

Environmental Monitoring Report

Semestral Report

January to June 2022

June 2022

Pakistan: Punjab Intermediate Cities Improvement Investment Project

Prepared by Project Management Unit, Punjab Intermediate Cities Improvement Investment Project for the Local Government & Community Development Department, Government of the Punjab, Pakistan and the Asian Development Bank.

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 United States dollars.

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PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIIP)



Top Priority
Through Email

No.LG&CD/PICIIP/PMU-SAEMR/2022
Government of the Punjab
Local Government & Community Development
Department
Dated Lahore, the 05th October, 2022

To,

The Senior Project Officer
Urban, Water and Emergency Assistance
Asian Development Bank, Pakistan Resident Mission

Subject:- **5TH SEMI ANNUAL ENVIRONMENTAL MONITORING REPORT FOR**
PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM

Dear Mr. Umar,

Please find enclosed herewith the 5th Semi Annual Environmental Monitoring Report for the reporting period 1st January to 30th June 2022 for the review and the approval of Asian Development Bank.

Best regards,


M. Hamza Salick (PAS)
Program Director (PICIIP)
LG&CD Department

No. & Date even:-

A copy is forwarded for information and further necessary action to:-

1. Deputy Program Director, PICIIP, LG&CD Department
2. Chief Engineer, PICIIP, LG&CD Department
3. Director (Procurement & Contracts) PMU, PICIIP, LG&CD Department
4. Director (Admin & Finance PMU, PICIIP, LG&CD Department
5. Director (Monitoring & Evaluation) PMU, PICIIP, LG&CD Department
6. Infrastructure Engineer, CIU Sahiwal & Sialkot, PICIIP, LG&CD Department
7. EPCM Consultant, PICIIP
8. Master File

Abbreviations

ADB	Asian Development Bank
CAP	Corrective Action Plan
HSE	Health Safety and Environment
EPA	Environmental Protection Agency
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
GoP	Government of Punjab
GOP	Government of Pakistan
Km	Kilometer
PEQS	Punjab Environmental Quality Standards
PICIIP	Punjab Intermediate Cities Improvement Investment Program
PIC	Project Implementation Consultant
PM	Particulate Matter
PMU	Program Management Unit
PIU	Project Implementation Unit
PMCSC	Project Management Construction Supervision Consultants
SSEMP	Site Specific Environment Management Plan
SAEMR	Semi - Annual Environmental Monitoring Report
SOP	Standard Operating Procedure

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1. INTRODUCTION

1.1 Preamble

1. This report presents the Semi - Annual Environmental Monitoring Review (SAEMR) for Punjab Intermediate Cities Improvement Investment Program. This report fulfills the requirements to monitor the effectiveness of ADB's Safeguards Policy Statement 2009, its implementation and to ensure sound environmental planning. During the environmental monitoring the gaps/shortcomings in the implementation of environmental safeguards as per Safeguard Policy Statement (SPS) 2009 were identified and corrective actions proposed and recommendations for future course of action provided. This report is the 5th SAEMR for the project, consisting of the following sub-projects.

Sahiwal Parks

- Chamanzar Park
- Park and Playground Near Stop # 10, Farid Town
- Fateh Sher Park

Sialkot Parks

- Sialkot Fort Park
- Abdul Hakeem Park for Ladies
- Ladies and Children Park (Model Town)
- Gulshan-e-Iqbal Park

Punjab Local Government Academy (PLGA), Lahore

- The PLGA will be a multi-storied building meant for training of local government employees and will be constructed over an area of 10 kanals of land with dimensions of 200' x 180' with two basements and six floors.

Water Supply & Sewerage System of Sahiwal City

- Lot-1: Rehabilitation/improvement of water supply system in North Zone (Phase-1)
- Lot-2: North Zone (A) Sewerage System upto 72-inch diameter pipes and construction of allied works (Phase-1).
- Lot-3: North Zone (B) Sewerage system for conduit, pumping station and allied works.

- Lot-4: South Zone (Water Supply and Sanitation)

Waste Water Treatment Plant (WWTP) North Zone Sahiwal

- Waste water treatment plant will be established on 199 acres of land in North of Sahiwal city. Waste Stabilization Ponds (WSP) will be constructed for the effluent treatment.

Water Supply & Sewerage System of Sialkot North Zone

- Lot-1: Laying of Sewerage Lines and Allied Works
- Lot-2: Laying of Pre-Cast RCC Conduits and Allied Work
- Lot-3: Construction of Influent Pumping Station, Forcemain and Allied Works
- Lot-4: Laying of Water Distribution Network

Waste water Treatment Plant (WWTP) North Zone Sialkot

- Waste water treatment plant will be established on 238 acres of land in North of Sialkot city. Waste Stabilization Ponds (WSP) will be constructed for the effluent treatment.

1.2 Headline Information

2. Environment team of PICIIP and EPCM has orientated all the contractors on environmental compliances as per IEEs/EMPs. The team has observed that environmental management has improved over the time on subprojects sites. Mutually agreed Corrective Action Plan is also devised and communicated to the contractors. Contractors have been advised to address non-compliances as per agreed Corrective Action Plan. Therefore, the progress in environmental compliance is expected to improve in the coming months. The contractors on all the subprojects carried out the tasks and actions described in their EMP successfully.
3. The EPCM and Health, Safety and Environment (HSE) teams at site continued to perform strict monitoring of the EMP and Health & Safety (HS) Plan implementation by the Contractor.
4. On-site trainings / toolbox talks have been extensively provided to the workers by the Contractor throughout the reporting period under the EPCM supervision.
5. Furthermore, all works are significantly affected due to the 3rd wave of COVID-19 pandemic outbreak. Keeping in view the required measures being implemented, such as social distancing of project staff, the overall staff has also been reduced.

6. Also, the on-site HSE team strictly implemented the SOPs issued by Government of Punjab (GOP) for construction sites (disinfection of offices and machinery periodically, temperature screening at project entrances, provision of hand sanitizers to office and labour staff, provision of surgical face masks, instruction boards and signage at different locations for COVID-19 awareness).

