

4. Environmental Management on Package 1

4.1. Instrumental Monitoring of Environmental Parameters on Package 1

Environmental Parameters monitoring is requirement of approved SSEMP and mandatory for contractor to be carried out on quarterly basis. Previous monitoring was carried out in December 2015. Instrumental monitoring of Environmental parameters have been carried out in April 2016 through M/s SEAL in presence of Environmental Specialist of CGGC-GRC and Environmental Specialist of Supervision Consultant. As per instructions of NHA Director Environment HQ, again Particulate Matter 10 and Particulate Matter 2.5 both have been monitored at three different locations. Water Quality Parameters were checked and results revealed that water has no serious contamination and fit for human consumption at all three Plants and 2 Camps. Air Quality PM10 and PM 2.5 and Oxides of N, C and S were monitored at all batching plants. Results revealed that air pollution levels at plants are not highly harmful but care of health of all staff and labours is very important and air quality remains change with day to day construction activities. Noise levels were checked at generator sites, batching plants and at sensitive receptors. Noise levels were not above permissible limit 75dBs.

4.2. Contractor Construction Base Camp-1

Environmental Education and awareness about safety measures at steel yard, store area and concrete batching plants are done in reporting period on package 1. Contractor Construction

Camp site is visited by the Engineer's Environmental Specialist along with Mr. Muhsin Environmental Specialist of CGGC-GRC. Water quality and noise levels and air quality are checked at base camp during instrumental monitoring on 27th April 2016.

Contractor has improved dispensary as demand of first aid and health care is increased. Paramedical staff Mr. Tanweer is fulltime available at base camp at dispensary. First aid medicines are provided in dispensary. Total 900 time dispensary is used by labours and staff in reporting period. This factor and use of first aid shown that contractor has not taken sufficient safety measures such as PPEs, drinking water, rest areas on site and due to which labours are using first aid facilities.

Medical Waste is collected in waste bin and after collection of all waste of one week, all are burn or buried at proper place at base camp. All Scraps from front of camp is removed and shifted to scraps yard and do concrete in front of main store. Fuel storage is reduced and fuel spills tray is arranged at this site. Solid Waste of Kitchen, Store, Workshop and Batching Plant are collected in drums. Solid Waste Collection drums are placed at designated place. Solid Waste of Kitchen and Store site are segregated and properly disposed off.

Waste Water Generation and Treatment as per requirement of EIA and SSEMP is carried out at Base Camp. Contractor has constructed Septic Tanks and Soakage pit and retention small manholes system. As there is no local sewage disposal drainage and other facilities for disposal of waste water therefore waste water is properly treated with treatment septic tanks and pits.

Camp is fenced and security check post is available at entrance. Currently about 250 Staff and workers are residing in this camp. Contractor is advised to build a recreation area for his labour and staff for good work quality. Dining hall needs TV for labours. Mosque is recently constructed in base camp. .

4.2.1. Contractor Construction Camp-2 on Package 1

Total 220 labours are using this camp site for taking food from mess and about 180 labours are residing in it. Waste water of washrooms and toilets are treated through septic tanks and soakage pits. Tool box talks about housekeeping, first aid and fire extinguishers have been regularly delivered to staff at this camp.

Kitchen staff is educated about fuel use, cleanliness, food washing, and solid waste collection and control its generation. Emergency contacts numbers and fire safety kits are provided at office. Contractor has got provisional approval of this site and stipulated with mitigation measures.

Fire Extinguishers are provided at fuel storage area and in front of main office while kitchen area has still no fire protection. Contractor is using LPG in Kitchen instead of fuel wood. Contractor has improved housekeeping of base camp 2.

Batching Plant at this location was operational. Empty drums were stocked at batching plant, construction materials were stocked at batching plant site. One big capacity generator is provided

at batching plant. Regular visits have been made to batching plant for observations regarding housekeeping, PPEs, provision of designated place to empty drums, solid waste management.

4.3. Asphalt Plant site and location of package 1

Contractor has submitted necessary document for approval asphalt plant site approval at RD 5+270 on Package 1. Contractor second submission (CGJV-E35-506) regarding Asphalt Plant This Plan (CAP) was shared with NHA for comments and advise. Final version of this CAP was sent to Asian Development Bank. ADB Environmental Specialist shared comments and advised for implementation. Final version of ECAP was officially handed over to contractor for site and Facility plan was carefully reviewed by the Engineer's Representatives and found that submission was consisted on the following items:

- Lease agreement of land (20 Kanals).
- Owner of 20 Kanals Land is Mr. Inayat Ali S/o Muhammad Aslam Khan.
- Copy of National Identity Card.
- Simple Layout plan of plant site.

Proposed asphalt plant site was formally approved as contractor had submitted the required lease agreement and NIC of land owner. Contractor was instructed to submit the following items for formal approval of asphalt plant facility and complete establishment of Asphalt plant facility at approved site;

1. Technical document of asphalt plant as per requirement of contract document (Form EQE: Equipment 15-Asphalt Plant).
2. Details of Air pollution control technology wet scrubber or dry scrubber of this plant.
3. Last emission (air quality) test results.
4. Capacity details.
5. Complete layout plan of establishment including asphalt plant and associated items such as water retention tank, bitumen storage area, bitumen tanks of asphalt plant, fire control station associated with asphalt plant, control room, stockpiles, washrooms, septic tanks, soakage pits, workshop area, vehicle (hard area) parking area, Kitchen, solid waste collection and disposal tank, first aid facility, offices, store, fuel storage area.
6. Decommissioning, demolishing and restoration method of asphalt plant site and facilities removal. Contractor will explain method of demolishing and restoration.

4.3.1. Asphalt Plant Facilities installation at RD 5+270

Contractor has launched brand new asphalt plant to project site on 26th March 2016. Contractor has started erection and installation of asphalt batching plant. This plant is equipped with dust control system and air pollution control. Contractor as already installed one old asphalt plant at same location for backup. Contractor will do air, noise levels/quality test at plant site before operation and during operational stage. Plants are well away from residential areas and there are no sensitive receptors in 1000m radius area.

4.4. Concrete Batching Plant on Package1

Contractor has installed total three concrete batching plants on Package 1 to date.

4.4.1. Batching Plant at RD 5+260 on Package 1

Concrete Batching Plant at RD 5+260 was operational in reporting period for concrete work. Contractor has completed 65 box culverts and girders for bridges and flyovers are in progress. Safety of labours at these sites is partially compliance workers. Contractor has provided helmets, safety shoes, and jackets are provided to some workers and staff. First Aid is maintained at base camp for these labours.

4.4.2. Batching Plant at RD 1+000 on Package 1

Contractor has established and erected batching plant at Km 1. Area/Location of batching plant is according to requirement of SSEMP and EIA. It is well away from residential area and close to ROW. Batching plant was operational. Contractor has reconstructed store, accommodation rooms and kitchen at this site. Water retention tank and electric power supply and water supply all are provided and available at site. Water tank is provided with protection wall and covered with slabs. Fuel is stored in drums on concrete platform and fire extinguishers are provided here. First aid facility is sufficient for number of labours and level of construction.

4.4.3. Installation of Batching Plant at Camp 2 at RD 14+400 on Package

Contractor has installed this concrete batching plant # 3 at RD 14+400 in June 2015. Capacity of batching plant is 1 cubic meter per batch. Contractor has established camp # 2 at this location for labours working at this plant. In reporting period there were about 200-270 workers residing and there are total two kitchens at this site.

Contractor has constructed store for stock of fuel, cements, lubricants, wooden sheet for structure work, wooden pieces for scaffolding and extra goods of project site. Fuel (diesel) is stored in drums at camp site. Total 1500-2000 litres fuel was stored for daily consumption. Fuel spillages were observed at store area and now removed. Contractor has provided first aid medicines at this site. Three smaller drums are arranged for solid waste collection at kitchen. Housekeeping is improved than before. Contractor store at camp site checked for oil spills and housekeeping and risk analysis. Fire Extinguishers provided at store is not sufficient. Contractor is instructed to provide 2 fire extinguishers (10kg).

4.4.4. Storage and Utilization of admixtures Altra 470 and Big Sea BCS-8G at Plant

Admixtures material is stored in steel tank at all batching plant site. Spillage of Admixture was noted/observed at batching plant at RD 1+000 in May 2016 but immediately cleaned by Contractor.

4.5. Health and Safety of Workers and Staff on Project

Health and Safety proper measures are mandatory section of contract. In reporting period there was no serious injury and no accident occurred. Contractor has provided first aid facilities at camp

and four first aid kits on site Contractor has provided personal protective equipment (PPEs) to maximum labour at steel yards at both camps, few labours on site at active construction sites. In reporting period more PPEs were purchased for to overcome the problem of safety and health care.

First aid facilities have been improved at base camp 1 and 2 but still ambulance is not provided full time as per requirement of contract clause 6.7. Pursuant to contract clause 6.7 Health and Safety, 4.8 Safety Procedures for active construction work and EMP Section 8 Environmental Management and Monitoring Plan (Health and Safety of workers at active construction site a n d camp) the Engineer has again advised contractor for ensuring safety of their labours and regular monitoring of PPEs.

Workers are working at height but till date there is no safety harness with workers and staff. Contractor is advised for provision of safety measures to all workers working at height. Further Contractor is advised to ensure measures of controlling insects and pests and associated diseases with such as malarial and dengue etc. under contract clause 6.15 provision.

In reporting period contractor has maintained first aid facilities on project. Total 900 times labours and staff have taken first aid facilities.

4.6. Traffic Management (Item 706 & 712) on Package 1 in reporting period

In accordance with Item 7.12 a traffic management plan for M1 (RD 0+000) was prepared in guidance motorway traffic police and the Engineer. Traffic Management Plan was prepared and approved from traffic motorway police. Total about 40 sign boards, speed control studs and New Jersey Barriers have been placed on M1.

Contractor has displayed different traffic sign boards such as speed limit sign boards, sign boards related to work type or warning signs for contractor own traffic on project. Contractor has submitted traffic management plan for Jarikas Interchange construction site to the Engineer. Engineer's Representatives have visited the construction site of Jarikas Interchange on Hazara Road at RD 17+890 and advised contractor for next step in traffic management. It was observed that contractor has erected traffic sign boards at this site with instructions for control of speed limit and care at active work zone. Reflecting tap was used on edges of carriageway.

1. Cat eyes with speed breakers are installed on Hazara Road for speed control but shoulder are remain open for overtaking. Contractor will use barriers as mentioned in Specification Item 706 on shoulders or they will proceed for extension of speed breakers up to outer edge of shoulders to control overtaking of traffic and accidents.
2. Contractor has erected traffic management sign boards for warning of speed limit and control but still other traffic sign boards are with same instructions in Urdu language. It will be better and sufficient if contractor can remove steel rods/bars and erect delineator instead of it with reflectors.

4.7. Borrow Areas use for embankment construction on Package-1

Contractor has completed most section of embankment construction and materials are borrowed from borrow areas. Material quality tests of about 23 borrow areas have been carried out by

Material Engineers and other representatives including Consultants, Contractor and NHA Officials. Suitable materials are utilized by contractor from these borrow areas but about 12 borrow areas are used while other are not used as contractor has utilized materials cut from RoW (surplus and suitable) Contractor had submitted document of six borrow areas on 15th May 2015. Engineer had issued approval of three borrow areas (Borrow area1 at Rd 0+193, Borrow area 2 at RD 0+257 and Borrow area 3 at RD 1+400) on package 1 with letter No Dohwa/NHA/E35/2015/217 dated 24th April 2015. Contractor has utilized these borrow areas and as per instruction of Engineer issued with letter No. Dohwa/NHA/E35/2015/291 dated 5th May 2015 all these borrow areas will be restored. Contractor has further utilized other borrow site prior formal approval from the Engineer as lease agreements were not submitted but in December 2015 CGGC-GRC Admin Manger provided 8 borrow areas lease agreements for approval. Material tests results were complied with requirement of contract. Contractor will restore all borrow areas.

4.8. Implementation and follow up of Labour Law and Child Labour Clauses of Contract on Package 1.

Child Labour and Labour Law of Pakistani are incorporated in contract and under implementation on project. It is strictly and strongly instructed to contractor that as per contractual provision no labour with less than 18 years will be involved in construction work or hazardous work site. Child Labours were observed on site in reporting period. The Engineer's Environmental issued official letter for elimination of all such labours.

5. ENVIRONMENTAL MANAGEMENT ON PACKAGE 2

The Environmental monitoring for the Construction of Expressway E-35 Package-II (Jarikas to Sarai Saleh 19.211 Km) started on 5th of March 2015. This section of Package-II of E35 starts from 2Km from Jarikas towards link road N-35 crossing Hattar Haripur & Khanpur Road and ends at Noordi Rehana road, Sara-e-Saleh. The construction of this section package-II of national highway is being carried out by China Gehzouba Group of Company-AM Associates Joint Venture under the supervision of M/s DOHWA Engineering Co. Ltd in association with M/s Engineering & Management Services (Pvt) Ltd., Pakistan and M/s Prime Engineering & Testing Consultants (Pvt) Ltd.

During the last six months Jan ~ June 2016 the environmental conditions of the project area remained satisfactory because contractor is trying to minimize the impacts of construction activities on the environment. The dust suppression is being done by sprinkling water on service road and active working sites for embankment construction, Sub Base, Base construction and other construction activities. Solid waste is being collected and disposed off in Municipal Solid waste disposal sites. The waste water is being collected and treated by using septic tanks in all the camps. Safety engineering controls & administrative controls are being implemented at the site through JSAs. From 07 June 2016 duty hours reduced due to the holy month of Ramadan from 0530 hrs to 1300 hrs to reduce the work load.

In the month of May 2016 around 101 new safety signboards have been prepared, some signboards have been installed at the site & some remaining signboards will be installed soon.