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

7. The Asian Development Bank (ADB) and the Cities Development Initiative for Asia (CDIA) are partnering with the Government of Punjab Province (GoPP), to undertake the Punjab Intermediate Cities Improvement Program (PICIIP).
8. The PICIIP aims to improve the quality of urban services available in selected cities in Punjab province (city populations between 250,000 and 1,000,000). Urban infrastructure development is an important component of the PICIIP. The duration of the program will be six years. Funding will be accessed in phases. The PICIIP's overall budget is US\$250 million, to be disbursed in phases.
9. The first phase will fund investments in the intermediate cities of Sahiwal and Sialkot. Major projects planned for both cities are water supply improvement; sewerage and drainage improvement, sewage treatment plant, green spaces development and transport routes improvement.
10. Overall project will have following major outcomes:
 - Output 1: Water supply systems improved
 - Output 2: Sanitation systems improved
 - Output 3: Urban public spaces improved
 - Output 4: Institutional support and capacity development
11. PICIIP aims at transforming the selected urban areas into green, inclusive, resilient and competitive Smart cities with improved livability supporting social and economic growth through improved Municipal Governance, integrated urban planning, improved services delivery, efficient local mobility and climate resilient infrastructure and introduction of IT for city services delivery improvement within the frame of Smart City.
12. The Local Government and Community Development (LG&CD) department of Punjab is executing agency of the project and the city governments of Sahiwal and Sialkot (municipal corporations) will be the O & M agencies. A Project Management Unit (PMU) and two City Implementation Units (CIUs) have been established by LG & CD Department for successful execution of the overall program.

2.1.1 WATER SUPPLY & SEWERAGE SYSTEM OF SAHIWAL CITY

13. The Water Supply and Sanitation (WATSAN) works in Sahiwal is divided into four Lots which is given hereunder;

Table 2-1 Sahiwal WATSAN Project Lots

Sr. No.	Description	Total Length (km)
1	Lot- I - Rehabilitation/improvement of water supply system in North Zone	543
2	Lot-II - North Zone (A) Sewerage System upto 72-inch diameter pipes and construction of allied works	56.47
3	Lot- III - Sewerage system for conduit, pumping station and allied works.	4.78
4	Lot-IV - Rehabilitation / Improvement of Sewerage System in South Zone	26

14. In WATSAN works of Sahiwal, contractors have been started on-site execution after the approval of Site-Specific Environmental Management Plan (SSEMP) for Lot-01, Lot-02, Lot-03 and Lot-04 while WWTP has not been mobilized to their respective site yet.

2.1.2 WATER SUPPLY & SEWERAGE SYSTEM OF SIALKOT CITY

15. The Water Supply and Sanitation (WATSAN) works in Sialkot is divided into four Lots which is given hereunder;

Table 2-2 Sialkot WATSAN Project Lots

Sr. No.	Description	Total Length (km)
1	Lot- I - Laying of Sewerage Lines and Allied Works	33.5
2	Lot-II - Laying of Pre-Cast RCC Conduits and Allied Work	5.75
3	Lot- III - Construction of Influent Pumping Station, Force main and Allied Works	-
4	Lot-IV - Laying of Water Distribution Network	261

16. In WATSAN works of Sialkot, execution of work for Lot-01, Lot-02, Lot-03 and Lot-04 has been started after the approval of SSEMPs. While WWTP contract has been awarded and SSEMP is submitted by the contractor and under review by PMU and ADB.

2.1.3 SAHIWAL & SIALKOT PARKS

17. PICIIP was undertaking rehabilitation of three public parks in Sahiwal and four public parks in Sialkot as already mentioned in **Section 1.1** above.
18. The major development works at parks involve landscaping, irrigation system, electrification, system, plumbing system, surveillance system, kiosks, toilet, gazebos, open gym, gardener room, cctv cameras, lake, fountain, ticketing booth, security room, jogging track, walkways, children play area etc.

2.1.4 PLGA

19. PICIIP is also undertaking the construction of the Punjab Local Government Academy (PLGA) in Lahore city. After promulgation of PLGA Act 2019, training is mandatory for all officers and servants of local governments and undertaking of works requiring higher engineering skills. Furthermore, heads, conveners and councilors shall cover training requirements for improved performance.
20. The existing PLGA cannot cater to the quality training needs of all employees and elected representatives of the province with existing infrastructure and resources. The PLGA will be a multi-storey building meant for training of local government employees and is being constructed over an area of 10.04 kanals of land with dimensions of 70.36m x 59.70m (4200.49 Sq.m) with two basements (approximately 120 Nos. Car and 200 Nos. Motorcycles parking space.) and six floors.
21. It includes an administration block, IT & control room, library for 40 persons capacity, prayer hall for 200 persons capacity, dining hall for 200 persons capacity, hostel mess / cafeteria for 80 persons, training classrooms for training of 300 persons at a time, syndicate discussion rooms for 20 persons, seminar hall for 100 persons, screening hall for 300 persons, executive hall for 75 persons, instructor rooms, computer laboratory for 56 person, executive suits (double occupancy), double occupancy rooms, and day care center.