Construction of TCFs of asphalt plants is under process. The area for asphalt plants is already

approved by the SC.

Asst. Director of Environment Protection Agency (EPA), KPK visited E-35 Package-II during the month of April 2016. He appreciated the improvement of HSE conditions and instructed to bring more improvement. 3rd Instrumental monitoring of environmental parameters has been carried out on 28th of April, 2016.

During the month of March 2016 senior officials' delegation of ADB, NHA & SC visited E-35 project package-II. The contractor CGGC-AM Associates JV was appreciated by the team leader of ADB for the improved HSE efforts. ADB & NHA environmental representatives inspected all the rectified non-compliances observed by the Sr. Environmental Specialist of ADB during the last ADB mission visit at E-35 Project Package-II.

In the month of February 2016 the contractor has appointed GM to expertise the work HSE, quality and progress. Restoration of some borrow areas has already been done and now the local farmer is using the land for cultivation. On the request of local people the contractor constructed local route at village Ganja'n. Construction of residential rooms at concrete batching plant RD 32+100 is almost completed.

5.1. Meeting on Overall Environmental, Health and Safety Matter of Project

A meeting was held at Burhan NHA office with PD E-35, Director Environment HQ, ES of SC & all the ES representatives of contractors of three Packages for rectification of all the issues observed by the Sr. Environmental Specialist of ADB. Again Environmental Specialist of SC conducted a meeting with the contractor's PM, Admin Manager, Environmental Specialist, HSE Officer and with Chinese representatives at Package-II on January 6, 2016 for the remedial actions need to be taken against all the non-compliances observed by the Sr. Environmental Specialist of ADB. All the issues observed by the Sr. Environmental Specialist of ADB were highlighted in both the meetings. Non-compliances observed by Sr. Environmental specialist of ADB have been rectified.

5.2. Environmental Progress Review Meeting in December 2015 on Package 2

In reporting period several environmental progress review meetings (EPRM) carried out on site at Contractor Base Camp. Environmental Specialist of Consultant and Contractor have discussed project current environmental issues. Meetings were attended by Contractor's Project Manager of CGGC-AM and Engineer's Representatives such as Material Engineers, Structure Engineers, Highway Engineer, and Environmental Specialist.

- Ensure provision of Personal Protective Equipment (PPEs) to all Staff and Workers on site.
- Installation of sufficient and correct traffic sign boards and tools as per Contract SP 706.
- Instrumental Monitoring of Environmental Parameters as per EMP/SSEMP
- Water sprinkling at active construction site and on access routes.

- Environmental Compliance Monitoring and correction.
- Provision of First Aid Facilities and Fire Extinguishers at camp and Batching Plant.
- Borrow areas restoration and keeping proper record of usage.
- Provision of portable and tested water for drinking and cooking at camp site.
- House-keeping and protection of labours.

5.3. Instrumental Monitoring of Environmental Parameters on Package 2

In this stage a Qualitative Environmental monitoring based on site observations is being carried out during construction activities and verify that they are undertaken in compliance with the requirements set forth in EIA/EMP and site specific Environmental Management Plan (SSEMP). For the Quantitative Environmental Monitoring, Contractor has made an agreement with SEAL Environment Consultants Lahore, for periodic Environmental Monitoring. Drinking Water, Waste Water, Surface Water, Noise Pollution and Air Quality including PM_{2.5} analysis were carried out for the reporting period by SEAL Environment Consultants.

5.3.1. Noise

Noise level results show that the activities are being done in its permissible limits. Workers have minimum risk from these noise levels. The workers working near these generators are enforced to wear PPEs, i.e. ear plugs or ear muffs to avoid any risk.

To minimize the noise following steps are being taken

- Vehicles are periodically checked for their noise level and notified for repairing and maintenance.
- Regular maintenance of the batching plants and power generators is being carried out on time to time.
- Job specific PPEs issued to the plant operators for extra care.

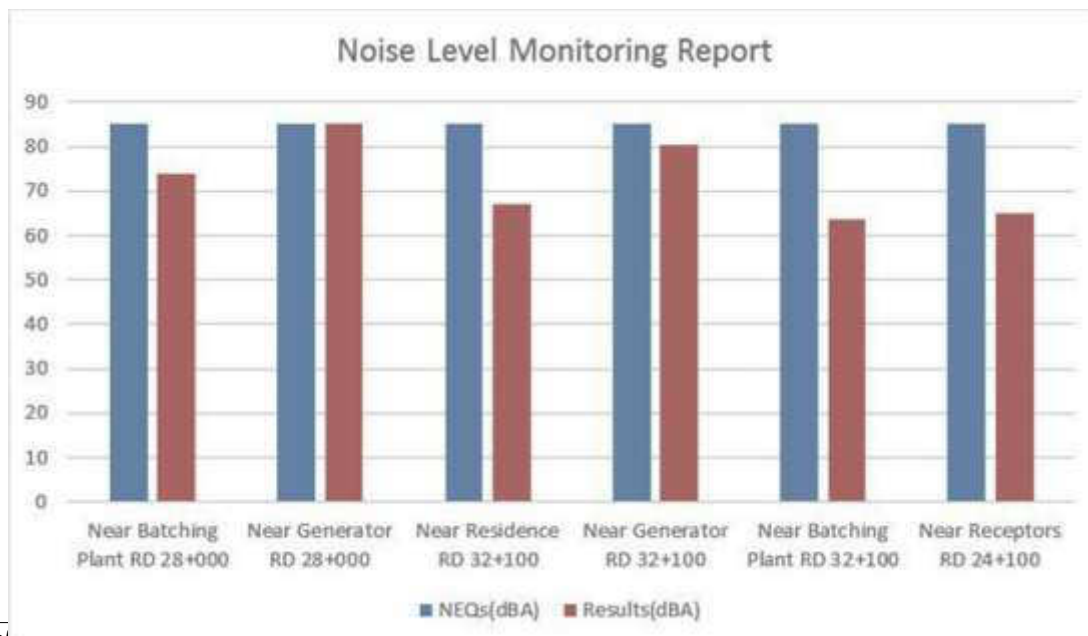


Fig-1 The noise equivalent of sensitive receptors is given in the above Bar Chart.

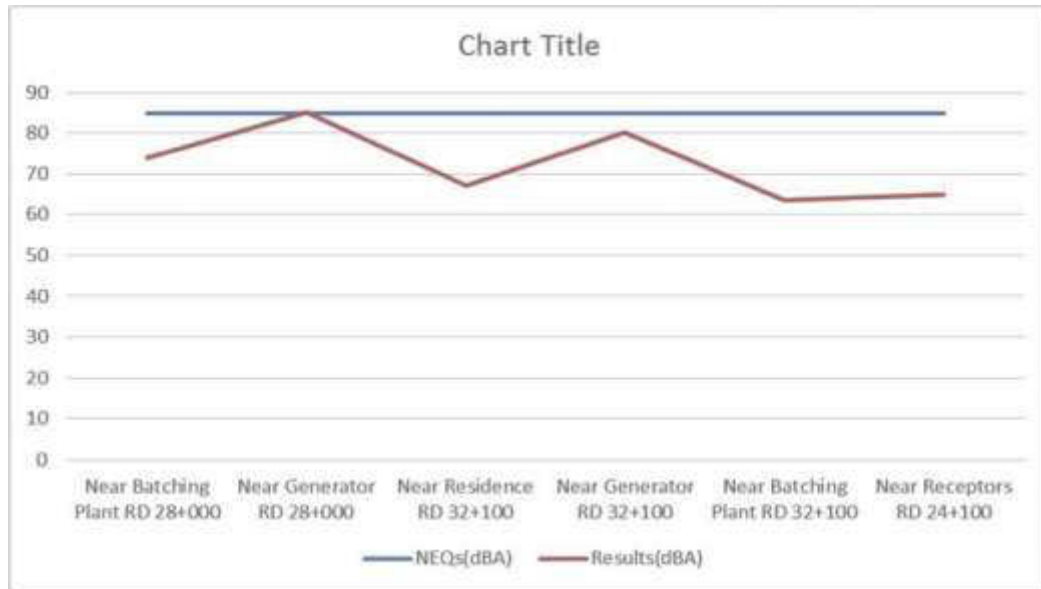


Fig-2 In graphical form of noise levels is shown above.

Comments:

All of the parameters are within the NEQS limits.

5.3.2. Water Quality

The drinking water samples were taken from the main camp. Water quality tests were carried out and declared by the testing authority fit for drinking. The results of these all monitoring parameters are attached as **Annexure 1**. Adequate drinking water arrangements are done to provide healthy water to the workers. Electric water coolers with filter system have been installed in the camp and site offices. The camp administration has been told to take care of water coolers. Drinking water arrangements for all working sites have been done by distributing water igloos.

The site workers are provided drinking water in water coolers through potable water tanker or from any nearby source

Sample: 1

Location: Main Camp

Date of Sampling: 28-04-2016

Date of Completion: 02-05-2016

Temperature: 20C⁰

Table-1 Nature of Sample: Drinking Water

Sr. No.	Parameter	Unit	Result	NEQS Limiting Values
1	pH	---	6.72	6.5-8.5
2	Taste	---	Ok	Non Objectionable
3	Odour	---	Ok	Non Objectionable

4	Turbidity	NTU	0	5
5	TSS	mg/l	BDL	---
6	TDS	mg/l	642	<1000
7	Sulfate	mg/l	92	250
8	Sodium	mg/l	64	200
9	Colour	TCU	0	15
10	Total Coli form	Number/100ml	0	0/100 ml
11	E-Coli	Number/100ml	0	0/100 ml
12	Chloride	mg/l	128	250
13	Nitrate (as NO ₃)	mg/l	4.2	≤ 50
14	Nitrate (as NO ₂)	mg/l	BDL	3
15	Fluoride	mg/l	0.21	1.5
16	Iron	mg/l	0.02	0.3
17	Ammonia	mg/l	0	1.5
18	Hydrogen Sulphide (H ₂ S)	mg/l	BDL	0.05
19	Lead	mg/l	BDL	0.10
20	Total Hardness as CaCO ₃	mg/l	275	500
21	Zinc	mg/l	0.31	3
22	Manganese	mg/l	BDL	0.1
23	Benzene	mg/l	BDL	10-120
24	Aluminum	mg/l	BDL	0.2
25	Molybdenum	mg/l	BDL	0.070
26	Chromium	mg/l	0.01	0.050
27	Cadmium	mg/l	BDL	0.003
28	Boron	mg/l	BDL	0.300
29	Barium	mg/l	BDL	0.700
30	Antimony	mg/l	BDL	0.005
31	Arsenic	mg/l	BDL	0.010
32	Cyanide	mg/l	BDL	0.070
33	Mercury	mg/l	BDL	0.001
34	Nickle	mg/l	BDL	0.020

World Health Organization (WHO)

National Environment Quality Standard (NEQS)

Comments:

As all the measured parameters physically, chemically and microbiologically are in compliance with the National Environmental Quality Standards (NEQS) values so water is fit for drinking.

5.3.3. Surface Water Monitoring

Sample: 2

Location: RD 28+000

Date of Sampling: 28-04-2016

Date of Completion: 02-05-2016

Temperature: 25C⁰

Table-2

Nature of Sample: Surface Water

Sr. No.	Parameter	Unit	Result	NEQS Limiting Values
1	pH	---	7.42	6-10
2	Chemical Oxygen Demand (COD)	mg/l	34	150
3	Biochemical Oxygen Demand (BOD ₅)	mg/l	20	80
4	Total Dissolved Solid (TDS)	mg/l	1438	3500
5	Total Suspended Solid (TSS)	mg/l	114	200
6	Oil & Grease	mg/l	BDL	BDL
7	Chromium (Hexa & Trivalent)	mg/l	0.36	0.02
8	Sulphate (SO ₄ ²⁻)	mg/l	282	600
9	Iron (Fe ²⁺)	mg/l	0.4	8
10	Chlorine (Cl ₂) Free	mg/l	BDL	1.0
11	Fluoride (F ⁻)	mg/l	1.6	20
12	Chloride	mg/l	346	1000
13	Ammonia (NH ₃)	mg/l	8.4	40
14	Cadmium	mg/l	BDL	0.1
15	Lead	mg/l	0.1	0.5
16	Arsenic	mg/l	0.08	1.0
17	Copper	mg/l	0.45	1.0
18	Barium	mg/l	BDL	1.5
19	Selenium	mg/l	BDL	0.5
20	Silver	mg/l	BDL	1.0
21	Pesticides	mg/l	BDL	0.15
22	Manganese	mg/l	BDL	1.5
23	Zinc	mg/l	0.72	5.0
24	Nickel	mg/l	0.03	1.0

25	Boron	mg/l	0.2	6.0
26	Mercury	mg/l	BDL	0.01
27	Total Toxic Metals	mg/l	0.54	2.0
28	Sulphide (S ⁻²)	mg/l	BDL	1.0
29	An Iron Detergent as MBAS	mg/l	BDL	20
30	Phenolic Compounds	mg/l	BDL	0.1
31	Cyanide	mg/l	BDL	2.0

5.3.4 Air Quality:

Air quality monitoring was carried out for the period of January – April 2016 of the project E-35. For this purpose CO, SO_x, NO_x, PM₁₀ & PM_{2.5} were measured on three Batching Plants on Expressway E-35 package-II from Jarikas to Sarai Saleh (RD 20+400 to RD 39+611). The results are given as under:

Table-3 Generators Air Quality Tests Results

Reference Point	SO _x (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)
Near Batching Plant RD 32+100	31.3	11.6	3.8	12.5	144
Near Batching Plant RD 28+000	32.4	12.4	3.6	13.8	132
Near Batching Plant RD 24+100	33.5	13.5	3.2	12.4	112
National Ambient Air Quality Standards (NAAQS)	120.0	80.0	10	15	150

Comments:

All tested parameters are in compliance with the National Environment Quality Standards some maintenance is required to minimize the hazards associated with these parameters.