2.2 Project Contracts and Management

22. The environmental management teams for PICIIP and their respective roles are as provided below as **Table 2.1**.

Table 2-3: Environmental Management Team

Organization	Discipline/ Designation	Deployed Team	Location	Contact no	Email Id
PMU-PICIIP	Environmental Consultant	Humera Qasim Khan	Lahore	0333-9219198	humera.qasim@gmail.com
	Director M&E / Environmental Engineer	Asifa Khan	Lahore	0302-8498163	engr.asifa@hotmail.com
	RA Civil	Shoaib Salik	Lahore	0336-7985017	shoaibsalik@gmail.com
	Research Analyst Environment	Jawad Shafiq	Sialkot	0322-5616588	Jawadshafiq8@gmail.com
	Research Analyst Environment	Iqra Shamsher	Sahiwal	0349-6627256	lqrashamsher909@gmail.com
ADB	Environment Specialist	Asim Sabzwari	Islamabad	051 -2087 208	asabzwari@adb.org
	Environment Specialist (Consultant)	Shazia Shahid	Islamabad	0346-0281336	sshahid.consultant@adb.org
	Environment Consultant	Saad Malik	Islamabad	0300-5229360	Smalik.consultant@adb.org
EPCM Consultant	Resident Engineer	Rai Bilal	Lahore	0321-6905129	Rai_bilal@hotmail.com
	Resident Engineer	M. Usman	Sahiwal	0305-4444554	Usman878@yahoo.com
	Resident Engineer	Abdullah Hussain	Sialkot	0308-7300775	abdullahsyed5@yahoo.com
	Environmental Specialist	Anas Nadeem Khan	Lahore	0331-4112481	anaskhan444@outlook.com
Contractors					
HCS –Mastic	Environmental Engineer	Hasnain Raza	Lahore	0306-6045875	egrsyedhasnainrz@gmail.com
HCS –Mastic	Environmental Engineer	Sharjeel Shujaat	Sahiwal	0345-7223534	sharjeeshujaat@gmail.com
TMT-MAC Lot-01	HSE Manger	Ahtisham Asghar	Sahiwal	03039674272	4772ahtisham@gmail.com
CGICOP Lot-02	HSE Manger	M.Zafer	Sahiwal	0301-6533797	Zaferbutt922@gmail.com
CGICOP Lot-03	HSE Manger	M. Zafer	Sahiwal	0301-6533797	Zaferbutt922@gmail.com
ZKB-Reliable Lot-04	HSE Manger	M. Waseem	Sahiwal	0330-5878333	Wasim.ehs@outlook.com
HCS –Mastic	Environmental Engineer	Ijaz Hassan	Sialkot	0303-5303484	Khanijaz396@gmail.com
ZKB-Reliable Lot-01	HSE Manger	Siddique Shahid	Sialkot	0326-8007660	siddquesahid@gmail.com
ZKB-Reliable Lot-02	---	---	---	---	---
ZKB-Reliable	HSE Manager	M. Tahir	Sialkot	03005570968	Tahirali23@gmail.com

Lot-03					
ZKB-Reliable Lot-04	HSE Manager	Umer Umair	Sialkot	0333-6055094	piciipzkbskt@gmail.com

23. Execution is being carried out by the Project Management Unit (PMU), which is comprised of Punjab local government staff, who are assisted by the Engineering, Procurement and Construction Supervision Consultant i.e. NESPAK for technical and commercial matters. The PMU, EPCM Consultant and Contractors' HSE teams ensure that mitigation and management measures proposed in the IEE reports and SSEMPs are implemented.

2.3 Project Activities during Current Reporting Period

Works status at Parks in Sahiwal

24. All of the three parks including Farid Town Park, Fateh Sher Park and Chaman Zar Park in Sahiwal have been completed since from the start of March 2021. The parks are handed over to PHA Sahiwal on September 30, 2021. Operational phase environmental monitoring was conducting in the month of December 2021.

Works status at Parks in Sialkot

25. Three numbers of parks including Abdul Hakeem Ladies Park, Model Town Ladies Park and Fort Park have been completed while the progress status of Gulshan e Iqbal Park is hereunder;

Table 2-4: Gulshan-e-Iqbal Park, Sialkot

Sr. No	Structures	Total No. To Be	Work in Progress on (No./Length)	Physical Progress
		Completed (No./Length)		
A	GULSHAN - E -IQBAL PARK (25 Acres)			
1	Museum & Amphitheater (9520 SFT)	1	1	<ul style="list-style-type: none">Roof slab is casted.Brickwork above FFL is in progress.
2	Toilet Block (295 SFT each)	2	2	<ul style="list-style-type: none">Natural stone fixing is completed. Plumbing work, electrical work and other finishing works are remaining.
3	Prayer Deck (608 SFT)	1	1	<ul style="list-style-type: none">Brick work and Planters construction is completed. Finishing works are remaining.
4	Café / Kiosk (252 SFT Each)	6	6	<ul style="list-style-type: none">Finishing works in progress.
5	Gazebo (175 SFT Each)	9	9	<ul style="list-style-type: none">RCC work in Progress - 01 No.Flooring in progress - 08 Nos.Wood work in progress 6 Nos.
6	Planter - (400 SFT Each & 112 SFT Each)	2	1	<ul style="list-style-type: none">Brick Work completed. Finishing works remaining.
7	Fountain (4900 SFT & 1600 SFT)	1	-	<ul style="list-style-type: none">In progress
8	Jogging Track	01 Job	01 Job	<ul style="list-style-type: none">Kerb stone fixing is in Progress

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Sr. No	Structures	Total No. To Be	Work in	Physical Progress
		Completed (No./Length)	Progress on (No./Length)	
9	Gardener Room	2	2	• Roof Slab Completed- 02 No. & Plastering Completed. Flooring 50% completed.
10	Car Parking	1	1	• Laying of tuff pavers is in progress.
11	Miscellaneous Irrigation, sprinkling system, electrification, plants, grassy & swings/slides and walkways etc.	01 Job	-	Tube well bore hole and lowering of GRP pipes and strainer is completed.