5.3.5 Particulate Matter (PM₁₀)

The particulate matter (PM₁₀) monitoring has been done for the project in April 2016 at different locations. The following Bar Chart shows PM₁₀ monitoring results for the third quarter of the project.

PM₁₀ results are given in the following Bar Chart.

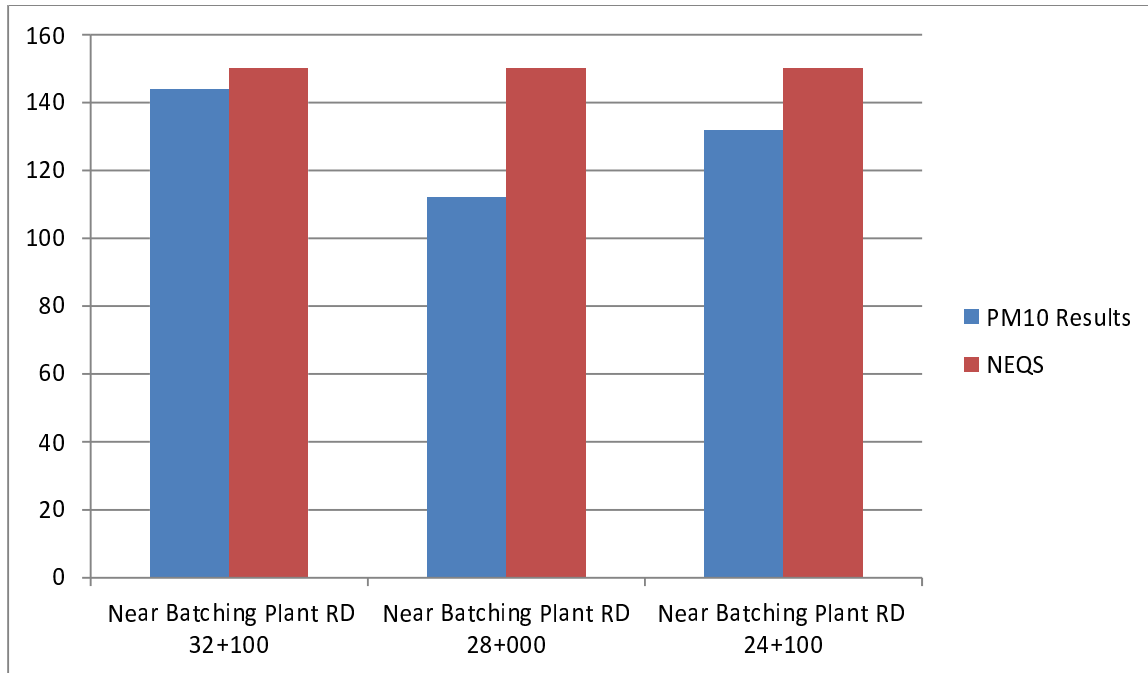
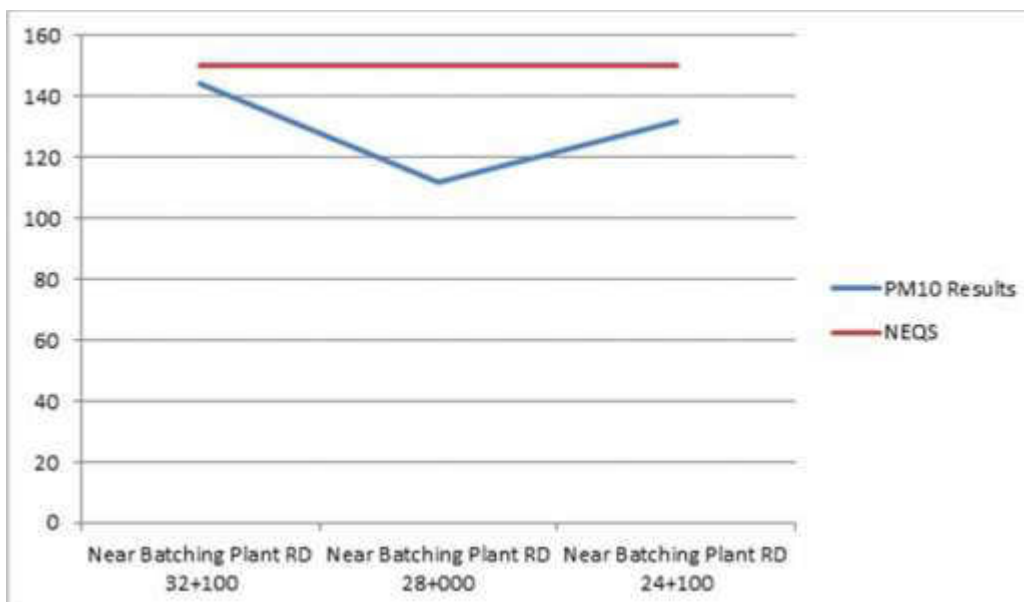


Fig-4 Graphically Chart it can be represented as follow



Comments:

The graphic chart shows that the particulate matter₁₀ was within limits during the months of January, February, March, and April 2016. That was reduced below the limits by increasing the frequency of sprinkling of water on the site.

Table-4 PM 10 Tests April 2016

S. No	Location	PM ₁₀	NEQS	Unit	Remarks	Mitigation measures
1	Near Batching Plants RD32+100	144	150	µg/m ³	Within limits	NR
2	Near Batching Plants RD28+000	132	150	µg/m ³	Within limits	NR
3	Near Batching Plants RD24+100	112	150	µg/m ³	Within limits	NR

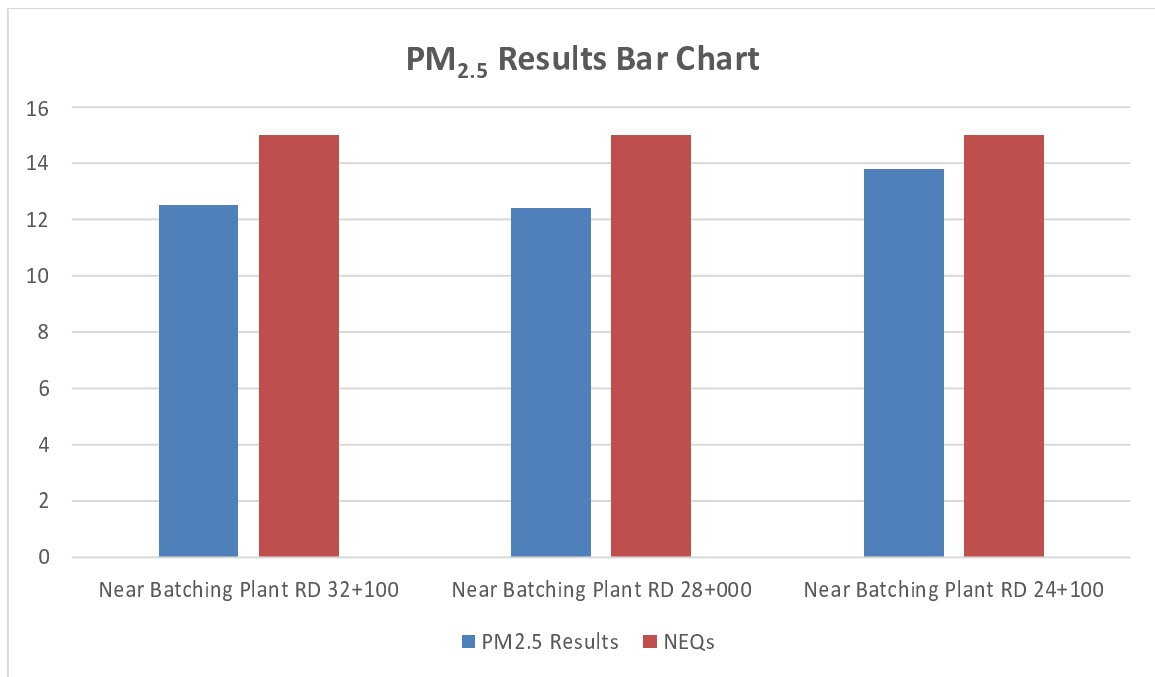
Instrument used:

High Volume sampler

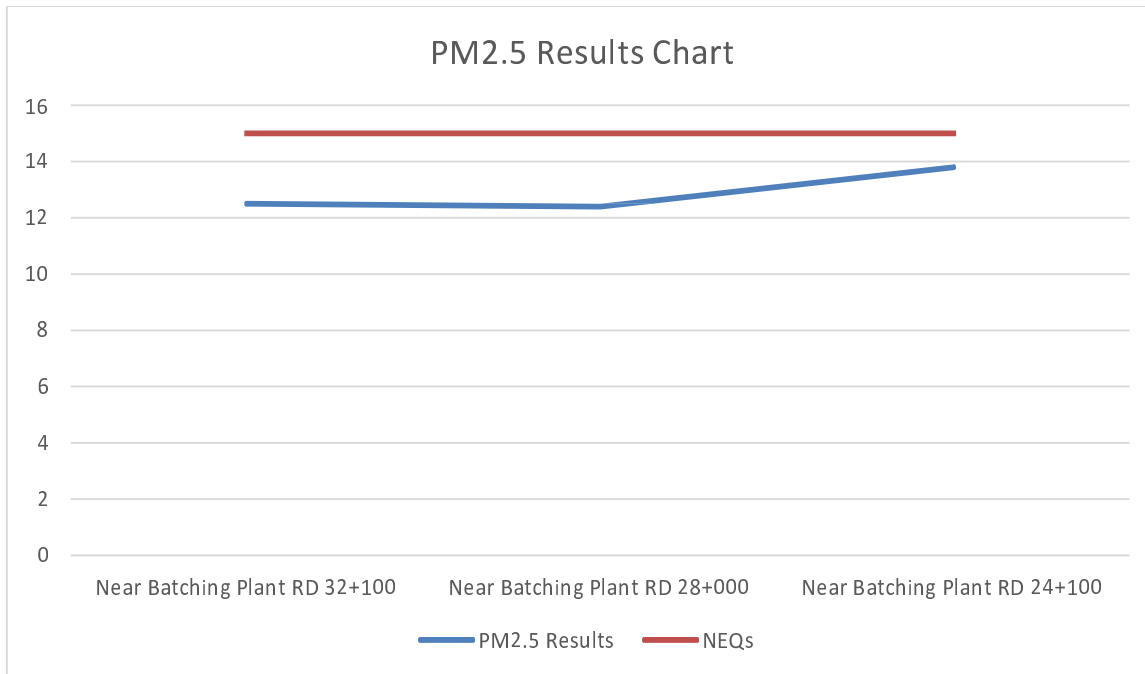
5.3.5. Particulate Matter (PM_{2.5})

The particulate matter (PM_{2.5}) monitoring has been done for the first time of the project at different locations in the month of April 2016. The following Bar Chart shows PM_{2.5} monitoring results of the project.

PM_{2.5} results are given in the following Bar Chart.



Graphically Chart it can be represented as follow



Comments:

The charts show that the particulate matter_{2.5} was within limits during the months of January, February, March, and April 2016. That was reduced below the limits by increasing the frequency of sprinkling of water on the site.

Activities:

RD 24+100: Concrete Batching plant area

RD 28+000: Concrete Batching plant area

RD 32+100: Concrete Batching plant area

Recommendations:

Sprinkling of water need to maintain for suppression of dust.

Wear dust mask where it is required.

5.4. Contractor’s Base Camp site at RD 28+200 on Package 2.

Waste water generated at all camp is properly disposed off. In main camp / site offices, all the toilet waste water is disposed off in septic tanks, then moves to soakage pits, as given in layout plan. When those will get full, a pump will be used to pump it out in the running drain used to irrigate the arable land.

All the solid waste generated in the camps is being collected using empty drums as collection bins. In main camp, site offices plants area, segregated waste bins have been placed to facilitate segregation while it is being disposed off at a distance of 4Km from camp where other municipal waste of local is also being dumped.

The staff/workers were given training on different required safety topics especially on BBS. Site foremen and supervisors were especially focused during TBT as they are the front line people and responsible to the work and work force. Tool Box Talks for various topics have been arranged for the period of January ~ April 2016 of the project, **Safety Talks / Tool Box Talks' topics are as under:**

- PPEs
- Crane lifting operation
- Chemical Handling
- Work Site Safety
- House Keeping
- POL Spillage
- Tools Handling
- Environmental Safety
- Manual Handling
- Excavation
- Heavy Equipments
- Steel Work
- Working at Height
- Behaviour Based Safety
- Cable Management
- Welding, Cutting & Grinding
- Safety & Security
- Heat Stress
- Flagman/Banksman
- Defensive Driving
- Concrete Work
- Fire Fighting

Contractor has constructed fuel storage site at base camp with capacity of about 29000 liters. Fire protection and impervious floor and protection walls are provided at this site. Three men are handling fuel storage area. Environmental Specialist and Contractor's Highway Engineer have played a good role in ensuring the SSEMP Compliance at Base Camp site such as establishment of workshop area, fuel storage site, provision of clear and cool drinking water, first aid facilities. Contractor has provided accommodation to 250 workers at base camp. Waste water is treated through Septic Tank and Soakage pit as per SSEMP requirement.

- Contractor has installed two electric water coolers at Base Camp site for Senior Staff and Labours. Both were checked and found operational.
- Contractor has a first aider/ nurse at camp site with first aid facility. 9 Fire Extinguishers are provided at camp site near kitchen, fuel storage area and store. Housekeeping is improved

than previous status at base camp. Kitchen and dining hall are now in good hygienic condition and housekeeping is fine now.