Works status PLGA Lahore

26. During the reporting period, the status of the construction work areas is as follows:

Table 2-5: PLGA Lahore

Construction of Punjab Local Government Academy Building, Lahore									
Contract No. ADB/NCB- Works-PICIP-14									
Monthly Progress Report June - 22									
Sr #	Activity	Planned Physical Progress		Planned Progress	Actual Physical Progress		Actual Progress	SPI	Activity Status
		Start Date	Finish Date	%	Start Date	Finish Date	%		
	Electrical Works								
1	PVC conduits	15/Oct/2020	21/Dec/2021	100%	15-Oct-20 A	4/Jun/2023	22%	0.22	In Progress
2	Wiring and accessories	18/May/2021	18/Dec/2021	100%	18-May-21 A	12/Nov/2022	72%	0.72	In Progress
3	Transformer	10/Jun/2021	16/Dec/2021	100%	30-Jun-21 A	16/Jan/2023	43%	0.43	In Progress
4	Cable trays and ladders	10/Jun/2021	17/Dec/2021	100%	01-Nov-21 A	2/Aug/2022	96%	0.96	In Progress
5	Lighting protection system	10/Jun/2021	3/Jan/2022	100%	12-Oct-21 A	12/Nov/2022	60%	0.60	In Progress
6	Lighting fixtures and fans	10/Jun/2021	8/Jan/2022	100%	01-Nov-21 A	4/Jun/2023	55%	0.55	In Progress
7	Fire alarm system	10/Jun/2021	8/Jan/2022	100%	24-Nov-21 A	12/Nov/2022	63%	0.63	In Progress
8	Emergency and exit lighting with central battery system	10/Jun/2021	14/Jan/2022	100%	22-Nov-21 A	4/Jun/2023	57%	0.57	In Progress
9	Energy monitoring system	10/Jun/2021	14/Jan/2022	100%	11-Oct-21 A	4/Jun/2023	59%	0.59	In Progress
10	Building automation system for lights, fans, sockets at 3rd floor	10/Jun/2021	3/Jan/2022	100%	30-Nov-21 A	15/May/2023	6%	0.06	In Progress
11	DG set	10/Jun/2021	3/Jan/2022	100%	15-Dec-21 A	1/May/2023	10%	0.10	In Progress
12	HT cable and termination kit	10/Jun/2021	14/Jan/2022	100%	25-Oct-21 A	22/Feb/2023	30%	0.30	In Progress
	HVAC Works								
13	Piping, fitting and accessories	10/Jun/2021	21/Dec/2021	100%	11-Oct-21 A	11/May/2023	56%	0.56	In Progress
14	Supplying and installation	16/Apr/2021	14/Jan/2022	100%	16-Apr-21 A	11/Oct/2022	45%	0.45	In Progress
15	Miscellaneous works	10/Jun/2021	14/Jan/2022	100%	30-Nov-21 A	11/Oct/2022	18%	0.18	In Progress
16	Firefighting piping installation	10/Jun/2021	28/Dec/2021	100%	02-Jul-21 A	11/May/2023	33%	0.33	In Progress
	Architectural Works								
17	Internal walls (13 mm thick)	1/Mar/2021	23/Aug/2021	100%	01-Mar-21 A	1/Jul/2022	99%	0.99	In Progress
18	External walls (20 mm thick)	10/Jun/2021	24/Aug/2021	100%	01-Nov-20 A	5/Jul/2022	91%	0.91	In Progress
19	PCC (1:2:4) under floor	14/Jun/2021	1/Dec/2021	100%	09-Sep-21 A	25/Aug/2022	79%	0.79	In Progress
20	Providing local granite on cladding	7/Jul/2021	12/Jan/2022	100%	13-Jan-22 A	8/Nov/2022	44%	0.44	In Progress
21	Providing and fixing 24"*24" porcelain tile flooring	7/Jul/2021	12/Jan/2022	100%	14-Jan-22 A	13/Nov/2022	50%	0.50	In Progress
22	Gypsum board false ceiling	5/Oct/2021	7/Jan/2022	100%	15-Feb-22 A	30/Aug/2022	10%	0.10	In Progress
	SCADA Works								
23	Main building	6/Dec/2021	5/Jan/2022	100%	28-Jun-21 A	25/Sep/2022	44%	0.44	In Progress
24	IP basesd PABX and telephone network system	6/Dec/2021	5/Jan/2022	100%	30-Jun-21 A	2/Aug/2022	58%	0.58	In Progress
25	IP based public address and voice evacuation system	6/Dec/2021	5/Jan/2022	100%	30-Jun-21 A	2/Aug/2022	67%	0.67	In Progress
26	Network and WIFI system	6/Dec/2021	5/Jan/2022	100%	12-Jul-21 A	2/Aug/2022	24%	0.24	In Progress
27	Video conferencing system	6/Dec/2021	5/Jan/2022	100%	01-Sep-21 A	2/Aug/2022	44%	0.44	In Progress
28	IP based access control system	6/Dec/2021	5/Jan/2022	100%	11-Jul-21 A	2/Aug/2022	37%	0.37	In Progress
29	IP based biometric and VMS system	6/Dec/2021	5/Jan/2022	100%	15-Dec-21 A	2/Aug/2022	0%	0.00	In Progress
	All activities of EMP	19/Dec/2019	10/Jun/2021	100.00	19/Dec/2019	-	100.00	1.00	In Progress
Updated Up Till JUNE 30, 2022				100			63.16	0.632	In Progress

Works status Sahiwal WATSAN (Lot-1):

27. During the reporting period, the status of the construction work areas is as follows:

Table 2-6: Lot-01 OHR's Physical Progress Sahiwal

Sr #	OHR's ID	Location	Physical Progress (Description)
1	T-5	Madina Masjid Park	Shaft Completed and shuttering for Bowl in progress
2	T-6	Noor Park	Work has been done up to 7th concrete pour of Shaft
3	T-7	Grain Market	Shaft Completed and shuttering for Bowl in progress
4	T-4	Batala School Ground	Lean concrete has been done and steel fixing in progress

Table 2-7: Lot-01 Tube Well Physical Progress Sahiwal

Sr #	Tube Well ID	Location	Physical Progress (Description)
1	P-14	Farid Town Graveyard	Bore and lowering has been done
2	P-24	APS School	Bore and lowering has been done
3	P-27	Irrigation Colony	Bore and lowering has been done
4	P-28	Govt. Postgraduate Boys College	Bore and lowering has been done
5	P-29	Fateh Sher Colony	Bore and lowering has been done
6	P-50	PILOT School	Bore and lowering has been done
7	P-52	URBAN AREA School	Bore and lowering has been done
8	P-10	Masjid Shuhda	Bore and lowering has been done
9	P-19	GCT College	Bore and lowering has been done
10	P-28	Govt. Postgraduate Boys College	Bore and lowering has been done
11	P-54	Khizra Park	Bore and lowering has been done
12	P-49	Govt. Postgraduate Girls College	Bore and lowering has been done
13	P-30	Govt. Batala High School	Bore and lowering has been done
14	P-21	Highway Colony, Canan Park	Bore and lowering has been done
15	P-70	Pir Bhukhari Graveyard	Bore and lowering has been done
16	P-75	Arifwala chowk, Multan Road	Bore and lowering has been done
17	P-80	Inayat Elahi Colony near school 90/9L	Bore and lowering has been done

Lot-01 laying of pipe Physical Progress Sahiwal				
Sr #	UC Nos.	Excavation	Sand Bedding	Pipe Laying
1	4	39,350 Rft	41,650 Rft	41,398 Rft
2	5	19,490 Rft	11,680 Rft	11,029 Rft
Total		58,840 Rft	53,330 Rft	52,427 Rft

Table 2-8 Sahiwal WATSAN (Lot-2) Physical Progress

PROJECT PROGRESS REPORT	
LOT – 2	
Planned Progress	100%
Achieved Physical Progress	43.32 %
LOT – 3	
Planned Progress	100%
Achieved Physical Progress	1 %