- Contractor has installed safety warning and education sign boards at base camp entrance and inside. Contractor's Project Manager Mr. Jehangir has promoted the implementation of SSEMP in full coordination of Mr. Tariq Qureshi Environmental Specialist and HSE Officer Mr. Waqar Khan. Contractor is further advised to fully support and facilitate Environmental and HSE Staff in implementation of SSEMP as advised by the Engineer.
- Water Quality of Base Camp is checked by Contractor in April 2016. All results were within permissible limit and complied with Standards (WHO Guidelines). Contractor is advised to use clean utensils for food and store them at safe place after feeding and take care of all labours.
- Solid waste is being collected and disposed off in Municipal Solid waste disposal sites. The waste water is being collected and treated by using septic tanks and soakage pits in the camp. Masjid (Muslims' worship building) & Mechanical workshop has been completed.
- Water quality test and noise levels will be checked again at base camp near labour accommodation. The environmental conditions of the project area remained satisfactory because contractor is trying to minimize the impacts of construction activities on the environment.
- Contractor has provided 4 cooks and 5 helpers at base camp for cooking and facilitation to labours and staff at base camp and office.
- The dust suppression is being done by sprinkling water on active working sites for embankment construction and other construction activities.

5.5. Concrete Batching Plants on Package 2 at RD 28+050

There are now three batching plants on Package 2. Work on establishment of batching plant at RD 32+100 is in progress. Contractor has submitted necessary documents for approval to the Engineer in November 2015. The Engineer has reviewed the submitted documents and found that still overall detailed layout plan of batching plant facility is missing. Contractor is advised for submission of this layout plan on priority for formal approval. Initially the Engineer has issued provisional approval to contractor. Batching Plant is erected and checked by contractor. Associated facilities are yet to be established. Concrete Batching Plant at RD 32+100 has 0.5 Cubic Meter per batch capacity.

5.5.1. Concrete Batching Plants on Package 2 at RD 28+050

Batching Plants were operational in reporting period for concrete of piles, box culverts and underpasses, girders, piles work etc. Personal Protective Equipments (PPEs) are provided to them and in use at site. Air quality and noise level were checked on 2nd July 2015 by Contractor in first round of instrumental monitoring of environmental parameters. Water source is water bore hole. Contractor has installed water pump and water retention tank and water tank is already constructed at both plants. Water quality test will be carried out in first week of April 2016.

5.5.1.1. Storage and Utilization of admixtures

An admixture material is stored in drums at camp site and batching plant site. Site of storage is checked for spills and safety purpose. Storage was satisfactory for the time being but for proper storage contractor will prepare a storage area for chemicals at batching plant site.

5.6. Occupational Health and Safety Measures on Package 2

The overall health and safety conditions of the project staff are improving as the contractor is paying more attention towards health & safety issues. Most of the site staff/workers are now aware of the safety precautions which are very important for them at work. Tool Box Talks have been arranged regarding Heavy lifting, PPEs, Chemical handling, Work Site Safety, House Keeping, POL Spillage, Tools Handling, Environment Safety, Manual Handling, Excavation, Heavy Equipments, Steel Work, Working At Height, BBS, Cable Management, Welding Cutting & Grinding, Heat Stress, Banksman (Banksman control safe movement of heavy equipment especially in backward movement, travelling narrow or congested areas, near structure, excavation etc), Defensive Driving, Concrete work and different methods to safeguard themselves from the extremity of weather. They have been trained about the hazards associated with their different activities at work places and how to avoid accidents. Provision of safe drinking water is being maintained for the workers at site. The workers have been trained, as if the hazards do not controlled by engineering or administrative controls than how to reduce injuries by using Personal Protective Equipment (PPE) according to the nature of the job and it is mandatory on the work site.

5.6.1. Personal Protective Equipment provision to workers and staff on package 2

Safety of all workers and staff on site is key responsibility of contractor as per contract clause 6.7. Personal Protective Equipment (PPEs) including helmets, high visibility jacket and safety shoes to labour at steel yard; workshop area and labour at main store and active construction site are provided by contractor but still some of labours have no safety shoes and gloves while they are working at box culverts and fixing steel and scaffolding. Deficiencies of PPEs is monitored and contractor is instructed to provide safety shoes and gloves to workers at steel fixing area of box culvert and all active construction sites.

5.7. Contractor's Workforce (Employment status)

TOTAL STAFF (Office)	186
TOTAL OPERATORS/DRIVERS	157
SKILLED LABOUR, LABOUR AND HELPERS	233
TOTAL WORKFORCE	576

5.8. Borrow Areas Management on Package 2

Contractor CGGC-AM (JV) has utilized total 11 borrow areas till to date. Contractor had submitted document of borrow area to the Engineer site Staff of Package 2. Quality test were performed by Contractor and found that material is suitable for our project. The Engineer has issued the approval on 2nd May 2015 for utilization but further it was advised by Engineer's Environmental Specialist that excavation will be not more than three feet. It was also advised that take No Objection Certificate from resource owner. Contractor has taken NOCs from land owners in reporting period. In reporting period contractor has received NOCs from max borrow areas as advised. Utilization of this borrow area is still in progress. Contractor has started utilization of other borrow areas along ROW at RD 27+588, 31+550, 31+500, 32+200, 27+280, 24+200, 23+600, and 30+900. Now as scope of work is increased with additional 2 lanes and project is now 6 lanes motorway therefore more material will be borrowed from borrow areas. Contractor may identify more borrow areas for to achieve the required target. It was advised to contractor to follow Specification 105.2.2, Contract clause 4.18, and EMP Stipulated. Engineer has already issued instruction for submission.

Contractor has submitted necessary documents for formal approval to the Engineer. Engineer's Environmental Specialist have checked the status of borrow area. Restoration will be most important part of utilization. Approval is yet not issued at final verification visit to borrow areas is required. Restoration of all these borrow areas will be carried by contractor as per instruction the Engineer.

Details of Borrow areas are as under

Borrow Pit No.	Location	Offset from R.O.W	Depth Exploitable (Ft)	* Estimated Quantity (m ³)
1	27+620	500m R/S	2	2,85,404
2	28+240	500m L/S	2	6,63,340
3	28+280	500m R/S	2	5,52,332
4	27+598	500m B/S	2	5,00,000
5	31+550	500m L/S	1.5	5,000
6	31+500	500m L/S	2	1,10,000
7	32+200	500m R/S	1	30,000
8	27+280	500m L/S	0.5	15,000
9	24+200	500m R/S	2	1,00,000
10	23+600	500m R/S	3	2,00,000
11	30+900	500m R/S	2.5	2,25,000

5.9. Traffic Management at Khanpur and Hattar Road on Package 2

Contractor has erected traffic sign boards of speed limit on RoW and at intersection areas. Diversion sign boards are displayed on Khanpur road with Red Barriers and flagmen are provided on busy areas such as Hattar Road and Khanpur road with red and green flags. Traffic Management Plan is submitted for review and approval. TMP is under implementation at moment.

Attachments

Annexure 1: Compliance Monitoring Checklists



Monthly Environmental Performance Monitoring Checklists

Date of Monitoring: _____

Package # _____

Time _____ Weather _____

Construction work activities in progress _____

Project Manager _____

Environmental Specialist _____

HSE Staff available _____

Dispenser (Clinic) _____

Availability of Site Specific EMP and EIA in office of PM and Environmental Specialist

Yes _____

Daily Tool Box Talk details/Record availability Yes No

How much/many labours are trained and aware about Environmental Safeguards in this month _____

Details of Tool Box Talks delivered in this month

Dates	No. of Participants	Venue	Topic

Regular Monitoring of Environmental Compliance



Personal Protective Equipments (PPEs)

How many labours and workers are observed in PPEs and what type of PPEs they have on work at site _____.

What type of improvement is required in next step on behalf of Contractor and Consultant

Construction Sites without PPEs provision _____

How many labours got mandatory PPEs and how record is maintained?

What are methodologies and policies for ensuring regular use of PPEs?

How much PPEs are purchased in this month for staff and labours?

First Aid Facilities details (Contractual Provision 6.7)

Dispensary on project site	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Details of Dispenser</u>
Dispenser (Nurse) at Clinic	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
First Aid Facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Ambulance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Record of First Aid provision and injuries

How many time dispensary is used by labours/Workers in this month? _____

What type of treatment or aid is provided to labours/staff _____



Monthly Environmental Performance Monitoring Checklists

In how many sites, labours are working at height (more than 10feet) and what are protection and safety measures _____.

S.No	Names	Designation /Employment Number	Construction Activities	Helm	Safety	High Visibility	Googles
1.							
2.							
3.							
4.							
5.							
6.							

Environmental Trainings till date delivered by contractor on site _____.

Details of Environmental Trainings

Training Dates	Venue	Participants	Details
Recommendation			

Regular Monitoring of Environmental Compliance



Workshop Area Management

How many workers/Mechanics are working at workshop? _____

Is Tool Box Talks about operation of workshop delivered to them? _____

Is there any Oil Spills out side of workshop area? _____

How many workshop oil trays are provided at workshop? _____

How many vehicles/machines are maintained in workshop? _____

How many fire extinguishers are provided at workshop? _____

What is arrangement of storage of waste or used lubricants? _____

Is impervious floor/platform provided at workshop? _____

How much PPEs are provided to labours and mechanics at workshop? _____

Fuel Storage Area at Base Camp

Fuel Storage area is well away from kitchen_____and there is_____water course in 50 m distance.

How fuel is stored?_____. How much fuel is stored this month?_____liters.

Fuel storage area is marked and fenced as per requirement of SSEMP? _____

What fire control measures are arranged_____.

Area of fuel storage area is provided with impervious floor/platform_____.

Is record maintained by fuel incharge_____.



Monthly Environmental Performance Monitoring Checklists

Is ventilation provided at living rooms? _____

What is size of rooms at camp site (length × Width × Height) _____
_____.

How many solid waste drums and waste bins are placed at camp site? _____.

Is Drinking water tested by Contractor as per SSEMP? _____
_____.

How many toilets and washrooms are provided for labour at camp?
_____.

Are fire extinguishers provided at camp site at kitchen? _____.

How many cooks and helpers are working at camp site?
_____.

What are arrangements for flies' control? (Control Spray) _____
_____.

Is Contractor provided dining hall for workers at camp? _____

What is arrangement for sitting at dining hall and what are arrangements of water supply for labours _____
_____.

Recommendations

Environmental Specialist of Contractor Environmental Specialist of Consultant

Regular Monitoring of Environmental Compliance



MONITORING CHECKLIST FOR BORROW AREAS
CONSTRUCTION OF HASSANABDAL – HAVELIAN SECTION OF E-35 (PACKAGE 2)

Date of Monitoring April 26, 2016 Time of Monitoring 15:00 hrs

Temperature 29°C

Weather Status SUNNY (Clear, Sunny, Cloudy, Raining, Wind etc.)

Borrow Area Supervisor and Incharge (Name) Mr. Inqan, Mr. Abdullah

Location of Monitoring _____ (RD)

How many borrow areas are utilized by Contractor? 24+800 R/S, 29+740, 31+550, 23+100 ^{L/S}

What are Location along ROW (1) 24+800 R/S 490m (2) 29+740 L/S 800m

(3) 23+100 R/S 550m (4) 31+550 L/S 700m (5) 32+700 L/S 560m

Did Contractor submitted approval document and got approval from Engineer? _____

Approved Borrow Areas (No) _____

Are the borrow areas complied with SSEMP requirements Yes and not with
500m from ROW. _____ If any borrow area is falling within 500 m then what

mitigation measures are recommended by Engineer? N/A


SSEMP Requirements

- Area approved by Engineer Yes
- Restoration is accepted by Contractor Yes
- Is borrow area agricultural land? Mostly Not If yes then what is status of top
30cm fertile layer preservation 30cm preserved where it is required
- Is lease agreement is signed and attached with approval letter by Contractor Yes
- How much material is borrowed by Contractor from borrow areas (1) _____

Attached in Monthly EMR

Weekly Environmental Monitoring Checklist for Contractor

Monthly Environmental Performance Monitoring Checklists



DOHWA Engineering in Association
With EMS & PETC

CONTRACTOR
CGGC
CHINESE
ENERGY GROUP
CGGC-AM (JV)

(2) _____ (3) _____ (4) _____

- What type of materials is borrowed by Contractor for RoW? Gravel, Mix Soil
- Is any tree cutting required or already carried by Contractor? Yes
- Is borrowing area on plan area? No

What is final and current status of borrow areas on package **11**

- 1) Restoration of borrow areas must be done. 24+900 R/L
- 2) Some borrow areas' restoration have been completed 32+100 L/S
- 3) Some borrow areas' restoration is in progress. 25+500 L/S
- 4) _____ 33+020 L/S
- 5) _____ 27+000 L/S

_____ 21+200 L/S

Suggestions by Contractor's Environmental Specialist:
(not in use)
Restoration of borrow areas must be done asap.

Final Recommendations by Engineer's Representative

Signature _____
Contractor's Environmental Specialist
Date of Monitoring 26/4/2016

Signature _____
Engineer's Environmental Specialist

Weekly Environmental Monitoring Checklist for Contractor

Regular Monitoring of Environmental Compliance

**MONITORING CHECKLIST FOR CONSTRUCTION OF BOX CULVERT
CONSTRUCTION OF HASSANABDAL – HAVELIAN SECTION OF E-35 (PACKAGE 2)**

Date of Monitoring: April 29, 2016 Time of Monitoring: 1100hrs

Temperature: 29°C

Weather Status: SUNNY (Clear, Sunny, Cloudy, Raining, Wind etc.)

Construction Manager (Name): Mr. Zahid

Construction Supervisor: Mr. Majid

HSE Supervisor at site: Mr. Waqar Khan

Engineer's Representative: _____


Working Hours (expected): 0700hrs to 1700hrs.