Table 2-8 Sahiwal WATSAN (Lot-4) Pipe Production

Dia Inch	Class	Today	Previous	Up to	Production
15	IV	--	47	47	81
	III	--	193	193	
18	IV	--	233	233	25
21"	81IV	6	304	310	25
24"	--	--	--	--	--
27"	IV	4	396	400	100
	III	--	151	151	
30"	III	2	60	60	24
33"	III	1	61	62	14
	IV	--	175	175	

36"	III	--	100	100	36
	II	4	82	86	
42"	IV	--	9	9	100
	III		96	96	
48"	IV	--	331	331	19
54"	IV	--	42	42	--
60"	IV	--	--	--	--
72"	IV	--	770	782	17
Total		29	3050	3079	26.91%

Table 2-9 Sahiwal WATSAN (Lot-4) Pipe laying

PIPE LAYING					
Dia Inch	Today	Previous	Upto Date	Work	Total Pipe Nos
15	--	--	--	--	295
18	--	--	--	--	293
21"	--	--	--	--	1210
24"	--	--	--	--	162
27"	--	--	--	--	549
30"	--	148	148	26.96%	256
33"	--	--	--	--	419
36"	--	--	--	--	1001
42"	--	--	--	--	
48"	--	--	--	--	105
54"	--	261	261	23.02%	1134
60"	--	--	--	--	417
72"	--	--	--	--	471
Total	--	598	598	13.29%	4500

Table 2-10 Sahiwal WATSAN (Lot-4) Construction of Manhole

CONSTRUCTION OF MANHOLE					
Dia Inch	Today	Previous	Upto Date	Work	Total Pipe Nos
15	--	--	--	--	26
18	--	--	--	--	53
21"	--	--	--	--	58
24"	--	--	--	--	9
27"	--	6	6	23.08	26
30"	--	148	148	26.96%	13
33"	--	--	--	--	24
36"	--	--	--	--	44
42"	--	--	--	--	6
48"	1		7	7	31
54"	--	261	261	23.02%	8
60"	--	--	--	--	9
72"	2		9	9	79
Total	3	0	22	5.70	389

Works status Sialkot WATSAN Lot-1, Lot-2 & Lot-4

Table 2-7: Lot-01, Lot-02 & Lot-04, Sialkot

N o.	Description of Work	Planned Physical Progress as per POW			Actual Physical Progress as on			No of Days Dela yed	Rema rks / Reaso ns of Delay	Corre c tive Meas u res/Ac tions Take n
		Start Date	End Date	Plan ned %	Star t Dat e	Status	Actu al %			
LOT 1: SEWERAGE LINES AND ALLIED WORKS (ZONE 3-A)										
1.	Laying of RCC Pipes -Defense Road L3.8.4	20-Feb- 2022	21- June- 22	100 %	15- Feb- 21	500 Pipes of 42-inch dia has been laid 122 Pipes of 36-inch dia has been laid	100 %			

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2.	Backfilling of RCC pipes-Defense Road L3.8.4	18-April-22	2-July-22	100 %	15-April-22	Backfilling of RCC pipes-Defense Road L3.8.4 is almost completed	100 %			
3.	Laying of RCC Pipes -Roras Road L3.8.5	20-Feb-2021	29-Sep-21	100 %	15-Feb-21	181 Pipes of 33-inch dia has been laid 127 Pipes of 24-inch dia has been laid 137 Pipes of 21-inch dia has been laid 125 Pipes of 30-inch dia has been laid Chambers work Done	100 %			
4.	Backfilling of RCC Pipes -Roras Road L3.8.5	April-24-22	3-July-22	100 %	April-18-22	Backfilling of RCC Pipes -Roras Road L3.8.5 is almost completed	100 %			
5.	Laying of RCC Pipes – Lateral Line L3.8.5.4	20-Feb-2021	17-Apr-21	100 %	15-Feb-21	88 Pipes of 15” has been laid and restoration of road completed. Manhole brickwork completed	100 %			
6.	Laying of RCC Pipes – Lateral Line L3.8.5.2	20-Feb-2021	20-June-21	100 %	15-Feb-21	197 Pipes of 15” has been laid. 264 Pipes of 18” has been laid. Restoration remains.	100 %			
7.	Trunk Line L3.6	08-June-2022	02-Jul-22	0%	27-Sep-2021	238 Pipes of 54” dia has been Laid. 318 Pipes of 48” dia has been Liad	95 %			
8.	Trunk Line L3.5	29-Sep-2021	24-Dec-2021	100 %	1-Oct-2021	107 Pipes of 42” dia has been laid	48 %			
9.	Trunk Line L3.8.4 Defense Road	19-Nov-2021	15-Dec-2021	100 %	4-Dec-2021	145 Pipes of 54” has been laid. 242 Pipes of 60” has been laid. Manhole brickwork in Prog.	95 %			
10.	Lateral line L3.8.4.2-A Muzaffar Pura Road	15-Jul-2021	02-Aug-2021	100 %	2-Oct-2021	148 Pipes of 15” has been laid. 65 Pipes of 18” has been laid. Manhole brickwork in Prog.	97 %			
11.	Lateral Line 3 Kakay Wali					35 Pipes of 21” has been laid. 91 Pipes of 21” has been laid.	30 %			
12.	Lateral Line 3.1 Kakay Wali	01-Apr-2022	15-July-2022	85%	12-Feb-2022	135 Pipes of 21” has been laid. 80 Pipes of 21” has been laid.	95 %			

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13.	Khadim Ali Road L-3.6	18-March-2022	15-June-2022	100 %	18-Mar ch-2022	Asphaltic Base Coarse is completed	100 %			
LOT 2: RCC CONDUITS AND ALLIED WORKS (ZONE 3-A)										
1)	Factory Installation	17-Dec-2020	17-Dec-22	100 %		Factory Installed				
2)	Single Cell Conduit Production	28-Feb-21	20-Nov-22	100 %	26-Feb-21	Concrete of 1183 SCC completed	56 %			
3)	Double Cell Conduit Production	28-Feb-21	20-Nov-22	100 %	26-Feb-21	Concrete of 768 Cell completed	23 %			
4)	Double Cell Conduit Laying Airport Road	15-Mar-21	15-Nov-21	100 %		12 conduits have been laid	6%	292	Workin g has been stopped and backfill ed due to monsoo n season	Backfilli ng of laid conduit have been done for the affluenc e of local during rainy season