Method Statement of Box Culvert regarding safety and Environment: Available.

SSEMP Parameters/Compliance Status	Yes	No	SSEMP Parameters/Compliance Status	Comments
Is Site Supervisor available at site?	✓		Do they have drawing of Box Culvert?	Yes
Is excavation done as per requirement of drawing?	✓		What is location RD of Box Culvert?	RD 24+888
Personal Protective Equipment are provided at site to all labours?	✓		How many labours have Personal Protective Equipment (PPEs)?	
What type of PPEs is provided at site by Contractor?	Job Specific		Is there any risk/problem for workers due to use of PPEs?	Fat heat stress
Are sufficient light provided for night time work?	✓		How many labours are working at site?	
Are first aid facilities provided at construction site and do workers have emergency contact number?	✓		Smoking is prohibited at site. Anybody noted at site during work on smoking?	No
Is Drinking water provided at site?	✓		What is arrangement of toilets for labours?	

Daily/Weekly Environmental Monitoring Checklist for Contractor

Monthly Environmental Performance Monitoring Checklists



DOHWA
DOHWA Engineering in Association
With EMS & PETC

CONTRACTOR
CGGC
CGGC-AM (JV)

Is anybody is not complied with Labour Law and Child Labour?	✓	Did the contractor sprinkle water at site for dust suppression?	Yes
Is there any need of fire extinguishers at site?	✓	Did the working site is fenced with reflecting tape?	Yes
Is Contractor displayed information and warning sign board at active construction site?	✓	How many fire extinguishers are provided at camp site?	09
Is there any oil spills at site?	✓	Are all vehicles working properly at site? Is any vehicle out of order?	Yes
Are all labours are physically fit for work at site?	✓	Is there any hazard at active site due to which work progress can be affected?	Some has
Are labours educated about safety measures at site by Contractor's Environmental Specialist or HSE Supervisor?		Yes	
Is Initial Orientation and TBT carried by Contractor at site?		Yes	
Recommendations by Engineer:			

Signature _____
Contractor's Environmental Specialist
Date of Monitoring April 29, 2016

Signature _____
Engineer's Environmental Specialist

Daily/Weekly Environmental Monitoring Checklist for Contractor

Regular Monitoring of Environmental Compliance

**MONITORING CHECKLIST FOR CAMP SITE MANAGEMENT
CONSTRUCTION OF HASSANABDAL – HAVELIAN SECTION OF E-35 (PACKAGE 2)**

Date of Monitoring April 27, 2016 Time of Monitoring 0845hrs

Temperature 28°C

Weather Status Sunny (Clear, Sunny, Cloudy, Raining, Wind etc.)

Camp site Main Incharge (Name) Ghazi Asad

Camp Sub Manager Mr. Khawar

HSE Supervisor at Camp Mr. Nagesh Khan

Working Hours 0730hrs to 1700hrs

SSEMP Parameters/Compliance Status	Yes	No	SSEMP Parameters/Compliance Status	Comments
Is Camp site approved by Engineer?	✓		What type of approval is issued by Engineer?	Letter
Are rooms available at camp site sufficient for labour?	✓		Is camp site location as per SSEMP?	Yes
Is ventilation provided at living rooms?	✓		What is size of rooms at camp site (length x Width x Height)	20' x 20' x 10'
Are sufficient light provided in each room?	✓		How many labours are residing in each room?	Mostly 10
are first aid facilities provided at camp site	✓		How many solid waste drums and waste bins are placed at camp site?	09
Is Drinking water tested by Contractor as per SSEMP?	✓		What type of fuel is in use for cooking at camp?	LPG
Septic Tank and Soakage pits construction	✓		How many toilets and washrooms are provided for labour at camp?	18 toilets 10 Bath room
Are fire extinguishers provided at camp site at kitchen?	✓		How many labours are living in camp?	224
Is camp site fenced by Contractor?	✓		How many fire extinguishers are provided at camp site?	09

Weekly Environmental Monitoring Checklist for Contractor

Monthly Environmental Performance Monitoring Checklists

DOHWA
DOHWA Engineering In Association
With EMS & PFTC

CONTRACTOR

CGGC-AM (JV)

Is Contractor provided dining hall for workers at camp?	✓	How much solid waste is generated in month of April 2016 and what Contractor did with?	
Is Contractor displayed information sign board for camp site?	✓	What are arrangements for flies' control? (Control Spray)	Pest Control Spray
Is there any arrangements for laundry at camp site	✓	Is Facing of camp site done by Contractor?	Yes
Kitchen and dining Hall is well away from Toilets and Fuels storage site?	✓	How many cooks and helpers are working at camp site and is medical certificate submitted by Contractor?	12 Cooks 13 helpers.
Are all rooms are well furnished as per Contract Clause 6.6 (wall, floor, roof, door, windows and heating and cooling facilities)	Yes		
Stullest water is provided for washing and bathing at camp site for labours?	✓	Are walkways are constructed at camp site?	Yes
Is Fuel stored at camp site? If Yes then what measures are followed by Contractor regarding protection of environment, health and safety purpose?	✓	Impervious floor	
		• Fuel Storage on impervious floor	Yes
		• Fuel Storage site is fenced	Yes
		• How much fuel can stored at site	30000 (Liters)
		• Fuel is stored in tanks	Yes
		• Warning signs for safety and no smoking	✓

Signature _____
Contractor's Environmental Specialist

Date of Monitoring April 27, 2016

Signature _____
Engineer's Environmental Specialist

Weekly Environmental Monitoring Checklist for Contractor

**MONITORING CHECKLIST FOR CONSTRUCTION OF BOX CULVERT
 CONSTRUCTION OF HASSANABDAL – HAVELIAN SECTION OF E-35 (PACKAGE 2)**

Date of Monitoring March 27, 2016 Time of Monitoring 0900hrs
 Temperature 20°C
 Weather Status Clear (Clear, Sunny, Cloudy, Raining, Wind etc.)
 Construction Manager (Name) Mr. Zayid
 Construction Supervisor: Mr. Majid
 HSE Supervisor at site Mr. Waqar Khan
 Engineer's Representative _____
 Working Hours (expected) 0800hrs to 1800hrs
 Method Statement of Box Culvert regarding safety and Environment: Available

SSEMP Parameters/Compliance Status	Yes	No	SSEMP Parameters/Compliance Status	Comments
Is Site Supervisor available at site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Do they have drawing of Box Culvert?	<input checked="" type="checkbox"/>
Is excavation done as per requirement of drawing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	What is location RD of Box Culvert?	37+650
Personal Protective Equipment are provided at site to all labours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many labours have Personal Protective Equipment (PPEs)?	Mostly
What type of PPEs is provided at site by Contractor?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there any risk/problem for workers due to use of PPEs?	No
Are sufficient light provided for night time work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many labours are working at site?	08+10=18
Are first aid facilities provided at construction site and do workers have emergency contact number?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Smoking is prohibited at site. Anybody noted at site during work on smoking?	No
Is Drinking water provided at site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	What is arrangement of toilets for labours?	No Permanent at Camp

Daily/Weekly Environmental Monitoring Checklist for Contractor



Monthly Environmental Performance Monitoring Checklists



Is anybody is not complied with Labour Law and Child Labour?	<input checked="" type="checkbox"/>	Did the contractor sprinkle water at site for dust suppression?	Yes
Is there any need of fire extinguishers at site?	<input checked="" type="checkbox"/>	Did the working site is fenced with reflecting tape?	Yes
Is Contractor displayed information and warning sign board at active construction site?	<input checked="" type="checkbox"/>	How many fire extinguishers are provided at camp site?	09
Is there any oil spills at site?	<input checked="" type="checkbox"/>	Are all vehicles working properly at site? Is any vehicle out of order?	Yes
Are all labours are physically fit for work at site?	<input checked="" type="checkbox"/>	Is there any hazard at active site due to which work progress can be affected?	Yes Some how!
Are labours educated about safety measures at site by Contractor's Environmental Specialist or HSE Supervisor?	Yes		
Is Initial Orientation and TBT carried by Contractor at site?	Yes		
Recommendations by Engineer:			

Signature *Fahim*
 Contractor's Environmental Specialist
 Date of Monitoring March 27, 2016

Signature _____
 Engineer's Environmental Specialist

Daily/Weekly Environmental Monitoring Checklist for Contractor.

**MONITORING CHECKLIST FOR CAMP SITE MANAGEMENT
CONSTRUCTION OF HASSANABDAL – HAVELIAN SECTION OF E-35 (PACKAGE 2)**

Date of Monitoring March 15, 2016 Time of Monitoring 0935hrs
 Temperature 21°C
 Weather Status Clean (Clear, Sunny, Cloudy, Raining, Wind etc.).
 Camp site Main Incharge (Name) Mr. Qazi Asad
 Camp Sub Manager M. Younes Khan
 HSE Supervisor at Camp Mr. Waqar Khan
 Working Hours 08hrs to 12:00hrs

SSEMP Parameters/Compliance Status	Yes	No	SSEMP Parameters/Compliance Status	Comments
Is Camp site approved by Engineer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	What type of approval is issued by Engineer?	In writing
Are rooms available at camp site sufficient for labour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is camp site location as per SSEMP?	Yes
Is ventilation provided at living rooms?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	What is size of rooms at camp site (length x Width x Height)	20' x 20'
Are stuffiest light provided in each room?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many labours are residing in each room?	Mostly 10
are first aid facilities provided at camp site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many solid waste drums and waste bins are placed at camp site?	09
Is Drinking water tested by Contractor as per SSEMP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	What type of fuel is in use for cooking at camp?	LPG
Septic Tank and Soakage pits construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many toilets and washrooms are provided for labour at camp?	13 Toilets 10 Bathrooms
Are fire extinguishers provided at camp site at kitchen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many labours are living in camp?	230
Is camp site fenced by Contractor?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	How many fire extinguishers are provided at camp site?	09

Weekly Environmental Monitoring Checklist for Contractor

Monthly Environmental Performance Monitoring Checklists



Is Contractor provided dining hall for workers at camp?	<input checked="" type="checkbox"/>	How much solid waste is generated in month of <u>March</u> 2016 and what Contractor did with?	
Is Contractor displayed information sign board for camp site?	<input checked="" type="checkbox"/>	What are arrangements for files' control? (Control Spray)	<u>Central Spray</u>
Is there any arrangements for laundry at camp site?	<input checked="" type="checkbox"/>	Is Facing of camp site done by Contractor?	<input checked="" type="checkbox"/>
Kitchen and dining Hall is well away from Toilets and Fuels storage site?	<input checked="" type="checkbox"/>	How many cooks and helpers are working at camp site and is medical certificate submitted by Contractor?	<u>07 Cooks</u> <u>10 helpers</u>
Are all rooms are well furnished as per Contract Clause 6.6 (wall, floor, roof, door, windows and heating and cooling facilities)	<u>Yes</u>		
Stuffed water is provided for washing and bathing at camp site for labours?	<input checked="" type="checkbox"/>	Are walkways are constructed at camp site?	<u>Yes</u>
Is Fuel stored at camp site? If Yes then what measures are followed by Contractor regarding protection of environment, health and safety purpose?	<ul style="list-style-type: none"> Fuel Storage on impervious floor <u>Yes</u> Fuel Storage site is fenced <u>OK</u> How much fuel can stored at site <u>30000</u> (Liters) Fuel is stored in tanks <u>Yes</u> Warning signs for safety and no smoking <u>Yes</u> 		

Signature Fan [Signature]

Contractor's Environmental Specialist

Date of Monitoring March 15, 2016

Signature _____

Engineer's Environmental Specialist

Weekly Environmental Monitoring Checklist for Contractor

**MONITORING CHECKLIST FOR BORROW AREAS
CONSTRUCTION OF HASSANABDAL – HAVELIAN SECTION OF E-35 (PACKAGE 2)**

Date of Monitoring March 13, 2016 Time of Monitoring 11:35 hrs

Temperature 22°C

Weather Status Clear (Clear, Sunny, Cloudy, Raining, Wind etc.)

Borrow Area Supervisor and Incharge (Name) Mr. Inchan, Mr. Abdullah

Location of Monitoring 24+200, 23+600, 31+550, 32+200, 30+800

How many borrow areas are utilized by Contractor? 06

What are Location along ROW (1) 545m (2) 585m

(3) 700m (4) 575m (5) 500m

Did Contractor submitted approval document and got approval from Engineer? Yes

Approved Borrow Areas (No) 06

Are the borrow areas complied with SSEMP requirements Yes and not with

500m from ROW. Yes. If any borrow area is falling within 500 m then what

mitigation measures are recommended by Engineer? Nil

SSEMP Requirements

• Area approved by Engineer Yes

• Restoration is accepted by Contractor Yes

• Is borrow area agricultural land? Mostly Not If yes then what is status of top
30cm fertile layer preservation where required

• Is lease agreement is signed and attached with approval letter by Contractor Yes

• How much material is borrowed by Contractor from borrow areas (1) _____

Attached in monthly EMR

Weekly Environmental Monitoring Checklist for Contractor



Monthly Environmental Performance Monitoring Checklists



(2) _____ (3) _____ (4) _____

• What type of materials is borrowed by Contractor for RoW? Gravel

Mixed Soil

• Is any tree cutting required or already carried by Contractor? Yes

• Is borrowing area on plan area? No

What is final and current status of borrow areas on package 1

1) Some borrow area restoration is required

2) _____

3) _____

4) _____

5) _____

Suggestions by Contractor's Environmental Specialist:

Restoration must be done as per the proper procedure.

Final Recommendations by Engineer's Representative

Signature [Signature]

Contractor's Environmental Specialist

Date of Monitoring March 13, 2016

Signature _____

Engineer's Environmental Specialist

Weekly Environmental Monitoring Checklist for Contractor

Regular Monitoring of Environmental Compliance



Annexure 2 Instrumental Monitoring of Environmental Parameters

Instrumental Monitoring on Package -2



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC-AM Associates JV
Monitoring Point: Near Receptors RD 24+100
Time Duration of Monitoring: 1 Hour
Site Location: E-35 Project Package II Khanpur Road Chachian soka Rappur Haripur
Monitoring Date: 28-04-2016
Reporting Date: 02-05-2016
Monitoring By: SEAL
Reference No.: SEAL/CGGC-AM/16/03 AA

Results:

Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	($\mu\text{g}/\text{m}^3$)	112	150	All values found in compliance with NEQS
2	PM _{2.5}	($\mu\text{g}/\text{m}^3$)	12.4	15	
3	CO	(mg/m^3)	3.2	10	
4	NO _x	($\mu\text{g}/\text{m}^3$)	13.5	80	
5	SO _x	($\mu\text{g}/\text{m}^3$)	33.5	120	

NEQS: National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: *for Asif Rana*

Chief Chemist with Seal: SHABNAM SHAHZAD
Chief Chemist

Signature of Chief Chemist: *for Shabnam Shahzad*

Date: 02-05-2016



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC-AM Associates JV **Site Location:** E-35 Project Package II Khanpur Road Chachian soka Rajpur Haripur
Monitoring Point: Near Batching Plant RD 32+100 **Monitoring Date:** 28-04-2016
Time Duration of Monitoring: 1 Hour **Reporting Date:** 02-05-2016
Monitoring By: SEAL **Reference No.:** SEAL/CGGC-AM/16/02 AA

Results:

Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	($\mu\text{g}/\text{m}^3$)	144	150	All values found in compliance with NEQS
2	PM _{2.5}	($\mu\text{g}/\text{m}^3$)	12.5	15	
3	CO	(mg/m^3)	3.8	10	
4	NO _x	($\mu\text{g}/\text{m}^3$)	11.6	80	
5	SO _x	($\mu\text{g}/\text{m}^3$)	31.3	120	

NEQS: National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: *for Asif Rana*

Chief Chemist with Seal: **SHABNAM SHANZAD**
Chief Chemist

Signature of Chief Chemist: *for Shabnam Shanzad*

Date: 02-05-2016



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - fsors@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahr-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk





SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC-AM Associates JV **Site Location:** E-35 Project Package II Khanpur Road Chachian soka Rappur Harripur
Monitoring Point: Near Batching Plant RD 28+000 **Monitoring Date:** 28-04-2016
Time Duration of Monitoring: 1 Hour **Reporting Date:** 02-05-2016
Monitoring By: SEAL **Monitoring By:** SEAL
Reference No.: SEAL/CGGC-AM/16/01 AA

Results:

Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	($\mu\text{g}/\text{m}^3$)	132	150	All values found in compliance with NEQS
2	PM _{2.5}	($\mu\text{g}/\text{m}^3$)	13.8	15	
3	CO	(mg/m^3)	3.6	10	
4	NO _x	($\mu\text{g}/\text{m}^3$)	12.4	80	
5	SO _x	($\mu\text{g}/\text{m}^3$)	32.4	120	

NEQS: National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: *M. Asif Rana*

Chief Chemist with Seal: SHABNAM SHANZAD

Signature of Chief Chemist: *Shabnam Shanzad*

Date: 02-05-2016



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35822295-96, Fax : +92-42-35822296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

DRINKING WATER ANALYSIS REPORT

Client Name: CGGC-AM Associates JV
Address: E-35 Project Package II Khanpur Road Chachian Soka Rajpur Harripur
Sampling Point: Main Camp 28+000 (Filtration Plant)
Nature of Sample: Drinking Water
Sampling Date: 28-04-2016
Completion Date: 02-05-2016
Sampling By: SEAL-Lahore
Reference No.: SEAL/CGGC-AM/16/001 DW

Sr. No.	Parameter	Unit	Result	WHO Guideline
1	Temperature	°C	20.0	---
2	pH	---	6.72	6.5-8.5
3	Total Dissolved Solids (TDS)	mg/l	642	1000
4	Total Suspended Solids (TSS)	mg/l	BDL	---
5	Chloride	mg/l	128	250
6	Fluoride	mg/l	0.21	1.5
7	Taste	Object./unobj.	Unobject.	Unobject.
8	Odour	Object./unobj.	Unobject.	Unobject.
9	Colour	TCU	0	15
10	Iron	mg/l	0.02	0.3
11	Sodium	mg/l	64	200
12	Nitrate (as NO ₃ ⁻)	mg/l	4.2	50
13	Nitrite (as NO ₂ ⁻)	mg/l	BDL	3
14	Ammonia	mg/l	0	1.5
15	Hydrogen Sulphide (H ₂ S)	mg/l	BDL	0.05
16	Sulphate	mg/l	92	250
17	Lead	mg/l	BDL	0.10
18	Total Hardness as CaCO ₃	mg/l	275	500
19	Turbidity	NTU	0	5
20	Zinc	mg/l	0.31	3
21	Manganese	mg/l	BDL	0.1
22	Benzene	mg/l	BDL	10-120
23	Aluminum	mg/l	BDL	0.2
24	Molybdenum	mg/l	BDL	0.070

Page 1 of 2



HEAD OFFICE:

PLOT # 12, WATER AVENUE, GREEN VIEW SOCIETY, OFF KACHA JAIL ROAD, KOT LAKHPAT,
LAHORE, PAKISTAN. PHONES: +92-42-35922295-96, FAX: +92-42-35922298
EMAIL: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

OFFICE NO. M-07 IN FORT SULTAN OPP. AIR PORT TELEPHONE EXCHANGE
SHAHRAH-E-FAISAL, KARACHI - PAKISTAN. PHONE: 92-213-2014331
FAX: 92-213-2014331 EMAIL: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY


Client Name: CGGC-AM Associates JV
Address: E-35 Project Package II Khanpur Road Chachian Soka Rajpur Haripur
Sampling Point: Main Camp 28+000 (Filtration Plant)
Nature of Sample: Drinking Water
Sampling Date: 28-04-2016
Completion Date: 02-05-2016
Sampling By: SEAL-Lahore
Reference No.: SEAL/CGGC-AM/16/001 DW


Sr. No.	Parameter	Unit	Result	WHO Guideline
25	Chromium	mg/l	0.01	0.050
26	Cadmium	mg/l	BDL	0.003
27	Boron	mg/l	BDL	0.300
28	Barium	mg/l	BDL	0.700
29	Antimony	mg/l	BDL	0.005
30	Arsenic	mg/l	BDL	0.010
31	Cyanide	mg/l	BDL	0.070
32	Mercury	mg/l	BDL	0.001
33	Nickel	mg/l	BDL	0.020
34	Total Coliform	Number/100ml	0	0/100 ml
35	E.Coli	Number/100ml	0	0/100 ml

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiation.

Sample Analyzed By: Awais Shafique

Signature of analyst: 

Chief Chemist with Seal: 

SHABNAM SHAHZAD

Chief Chemist

Signature of Chief Chemist: 

Date: 02-05-2016

Page 2 of 2



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-98, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

NOISE LEVEL MONITORING REPORT

Project Title: CGGC-AM Associates JV
Site Location: E-35 Project Package II Khanpur Road Chachian soka Rajpur Harripur
Monitoring Date: 28-04-2016
Instrument Used: Digital Sound Level Meter TM-102
Reporting Date: 02-05-2016
Time of Monitoring: 09:00 am – 01:00 pm
Monitoring By: SEAL
Reference No: SEAL/CGGC-AM/16/001 NM
Results:-

Sr. No.	Monitoring point	Min. Noise Level (dB A)	Max. Noise Level (dB A)	Avg. Noise Levels (dB A)	Remarks
1	Near Batching Plant RD 28+000	72.4	75.6	74.0	All noise levels are found in compliance with permissible Limit (85 d BA) Although recommended measures as described in EIA may be taken if levels exceed permissible Limits.
2	Near Generator RD 28+000	84.2	85.9	85.1	
3	Near Residence RD 32+100	65.4	68.6	67.0	
4	Near Generator RD 32+100	78.4	81.9	80.2	
5	Near Batching Plant RD 32+100	72.6	76.2	74.4	
6	Near Receptors RD 24+100	62.4	67.6	65.0	

NEQS: National Environmental Quality Standards

NGVS: No Guideline Value Set



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk





SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Project Title: CGGC-AM Associates JV
Monitoring Date: 28-04-2016
Reporting Date: 02-05-2016
Monitoring By: SEAL
Results:-

Site Location: E-35 Project Package II Khanpur Road Chachian soka Rajpur Harripur
Instrument Used: Digital Sound Level Meter TM-102
Time of Monitoring: 09:00 am – 01:00 pm
Reference No: SEAL/CGGC-AM/16/001 NM

Note:

- Selected measurement units were dB A otherwise stated
- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: *for Asif*

Chief Chemist with Seal: **SHABNAM SHAHZAD**

Signature of Chief Chemist: *for*

Date: 02-05-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brah.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

SURFACE WATER ANALYSIS REPORT

Client Name: CGGC-AM Associates JV
Address: E-35 Project Package II Khanpur Road Chachian Soka Rajpur Harripur
Sampling Point: Near Main Camp RD 28+000
Nature of Sample: Surface Water
Sampling Date: 28-04-2016
Completion Date: 02-05-2016
Sampling By: SEAL-Lahore
Reference No.: SEAL/CGGC-AM/16/001 SW

Results:

Sr. No.	Parameters	Unit	Result	Remarks
1	Temperature	°C	25	There is no specific guideline or laws for Surface water analysis.
2	pH	---	7.42	
3	Chemical Oxygen Demand (COD)	mg/l	34	
4	Biochemical Oxygen Demand (BOD ₅)	mg/l	20	
5	Total Dissolved Solids (TDS)	mg/l	1438	
6	Total Suspended Solids (TSS)	mg/l	114	
7	Oil & Grease	mg/l	BDL	
8	Chromium (Hexa & Trivalent)	mg/l	0.36	
9	Sulphate (SO ₄ ²⁻)	mg/l	282	
10	Iron (Fe ²⁺)	mg/l	0.4	
11	Chlorine (Cl ₂) Free	mg/l	BDL	
12	Fluoride (F)	mg/l	1.6	
13	Chloride	mg/l	346	
14	Ammonia (NH ₃)	mg/l	8.4	
15	Cadmium	mg/l	BDL	
16	Lead	mg/l	0.1	
17	Arsenic	mg/l	0.08	
18	Copper	mg/l	0.45	
19	Barium	mg/l	BDL	
20	Selenium	mg/l	BDL	
21	Silver	mg/l	BDL	
22	Pesticides	mg/l	BDL	
23	Manganese	mg/l	BDL	



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - lsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahr-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY


Client Name: CGGC-AM Associates JV
Address: E-35 Project Package II Khanpur Road Chachian Soka Rajpur Haripur
Sampling Point: Near Main Camp RD 28+000
Nature of Sample: Surface Water
Sampling Date: 28-04-2016
Completion Date: 02-05-2016
Sampling By: SEAL-Lahore
Reference No.: SEAL/CGGC-AM/16/001 SW

Sr. No.	Parameters	Unit	Result	
24	Zinc	mg/l	0.72	There is no specific guideline or laws for Surface water analysis.
25	Nickel	mg/l	0.03	
26	Boron	mg/l	0.2	
27	Mercury	mg/l	BDL	
28	Total Toxic Metals	mg/l	0.54	
29	Sulphide (S ²⁻)	mg/l	BDL	
30	An Ionic Detergent as MBAS	mg/l	BDL	
31	Phenolic Compounds	mg/l	BDL	
32	Cyanide	mg/l	BDL	

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for court.

Sample Analyzed By: Awais Shafique

Signature of analyst: 

Chief Chemist with Seal: 

Signature of Chief Chemist: 

Date: 02-05-2016

Page 2 of 2



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsosns@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sullan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

WASTEWATER ANALYSIS REPORT

Client Name: CGGC-AM Associates JV
Address: E-35 Project Package II Khanpur Road Chachian Soka Rajpur Harripur
Sampling Point: Main Camp RD 28+000
Nature of Sample: Wastewater
Sampling Date: 28-04-2016
Completion Date: 02-05-2016
Sampling By: SEAL-Lahore
Reference No.: SEAL/CGGC-AM/16/001 WW

Sr. No.	Parameters	Unit	Result	NEQS
1	Temperature	^o C	27	40
2	pH	---	7.62	6-9
3	Chemical Oxygen Demand (COD)	mg/l	82	150
4	Biochemical Oxygen Demand (BOD ₅)	mg/l	46	80
5	Total Dissolved Solids (TDS)	mg/l	1624	3500
6	Total Suspended Solids (TSS)	mg/l	124	200
7	Oil & Grease	mg/l	BDL	10
8	Chromium (Hexa & Trivalent)	mg/l	0.39	1.0
9	Sulphate (SO ₄ ²⁻)	mg/l	318	600
10	Iron (Fe ²⁺)	mg/l	0.32	8
11	Chlorine (Cl ₂) Free	mg/l	BDL	1.0
12	Fluoride (F ⁻)	mg/l	2.4	20
13	Chloride	mg/l	382	1000
14	Ammonia (NH ₃)	mg/l	14.2	40
15	Cadmium	mg/l	BDL	0.1
16	Lead	mg/l	0.12	0.5
17	Arsenic	mg/l	0.06	1.0
18	Copper	mg/l	0.5	1.0
19	Barium	mg/l	BDL	1.5
20	Selenium	mg/l	BDL	0.5
21	Silver	mg/l	BDL	0.05

Page 1 of 2



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - isons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

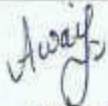
Client Name: CGGC-AM Associates JV
Address: E-35 Project Package II Khanpur Road Chachian Soka Rajpur Harripur
Sampling Point: Main Camp RD 28+000
Nature of Sample: Wastewater
Sampling Date: 28-04-2016
Completion Date: 02-05-2016
Sampling By: SEAL-Lahore
Reference No.: SEAL/CGGC-AM/16/001 WW

Sr. No.	Parameters	Unit	Result	NEQS
22	Pesticides	mg/l	BDL	0.15
23	Manganese	mg/l	BDL	0.4
24	Zinc	mg/l	0.61	2.6
25	Nickel	mg/l	0.02	1.0
26	Boron	mg/l	0.4	6.0
27	Mercury	mg/l	BDL	0.01
28	Total Toxic Metals	mg/l	0.57	1.0
29	Sulphide (S ²⁻)	mg/l	BDL	1.0
30	An Ionic Detergent as MBAS	mg/l	BDL	20
31	Phenolic Compounds	mg/l	BDL	0.1
32	Cyanide	mg/l	BDL	2.0

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for court.