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5)	Single Cell Conduit Laying Marala Road	16-Apr-21	06-Feb-22	99%	4-Sep-21	Laying of 548 SCC completed	36%		Overall work is slow due to land sliding and utilities exposed. Shifting of electric poles also delayed the progress.	Left over shuttering rate analysis and shop drawings, quotation and method statement submitted to consultant and waiting for approval. The pace of work and safety of worker will be enhanced when left over shuttering will be used at site.
6)	Backfilling of Single Cell	26-March-22	5-july-22	85	18-April-22	all the laid single cell conduit at Marala road has been back	56%			
	Conduit Marala Road					filled and compacted properly				
LOT 03: Construction of Pumping Station and Allied Works										
1.	Dismantling of Road Structure	Dec 8, 2022	30-June-2022	7.62%	Dec 8, 2022	June 15, 2022	5.92%	51604 CFT		1
2.	Excavation	Dec 9, 2022	30-June-2022	75%	Dec 9, 2022	30-June-2022	68%	261520 CFT		3

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3.	Pipe Jointing	Dec 9, 2022	30-June-2022	14.8 %	Dec 9, 2022	30-June-2022	17.2 5%	129 No		3
4.	Pipe Laying	Dec 13, 2022	30-June-2022	13.6 %	Dec 13, 2022	30-June-2022	15.4 1%	4796 RFT		5
5.	Sand Filling	Dec 13, 2022	30-June-2022	8.36 %	Dec 13, 2022	30-June-2022	8.81 %	17200 CFT		4
6.	Back Filling	Dec 13, 2022	30-June-2022	13.4 7%	Dec 13, 2022	30-June-2022	15.4 1%	70000 CFT		7
7.	Pumping Station Boundary Wall Excavation	7 April-22	15-April-22	48%	7 April-22	North and South Boundary Wall excavated	32%	552 RFT		
8.	Sand Laying of Pumping Station Boundary Walls	24-April-22	15-June-22	46%	24-April-22	North & South side boundary wall sand filling is completed	42%	45	Site possession issues and rainfall	
9.	Layout of Wells at Pumping Station	15-June-22	22-June-22	46%	15-June-22	Layout of Wells at Pumping Station is completed	39%			
LOT 4: WATER SUPPLY SYSTEM (ZONE 3-D)										
1	Over Head Water Tank T19 UC Mubarak Pura	21-Jan-2021	15-Jun-2022	91%	26-Dec-2021	Top Roof Slab Concrete is Completed	85 %			1
2	Over Head Water Tank T40 UC Bounkan	20-Jan-2021	15-Jun-2022	91%	4-Jan-21	Bowl Framework is completed	77%			2
3	Over Head Water Tank T18 UC Model Town	20-Jan-2021	11-Jun-2022	91%	14-Jan-21	Bowl Folding	70%			3
4	Over Head Water Tank T10 UC Water Works	23-Jan-2021	6-June-2022	95%	21-Jan-21	RCC Shaft is Completed and Bowl Formwork in Progress	85%			4
5	Over Head Water Tank T50 UC Ahmad Pura	1-Mar-2021	31-Mar-2022	97%	-	Shaft is Completed	70%			5
6	New Tube wells (14 nos.)	17-Dec-2020	16-Jun-2022	90%	17-Dec-20	Boring & Lowering and D&T completed @ 7 no. Tube well.	55%			6

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7 8	Pipe Laying of Water Supply Line 3.8.4 at Defense Road	14-Jan-2021	28-June-2022	100 %	19-Jan-2021	Pipe Laying of Water Supply Line 3.8.4 at Defense Road is Completed	100 %			7
	New Filtration Plants			85%			0%		Insufficient Working Space	8
9	Replacement of existing Filtration Plants			75%			15%		Insufficient Working Space	9
10	Water Distribution Network	17-Dec-2020	16-Jun-2022	85 %	17-Dec-20	Excavation and pipe laying in progress	35%		73527 RFT HDPE Pipe has been tested	10

2.4 Description of Any Changes to Project Design

28. All the projects have been commenced/ constructed on the same design and route which is given in IEEs. No major change has been made to the project design.

2.5 Description of Any Changes To Agreed Construction Methods

29. No change in the construction methodology has taken place except the addition of shuttering for deep trenches to avoid land sliding during civil work i.e in case of Lot-01 Sialkot pipe laying, jointing of pipe and manhole construction as well as in case of Lot-02 Sialkot laying and jointing of conduit cells remaining works are continued with the initially developed method statements.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

30. The key monitoring activities conducted within the reporting period are as follows:

- Quarterly EMP compliance monitoring was carried out by environment teams to identify any environmental non-compliance issues requiring attention;
- Following the EMP guidelines, instrumental environmental monitoring through an independent environmental laboratory was arranged by the Contractor's environment team, which was initiated in July and December 2020;
- Supervision for trainings being conducted by Contractor for its staff were provided by the PMU & EPCM environment teams;
- Trainings on HS Plan implementation for Contractors staff were organized by the HS team;
- The EPCM environment team held follow-up meetings with the Contractors for checking the compliance status of previously highlighted issues.'
- ADB Environment Team Mr. Syed Asim Ali Sabzwari (Country Environment Focal -Pakistan) and Shazia Shahid (Environment Consultant) have conducted Country Safeguards Review Mission in January 2022. The purpose of the mission was to monitor and follow up on EMP implementation and training need assessments. They carried meetings with PMU, CIU, NESPAK and Contractors and site visits were also carried to sub projects in Sahiwal and Sialkot. A CAP was prepared by ADB environment team based on field visits and meetings. The status of the CAP as of June 2022 is provided in section 7 in table 7.1.
- Environmental Specialist - Consultant has carried out monthly environmental compliance monitoring of the project to ensure the environmental mitigation measures or conditions are adequately addressed. The monthly environmental monitoring report has been submitted to PMU.
- The Environmental Specialist - PMU also did the few surprises visit of the sites during this reporting period and any non-conformance noted were immediately passed to the contractor and Consultant Environmental Specialist.
- Environmental Specialist - Consultant have also guided the contractor and its

environmental specialist on compliance of the non-conformances identified during the reporting period

- The contractor environmental specialists have conducted the regular field inspections and compliance were checked through Environment Checklist which were then shared with the contractor and Environmental Specialist (Consultant). The contractor environmental specialists submit the environmental progress of the site through monthly environmental compliance report to the environmental specialist of Consultant.

3.2 Site Inspections / Monitoring's

31. Contractors are supposed to conduct internal inspections and review by their own staff to ensure a safe, healthy, and secure environment, both physically and behaviorally, for workers, equipment, property, visitors, and the public. NESPAK has undertaken site inspections of all under execution subprojects. The findings of these inspections are being updated regularly in monthly environmental monitoring reports. Contractors are advised to submit weekly environmental monitoring checklist reports to NESPAK and implement the environmental compliance activities in accordance with the approved IEEs/EMPs. Contractors are improving their environmental compliance. To ensure implementation of EMP the contractors were asked to nominate their focal persons/site inspectors who will be responsible for environmental safeguards implementation, the contractors have dedicated environmentalists in their staff. The nominated site inspectors, HSE Managers and Environmentalists were trained on EMP/SSEMP implementation and directed to submit weekly checklist regularly to NESPAK.
32. Assistant Resident engineers of NESPAK carried out field visits of all subprojects on regular basis. During these field visits meetings are convened with the contractors' staff and workers, visual observations and photographs are taken and key findings are discussed with the concerned engineering staff and the contractors. Recommendations are communicated to the contractor to address environmental issues and non-compliances on all the subprojects.
33. The contractor environmental specialists have conducted the regular field inspections. The results of the internal inspections have been shared with the contractor staff itself and to the Consultant-Environmental Specialist.
34. The PMU-Environmental Specialist (Consultant) also has undertaken the

monthly site inspections of all the Lots. The detail of site inspections and its significant findings is given in table below;

Table 3-1: Site Inspections with Significant Non-Compliances at Sahiwal

Lots	Significant Non-Compliance
<p>Lot-1: Water Supply System, Filtration Plants, Tube Wells, OHRs, SCADA and Allied Works</p> <p>Lot-2: North zone A Trunk Main Sewer Lines and Allied works.</p> <p>Lot-3 North Zone (B) Sewerage system for conduit, pumping station and allied works.</p> <p>Lot-4: South Zone (Water Supply and Sanitation)</p>	<ul style="list-style-type: none"> Workers at the OHR shaft are exposed to height hazards and no safety harness is provided to them. Personal protective equipment (PPE) must be provided to workers. Shuttering must be placed at deep excavation sites. Manhole was not fully covered. Implementation of COVID SOPs was weak at the site. Water sprinkling is advised to be done regularly. (Dust was observed on site). Flagman was not fully equipped e.g. Red flag in hand with whistle and mask. Hard barricades with safety precaution boards need to be placed at the excavated site. An emergency number and ambulance may place on all sites.

35. Few of the common issues were identified during current reporting period summarizes as under:-

- a)** The Contractors mostly provided PPEs to their work force but the weak implementations have been observed on Lot I, Lot II and lot III. The non-conformances notices have been issued and the contractors were instructed to provide the PPEs and train / motivate the workforce for the use of PPEs. The responsibility should be given to the site in charge for proper implementation.

- b)** The signage and bifurcation issue were also common on both Lots during

this reporting period.

- c) Debris material observed on site which was causing social problems. It is advised to the contractor to remove this debris on urgent basis.
- d) Signage related to health and safeties as well as Traffic Management Plan were missing. The flag men were limited and were not fully equipped.
- e) The fire extinguishers were not refilled and properly placed in Lot-I. Water sprinkling was also advised to the contractor for both Lots (I & II) because there was dust on site as evidence.
- f) Ambulance services are also not seen at sites however contractors have vehicles to deal with emergencies.

Table 3-2 Site Inspections with Significant Non-Compliances at Sialkot

Lots	Significant Non-Compliances
<p>Lot- I - Laying of Sewerage Lines and Allied Works</p> <p>Lot-II - Laying of Pre-Cast RCC Conduits and Allied Work</p> <p>Lot-IV - Laying of Water Distribution Network</p>	<ul style="list-style-type: none"> • Shoring of trench to avoid land sliding during the work in deep work site not provided • Use of hard barricade around the deep trenches not provided completely • Excavation only such lengths of trenches which can be backfilled in 2 to 3 days in wide streets and 01 day in narrow streets to avoid inconvenience to the public was not followed. • Safety Barriers along deep excavations to avoid any mishap not provided completely. • Ensure Dust Control on site. • Provide and fix banners in eye catching colours on all working sites, showing general information of the project and in particular, start and completions dates in that particular area. • Few of the signage are also missing • Workers at OHR shaft are exposing to height hazard and no safety harness is provided to them. • HSE Manager for Lot-02 not appointed yet

36. As already reported during the previous reports, the environmental guidelines are being followed. However, the contractors have willingness to follow the environmental guidelines and the environmental team of PMU is continuously

working on the capacity building. Some of the findings of the recent environmental inspection are as follows:

- a)** HSE manager of Lot-02 has to be hired.
- b)** Weekly checklists are being submitted on regular basis.
- c)** Water sprinkling is done regularly on dust prone areas where the dry, loose dirt picks up in the wind.
- d)** Collecting Kitchen waste at separate bins and disposing of in a pit at designated area/s has been improved at all under construction sites.
- e)** Construction equipment and machinery is fitted with silencers and maintained properly.
- f)** Surface water or ground water contamination, due to oil spillage or solid waste, has not occurred at any sites.
- g)** No noise level exceeding the permissible NEQs limits was recorded at all under construction sites. Third Quarterly Environmental Monitoring was missed due to the financial conflicts.
- h)** Site fencing with warning tape has been done on almost all the sites while sign boards are placed on sites.
- i)** During the reporting period, number of complaints were received but no major grievances were recorded. Contractors are addressing the issues on priority basis in consultation with PMU and NESPAK. Other minor onsite grievances are being addressed in consultation with local communities.
- j)** There are no damages to houses or shops at any site.
- k)** No damage to Archaeological /Religious/Cultural or Historical sites.
- l)** First Aid Kits are available at construction sites.
- m)** Dispensary has been developed at Campsite for health and Safety of workers.
- n)** Ambulance services are also not seen for all lots separately at sites however contractors have vehicles to deal with emergencies.