Sample Analyzed By: Awais Shafique

Signature of analyst: 

Chief Chemist with Seal: SHABNAM SHAHZAD

Chief Chemist

Signature of Chief Chemist: 

Date: 02-05-2016

Page 2 of 2



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange Shahrah-e-Faisal, Karachi - Pakistan. Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

Instrumental Monitoring on Packge-1



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

DRINKING WATER ANALYSIS REPORT

Client Name: CGGC-GRC JV **Address:** E-35 Project Package-I, Camp RD
1+000
Sampling Point: Filtration Plant **Nature of Sample:** Drinking Water
Sampling Date: 27-04-2016 **Completion Date:** 02-05-2016
Sampling By: SEAL-Lahore **Reference No.:** SEAL/CGGC-GRC/16/001 DW
Results:

Sr. No.	Parameter	Unit	Result	WHO Guideline
1	Temperature	^o C	20.0	---
2	pH	—	7.16	6.5-8.5
3	Total Dissolved Solids (TDS)	mg/l	380	1000
4	Total Suspended Solids (TSS)	mg/l	BDL	—
5	Chloride	mg/l	94	250
6	Fluoride	mg/l	0.24	1.5
7	Taste	Object /unobj	Unobject	Unobject
8	Odour	Object /unobj	Unobject	Unobject
9	Colour	TCU	0	15
10	Iron	mg/l	0.03	0.3
11	Sodium	mg/l	62	200
12	Nitrate (as NO ₃)	mg/l	2.4	50
13	Nitrite (as NO ₂)	mg/l	BDL	3
14	Ammonia	mg/l	0	1.5
15	Hydrogen Sulphide (H ₂ S)	mg/l	BDL	0.05
16	Sulphate	mg/l	65	250
17	Lead	mg/l	BDL	0.10
18	Total Hardness as CaCO ₃	mg/l	132	500
19	Turbidity	NTU	0	5
20	Zinc	mg/l	0.34	3
21	Manganese	mg/l	BDL	0.1
22	Benzene	mg/l	BDL	10-120
23	Aluminum	mg/l	BDL	0.2
24	Molybdenum	mg/l	BDL	0.070

Page 1 of 2



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kachia Jut Road, Kot Lakhpat,
Lahore, Pakistan. Phone: +92-42-35622295-96, Fax: +92-42-35622296
Email: info@seal.com.pk - info@seal.net.pk - info@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk



THE RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: CGGC-GRC JV Address: E-35 Project Package-I, Camp RD 1+000
 Sampling Point: Filtration Plant Nature of Sample: Drinking Water
 Sampling Date: 27-04-2016 Completion Date: 02-05-2016
 Sampling By: SEAL-Lahore Reference No.: SEAL/CGGC-GRC/16/001 DW

Sl. No.	Parameter	Unit	Result	WHO Guideline
25	Chromium	mg/l	0.02	0.050
26	Cadmium	mg/l	BDL	0.003
27	Boron	mg/l	BDL	0.300
28	Barium	mg/l	BDL	0.700
29	Antimony	mg/l	BDL	0.005
30	Arsenic	mg/l	BDL	0.010
31	Cyanide	mg/l	BDL	0.070
32	Mercury	mg/l	BDL	0.001
33	Nickel	mg/l	BDL	0.020
34	Total Coliform	Number/100ml	0	0/100 ml
35	E.Coli	Number/100ml	0	0/100 ml

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claims that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiation.

Sample Analyzed By: Awaiz Shafique

Signature of analyst: *Awaiz*

Chief Chemist with Seal: *Shabnam Shahzad*

SHABNAM SHAHZAD
Chief Chemist

Signature of Chief Chemist: *Shabnam*

Date: 02-05-2016

Page 2 of 2



HEAD OFFICE:
 Plot # 12, Water Avenue, Green View Society, Off Raheja Jee Road, Wazirpur, Lahore, Pakistan. Phone: +92-42-35222295-96, Fax: +92-42-35822298
 Email: info@seal.com.pk - toam@train.net.pk - hr@seal.com.pk

KARACHI OFFICE:
 Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange, Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
 Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC - GRC JV **Site Location:** E-35 Project Package-I Khanpur Road Chachian soka Rappur Haripur

Monitoring Point: Main Base Camp **Monitoring Time:** 1 Hour

Monitoring Date: 27-04-2016 **Reporting Date:** 02-05-2016

Monitoring By: SEAL **Reference No.:** SEAL/CGGC-GRC/16/01 AA

Results:

Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	(µg/m ³)	134	150	All values found in compliance with NEQS expect PM ₁₀ for which appropriate mitigation should be taken as recommended in EIA
2	PM _{2.5}	(µg/m ³)	10.4	15	
3	CO	(ppm)	2.4	10	
4	NO _x	(ppm)	16.8	80	
5	SO _x	(ppm)	29.4	120	

National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor:

Chief Chemist with Seal: SHABNAM SHAHZAD

Signature of Chief Chemist:

Date: 02-05-2016



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kacha Jal Road, Kot Lakhpat, Lahore, Pakistan. Phone: +92-42-35922295-96, Fax: +92-42-35922296. Email: info@seal.com.pk, saam@seal.com.pk, hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange, Shahr-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331 Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC- GRC JV **Site Location:** E-35 Project Package-I Khanpur Road
Chachian soka Rajper Harpur
Monitoring Point: Section# 2 **Monitoring Time:** 1 Hour
RD 14+000
Monitoring Date: 27-04-2016 **Reporting Date:** 02-05-2016
Monitoring By: SEAL **Reference No.:** SEAL/CGGC-GRC/16/03 AA

Results:


Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	(µg/m ³)	124	150	All values found in compliance with NEQS
2	PM _{2.5}	(µg/m ³)	11.6	15	
3	CO	(mg/m ³)	2.8	10	
4	NO _x	(µg/m ³)	14.2	80	
5	SO _x	(µg/m ³)	26.4	120	

NEQS: National Environmental Quality Standards

Note:

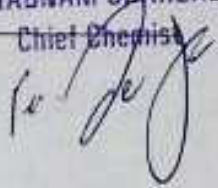
- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: 

Chief Chemist with Seal: SHABNAM SHAHZAD

Chief Chemist

Signature of Chief Chemist: 

Date: 02-05-2016



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones: +92-42-35922255-96, Fax: +92-42-35922296
Email: info@seal.com.pk - tazna@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC- GRC JV **Site Location:** E-35 Project Package-I Khanpur Road
Chachian soka Rajpur Haripur
Monitoring Point: Base Camp **Monitoring Time:** 1 Hour
RD 5+260
Monitoring Date: 27-04-2016 **Reporting Date:** 02-05-2016
Monitoring By: SEAL **Reference No.:** SEAL/CGGC-GRC/16/02 AA

Results:

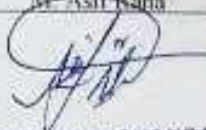
Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	(µg/m ³)	143	150	All values found in compliance with NEQS
2	PM _{2.5}	(µg/m ³)	12.8	15	
3	CO	(mg/m ³)	3.1	10	
4	NO _x	(ppm ³)	22.4	80	
5	SO _x	(ppm ³)	39.6	120	

NEQS: National Environmental Quality Standards


Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: 

Chief Chemist with Seal: **SHABNAM SHAHZAD**

Signature of Chief Chemist: 

Date: 02-05-2016



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kacha Jaf Road, Kot Lohpat,
Lahore, Pakistan. Phone: +92-42-35922295-86, Fax: +92-42-35922296
Email: info@seal.com.pk - bsens@seal.com.pk - hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

DRINKING WATER ANALYSIS REPORT

Client Name: CGGC-GRC JV **Address:** E-35 Project Package-I, Base Camp RD 5+260
Sampling Point: Tap Water **Nature of Sample:** Drinking Water
Sampling Date: 27-04-2016 **Completion Date:** 02-05-2016
Sampling By: SEAL-Lahore **Reference No.:** SEAL/CGGC-GRC/16/002-DW

Sr. No.	Parameter	Unit	Result	WHO Guideline
1	Temperature	^o C	22.0	---
2	pH	--	7.28	6.5-8.5
3	Total Dissolved Solids (TDS)	mg/l	442	1000
4	Total Suspended Solids (TSS)	mg/l	BDL	---
5	Chloride	mg/l	102	250
6	Fluoride	mg/l	0.18	1.5
7	Taste	Object /unobj.	Unobject	Unobject
8	Odour	Object /unobj.	Unobject	Unobject
9	Colour	TCU	0	15
10	Iron	mg/l	0.02	0.3
11	Sodium	mg/l	72	200
12	Nitrate (as NO ₃)	mg/l	2.1	50
13	Nitrite (as NO ₂)	mg/l	BDL	3
14	Ammonia	mg/l	0	1.5
15	Hydrogen Sulphide (H ₂ S)	mg/l	BDL	0.05
16	Sulphate	mg/l	76	250
17	Lead	mg/l	BDL	0.10
18	Total Hardness as CaCO ₃	mg/l	146	500
19	Turbidity	NTU	0	5
20	Zinc	mg/l	0.3	3
21	Manganese	mg/l	BDL	0.1
22	Benzene	mg/l	BDL	10-120
23	Aluminium	mg/l	BDL	0.2
24	Molybdenum	mg/l	BDL	0.070

Page 1 of 2



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phones: +92-42-35922295-96, Fax: +92-42-35922296
Email: info@seal.com.pk - tsona@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange, Shahr-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk




SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Project Title: CGGC-GRC JV **Site Location:** E-35 Project Package-I Khanpur
Road Chachnan soka Rajpur Haripur
Monitoring Date: 27-04-2016 **Instrument Used:** Digital Sound Level Meter TM-102
Reporting Date: 02-05-2016 **Time of Monitoring:** 02:00 pm - 05:00 pm
Monitoring By: SEAL **Reference No:** SEAL/CGGC-GRC/16/001 NM


Note:

- Selected measurement units were dB A otherwise stated
- Quality was assured through self calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Rana

Signature of Supervisor: 

Chief Chemist with Seal: **SHABNAM SHAHZAD**

Signature of Chief Chemist: 

Date: 02-05-2016



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kache Jhel Road, Kot Lakhpat,
Lahore, Pakistan. Phone: +92-42-35822295-96, Fax: +92-42-35822298
Email: info@seal.com.pk - boms@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. 41-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: CGGC-GRC JV

Address: E-35 Project Package-I, Base Camp
RD 5+260

Sampling Point: Tap Water

Nature of Sample: Drinking Water

Sampling Date: 27-04-2016

Completion Date: 02-05-2016

Sampling By: SEAL-Lahore

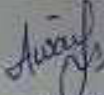
Reference No.: SEAL/CGGC-GRC/16/002 DW

Sr. No.	Parameter	Unit	Result	WHO Guideline
25	Chromium	mg/l	0.01	0.050
26	Cadmium	mg/l	BDL	0.003
27	Boron	mg/l	BDL	0.300
28	Barium	mg/l	BDL	0.700
29	Antimony	mg/l	BDL	0.005
30	Arsenic	mg/l	BDL	0.010
31	Cyanide	mg/l	BDL	0.070
32	Mercury	mg/l	BDL	0.001
33	Nickel	mg/l	BDL	0.020
34	Total Coliform	Number/100ml	0	0/100 ml
35	E. Coli	Number/100ml	0	0/100 ml

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiation.

Sample Analyzed By: Awais Shafique

Signature of analyst: 

Chief Chemist with Seal:

SHABNAM SHAHZAD
Chief Chemist

Signature of Chief Chemist: 

Date: 02-05-2016

Page 2 of 2



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kacha Jaf Road, Kot Lakhpat,
Lahore, Pakistan. Phone: +92-42-35922295-99. Fax: +92-42-35922296
Email: info@seal.com.pk - koreo@seal.com.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

DRINKING WATER ANALYSIS REPORT

Client Name: CGGC-GRC JV **Address:** E-35 Project Package-I, Base Camp RD 5+260
Sampling Point: Tap Water **Nature of Sample:** Drinking Water
Sampling Date: 27-04-2016 **Completion Date:** 02-05-2016
Sampling By: SEAL-Lahore **Reference No.:** SEAL/CGGC-GRC/16/002 DW

Sr. No.	Parameter	Unit	Result	WHO Guideline
1	Temperature	$^{\circ}\text{C}$	22.0	—
2	pH	—	7.28	6.5-8.5
3	Total Dissolved Solids (TDS)	mg/l	442	1000
4	Total Suspended Solids (TSS)	mg/l	BDL	—
5	Chloride	mg/l	102	250
6	Fluoride	mg/l	0.18	1.5
7	Taste	Object /unobj	Unobject	Unobject
8	Odour	Object /unobj	Unobject	Unobject
9	Colour	TCU	0	15
10	Iron	mg/l	0.02	0.3
11	Sodium	mg/l	72	200
12	Nitrate (as NO_3^-)	mg/l	2.1	50
13	Nitrite (as NO_2^-)	mg/l	BDL	3
14	Ammonia	mg/l	0	1.5
15	Hydrogen Sulphide (H_2S)	mg/l	BDL	0.05
16	Sulphate	mg/l	76	250
17	Lead	mg/l	BDL	0.10
18	Total Hardness as CaCO_3	mg/l	146	500
19	Turbidity	NTU	0	5
20	Zinc	mg/l	0.3	1
21	Manganese	mg/l	BDL	0.1
22	Benzene	mg/l	BDL	10-120
23	Aluminum	mg/l	BDL	0.2
24	Molybdenum	mg/l	BDL	0.070

Page 1 of 2



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kacha Jaf Road, Kot Lakhpal,
Lahore, Pakistan. Phone: +92-42-35922295-06, Fax: +92-42-35922296
Email: info@seal.com.pk - sales@seal.com.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

NOISE LEVEL MONITORING REPORT

Project Title: CGGC-GRC JV **Site Location:** E-35 Project Package-I Khanpur Road Chachuan soka Rappur Haripur
Monitoring Date: 27-04-2016 **Instrument Used:** Digital Sound Level Meter TM-102
Reporting Date: 02-05-2016 **Time of Monitoring:** 02:00 pm – 05:00 pm
Monitoring By: SEAL **Reference No:** SEAL/CGGC-GRC/16/001 NM

Results:-

Sr. No.	Monitoring point	Min. Noise Level (dB A)	Max. Noise Level (dB A)	Avg. Noise Levels (dB A)	Remarks
1	Near Generator (Camp RD 1+00)	72.4	74.8	73.6	All noise levels are found in compliance with permissible Limit (85 d BA) Although recommended measures as described in EIA may be taken if levels exceed permissible Limits.
2	Near Batching Plant (Camp RD 1+00)	51.6	55.4	53.5	
3	Near Pile Area (Camp RD 1+00)	66.4	69.1	67.8	
4	Near Cranes (Camp RD 1+00)	68.2	71.5	69.9	
5	Near Generator (RD 5+260)	82.1	85.5	83.8	
6	Near Batching Plant (RD 5+260)	69.2	73.4	71.3	
7	Near Steel Cutting (RD 5+260)	58.6	62.9	60.8	
8	Near Offices (RD 5+260)	55.2	59.1	57.2	
9	Dump Truck (Camp Road 14+00)	66.4	69.9	68.2	
10	Near Batching Machine (Camp Road 14+00)	68.8	72.5	70.7	

NEQS: National Environmental Quality Standards
NGVS: No Guideline Value Set



HEAD OFFICE

Plot # 12, Wazee Avenue, Green View Society, Off Kachia Jail Road, Kot Lakhpat, Lahore, Pakistan. Phone: +92-42-35922295-96; Fax: +92-42-35922296
Email: info@seal.com.pk; tsons@braun.net.pk; hr@seal.com.pk

KARACHI OFFICE

Office No. MGT in Fort Sultan opp. Air Port Telephone Exchange, Shehr-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331. Email: karach@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

NOISE LEVEL MONITORING REPORT

Project Title: CGGC-GRC JV **Site Location:** E-35 Project Package-I Khanpur Road Chachian soki Rappur Haripur
Monitoring Date: 27-04-2016 **Instrument Used:** Digital Sound Level Meter TM-102
Reporting Date: 02-05-2016 **Time of Monitoring:** 02:00 pm - 05:00 pm
Monitoring By: SEAL **Reference No:** SEAL/CGGC-GRC/16/001 NM

Results:-

Sr. No.	Monitoring point	Min. Noise Level (dB A)	Max. Noise Level (dB A)	Avg. Noise Level (dB A)	Remarks
1	Near Generator (Camp RD 1+00)	72.4	74.8	73.6	All noise levels are found in compliance with permissible Limit (85 d BA) Although recommended meters as described in EIA may be taken if levels exceed permissible Limits.
2	Near Batching Plant (Camp RD 1+00)	51.6	55.4	53.5	
3	Near Pile Area (Camp RD 1+00)	66.4	69.1	67.8	
4	Near Cranes (Camp RD 1+00)	68.2	71.5	69.9	
5	Near Generator (RD 5+260)	82.1	85.5	83.8	
6	Near Batching Plant (RD 5+260)	69.2	73.4	71.3	
7	Near Steel Cutting (RD 5+260)	58.6	62.9	60.8	
8	Near Offices (RD 5+260)	55.2	59.1	57.2	
9	Dump Truck (Camp Road 14+00)	66.4	69.9	68.2	
10	Near Batching Machine (Camp Road 14+00)	68.8	72.5	70.7	

NEQS: National Environmental Quality Standards
NGVS: No Guideline Value Set



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kacha Jaf Road, Kot Lakhpat,
Lahore, Pakistan. Phone: +92-42-35822295-98; Fax: +92-42-36922296
Email: info@seal.com.pk - tecons@seal.net.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Post Telephone Exchange
Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
Fax: 92-213-2014331; Email: karachi@seal.com.pk



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Client Name: CGGC - GRCJV Site Location: E-35 Project Package-I Khanpur Road Chachian soka Rajpur Haripur

Monitoring Point: Main Base Camp RD 1+000 Monitoring Time: 1 Hour

Monitoring Date: 27-04-2016 Reporting Date: 02-05-2016

Monitoring By: SEAL Reference No.: SEAL/CGGC-GRC/16/01 AA

Results:

Sr. No.	Parameter	Unit	Results	NEQS	Remarks
1	PM ₁₀	(µg/m ³)	134	150	All values found in compliance with NEQS except PM ₁₀ for which appropriate mitigation should be taken as recommended in EIA
2	PM _{2.5}	(µg/m ³)	10.4	15	
3	CO	(ppm)	2.4	10	
4	NO ₂	(ppm)	16.8	80	
5	SO ₂	(ppm)	29.4	120	

National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiations.

Monitoring Supervisor: M. Asif Raza

Signature of Supervisor:

Chief Chemist with Seal: **SHABNAM SHAHZAD**

Chief Chemist

Signature of Chief Chemist:

Date: 02-05-2016



HEAD OFFICE:

Plot # 12, Water Avenue, Green View Society, Off Kachi Juk Road, Kot Lakhpat, Lahore, Pakistan. Phone: +92-42-35022295-98, Fax: +92-42-35022290. Email: info@seal.com.pk | lahore@seal.com.pk | hr@seal.com.pk

KARACHI OFFICE:

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange, Shafrabi-e-Fakir, Karachi - Pakistan. Phone: 92-213-2014331. Fax: 92-213-2014331. Email: karachi@seal.com.pk



THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

DRINKING WATER ANALYSIS REPORT

Client Name: CGGC-GRC JV **Address:** E-35 Project Package-I, Camp RD 1+000
Sampling Point: Filtration Plant **Nature of Sample:** Drinking Water
Sampling Date: 27-04-2016 **Completion Date:** 02-05-2016
Sampling By: SEAL-Lahore **Reference No.:** SEAL/CGGC-GRC/16/001 DW
Results:

Sr. No.	Parameter	Unit	Result	WHO Guideline
1	Temperature	°C	20.0	---
2	pH	--	7.16	6.5-8.5
3	Total Dissolved Solids (TDS)	mg/l	380	1000
4	Total Suspended Solids (TSS)	mg/l	BDL	---
5	Chloride	mg/l	94	250
6	Fluoride	mg/l	0.24	1.5
7	Taste	Object /unobj	Unobject	Unobject
8	Odour	Object /unobj	Unobject	Unobject
9	Colour	TCL	0	15
10	Iron	mg/l	0.03	0.3
11	Sodium	mg/l	62	200
12	Nitrate (as NO ₃)	mg/l	2.4	50
13	Nitrite (as NO ₂)	mg/l	BDL	3
14	Ammonia	mg/l	0	1.5
15	Hydrogen Sulphide (H ₂ S)	mg/l	BDL	0.05
16	Sulphate	mg/l	65	250
17	Lead	mg/l	BDL	0.10
18	Total Hardness as CaCO ₃	mg/l	132	500
19	Turbidity	NTU	0	5
20	Zinc	mg/l	0.34	3
21	Manganese	mg/l	BDL	0.1
22	Benzene	mg/l	BDL	10-120
23	Aluminium	mg/l	BDL	0.2
24	Molybdenum	mg/l	BDL	0.070

Page 1 of 2



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kachia Jaf Road, Kot Lakhpat, Lahore, Pakistan. Phone: +92-42-35922295-98, Fax: +92-42-35922298
 Email: info@seal.com.pk - lahore@seal.net.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07/in Fort Sultan opp. Air Port, Telephone Exchange, Shahrah-e-Faisal, Karachi - Pakistan. Phone: 92-213-2014331
 Fax: 92-213-2014331. Email: karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: CGGC- GRC JV
Sampling Point: Potable Water
Sampling Date: 27-04-2016
Sampling By: SEAL-Lahore

Address: E-35 Project Package I, Section 2
Camp Road 14+000
Nature of Sample: Drinking Water
Completion Date: 02-05-2016
Reference No.: SEAL/CGGC-GRC/16/003 DW

Sr. No.	Parameter	Unit	Result	WHO Guideline
25	Chromium	mg/l	0.01	0.050
26	Cadmium	mg/l	BDL	0.003
27	Boron	mg/l	BDL	0.300
28	Barium	mg/l	BDL	0.700
29	Antimony	mg/l	BDL	0.005
30	Arsenic	mg/l	BDL	0.010
31	Cyanide	mg/l	BDL	0.070
32	Mercury	mg/l	BDL	0.001
33	Nickel	mg/l	BDL	0.020
34	Total Coliform	Number/100ml	0	0/100 ml
35	E. Coli	Number/100ml	0	0/100 ml

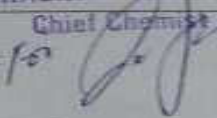
Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiation.

Sample Analyzed By: Awsis Shafique

Signature of analyst: 

Chief Chemist with Seal: **SHABNAM SHAHZAD**

Signature of Chief Chemist: 

Date: 02-05-2016

Page 2 of 2



HEAD OFFICE

Plot # 12, Water Avenue, Green View Society, Off Kartha Jail Road, Kot Lakhpat, Lahore, Pakistan. Phone: +92-42-35922295-96, Fax: +92-42-35922296
Email: info@seal.com.pk - tsara@seal.com.pk - hr@seal.com.pk

KARACHI OFFICE

Office No. M-07 in Fort Sultan opp. Air Port Telephone Exchange, Shahrah-e-Faisal, Karachi - Pakistan, Phone: 92-213-2014331
Fax: 92-213-2014331 Email: karachi@seal.com.pk

 THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT

Annexure 3: Pictorial Views of Project

PICTORIAL VIEW OF ENVIRONMENTAL COMPLIANCE



Photo 1 & 2: Grave yards falling in ROW are save with out any land acquisition.



Photo 3 & 4: Traffic management on package 1. Contractor has placed traffic sign boards on M1 for construction work. Traffic Police of Motorways are involved in plan.



Photo 5 & 6: Contractor has erected different sign boards for guidance and warning of traffic on RoW and on Jarikas road. On Jarikas road speed control measures are taken and work information sign boards are installed.



Photo 7 & 8: ADB Inspection and Supporting Mission to project site in May 2016 for review of overall progress including physical work progress, environmental and social safeguards review.



Photo 9 & 10: Daily Tool Box Talks on package 1 and 3 are monitored by SC.



Photo 11 & 12 : First Aid facility are provided on Package 1. First Aid Clinic and Paramedical staff were full time provided for labours. About 900 time first aid was used.



Photo 13 & 14: Fuel Storage Area at Batching Plant site is now improved.



Photo 15 & 16: Water tank of batching plant is protected with wooden sheet. Traffic Management is shown on M1 (Construction Site at RD 0+000). Contractor has installed traffic sign boards at start of work zone on M1. Further traffic signs will be installed as per TMP.



Photo 17 & 18: Traffic Management Sign Boards on M1 at Zero (Start point)



Photo 19: New technology introduced on package 1 for uplifting of girders from casting yard to bridge. This technology is safe and useful in shifting girders.



Photo 20 & 21: Traffic Management on Package 1.



Photo 22 & 23: Borrow area on Package -1 (under use).



Photo 24 & 25: Water Quality Checking (Surface & Drinking) on Package 2 in April 2016.



Photo 26 & 27: Workshop Area Management on Package 3 including provision of trays and tool box and impervious floor etc.



Photos 28 & 29: Air Quality Monitoring at Concrete Batching plants in reporting month (April) on Package 2. (PM₁₀ & PM_{2.5} monitoring at all the three Batching Plants)

Annexure 4: Public Consultations



NATIONAL HIGHWAY AUTHORITY

CONVERSION OF PROJECT 4LANES TO 6LANES.
CONSULTATIVE MEETING WITH DISPLACED PERSONS (DPs)

Dated: 17 / 02 / 2016

Attendance Sheet for Participants

Village: Chichuan Tehsil: Hasspur District: Hasspur

Sr. No.	Name of DPs & Contact No (if any)	Signature/ Thumb Impression
1	Mr. Malik Muhammad Afr	Malik Asif
2	Mr. Asif	
3	Mr. Amjid Nawaz 03345327073	Amjid Nawaz
4	Mr. Muhammad Nawaz	Muhammad Nawaz
5	Mr. Omer Khan	Omer Khan
6	Mr. Ali Asghar	
7	Tahir Ali	Tahir Ali
8	Mr. Abdul Wakeel	Abdul Wakeel
9	Mr. Ilyaz Khan	0345-9686520 Ilyaz Khan 0345-9686520.