Table 3-3 Site Inspections with Significant Findings at PLGA

Project	Significant Findings
Construction of the Punjab Local Government Academy (PLGA) in Lahore	<ul style="list-style-type: none"> • Use of damaged electrical power and hand tools on site • Unprotected Air duct on basement zero level. • Unauthorized entry in confined area • No Warning sheet at leading edges and related signboards

37. The corrective action plan and trainings brought major change in the behavior of contractors. As a result, environmental compliance is seriously considered in project execution. Site inspectors have been trained and SSEMPs are being implemented. The implementation of SSEMP and further trainings will bring major change in the behavior of the contractor's staff towards environmental friendly construction of all the sub projects. The contractors have assured that they will not harm the local environment and will take all the necessary steps for the protection and conservation of natural environment and will make sure the health safety of workers and local community.

3.3 Issues Tracking (Based on Non-Conformance Notices)

Sahiwal Lot-01, Lot-02, Lot-03 and Lot-4

38. The overall environmental progress of almost all of the subprojects improved during this reporting period. The total average compliance status was 76.92%, which is calculated on the basis of observation checklist.

39. The issues found at Sahiwal during this reporting period is given as under:-

- No hard barricade around the deep trenches at each lot.
- Working in deep trenches without the shoring of trenches
- Delays in restoration work of Lot-02.
- Presence of debris / excavated material at project site e.g. dismantle material, bricks etc. The issue of the dust emission, scattered material, poor housekeeping, signage, waste disposal, refilling of fire extinguishers were found on Lot I & II.
- Insufficient Quantity of traffic diversion Sign Boards at the railway road site was noticed.

- Due to COVID-19 multiple instructions related to working SOPs has been issued which was not entirely followed.
- The non-conformance notices were issued and it was conveyed to the Contractor to implement all Health safety and Environment Related measures specifically the measures mentioned above.

40. The summary of the issues is given as under:-

Table 3-4 Summary of Issues Tracking Activity for Current Period at Sahiwal

Lot Name	Total number of issues for the project	Number of open issues	Number of Closed Issues	Percentage closed	Issues Open this reporting period	Issues Closed this reporting period
Lot-1: Water Supply System, Filtration Plants, Tube Wells, OHRs, SCADA and Allied Works Sahiwal	6	1	5	83	6	5
Lot-2: North zone A Trunk Main Sewer Lines and Allied works. Sahiwal	9	7	2	77	9	2
Lot-3 North Zone (B) Sewerage System for conduit, pumping station and allied works.	5	2	3	75	5	3
Lot-4 Lot-4: South Zone (Water Supply and Sanitation)	4	1	3	75	4	3
Accumulative Data	24	11	13	77.5	24	13

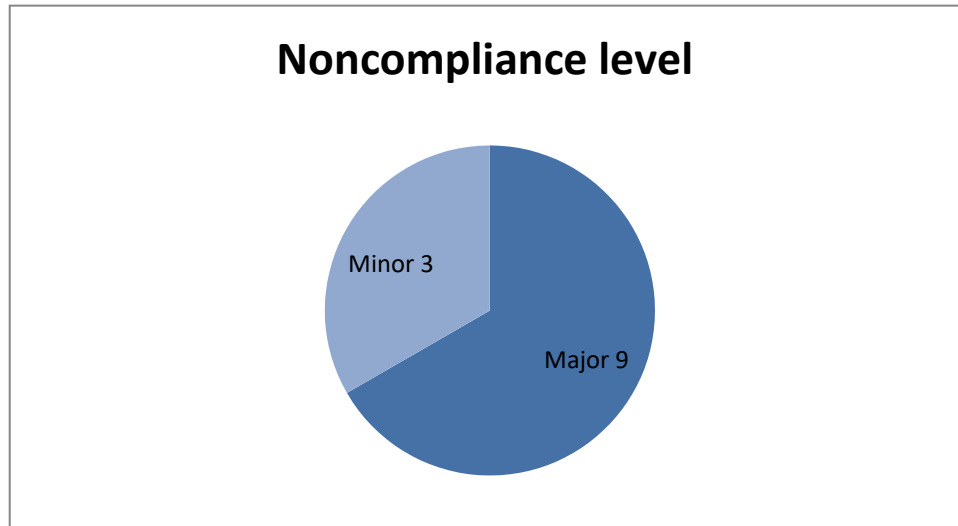


Figure 3-1 Summary of Issues by Non-Conformance at Sahiwal

Sialkot Lot-01, Lot-02 & Lot-04

41. The overall environmental progress of almost all of the subprojects remain consistent during this reporting period. The total average compliance status was 75.20%, which is calculated on the basis of observation checklist attached as Annex-E.

42. The major issues opened during this reporting periods are

- i) Working in deep trenches without the shoring of trenches
- ii) Land sliding at Lot-02 due to deep excavation and less available space for open cutting of trench
- iii) Delays in restoration work of Lot-04 and Lot-01
- iv) Usage of only warning tape instead of hard barricade around the deep work site
- v) Week implementation of PPE's found on Lot I and IV.
- vi) Work at Height without safety harness was observed at site

43. Issue no i. is still partially open at multiple sites and the contractor was advised to submit daily checklist on regular basis. Contractors were directed to ensure the shoring of deep trenches and adopt best engineering practices to avoid land slide. The contractors were also directed to place safety sign boards and fence the site to avoid trespassing. The overall situation of sites was unsatisfactory due to the conflict between contractors and EPCM consultant on provision of shoring/ shuttering;

Table 3-5 Summary of Issues Tracking Activity for Current Period at Sialkot

Lot Name	Total number of issues for the project	Number of open issues	Number of Closed Issues	Percentage closed	Issues Open this	Issues Closed this reporting period
Lot- I - Laying of Sewerage Lines and Allied Works	6	2	4	70	4	2
Lot-II - Laying of Pre-Cast RCC Conduits and Allied Work	3	3	0	0	3	0
Lot-III – Construction of Pumping Station and Forcemain laying	2	1	1	50	1	1
Lot-IV - Laying of Water Distribution Network	5	2	3	80	2	2
Accumulative	16	8	8	50	10	5

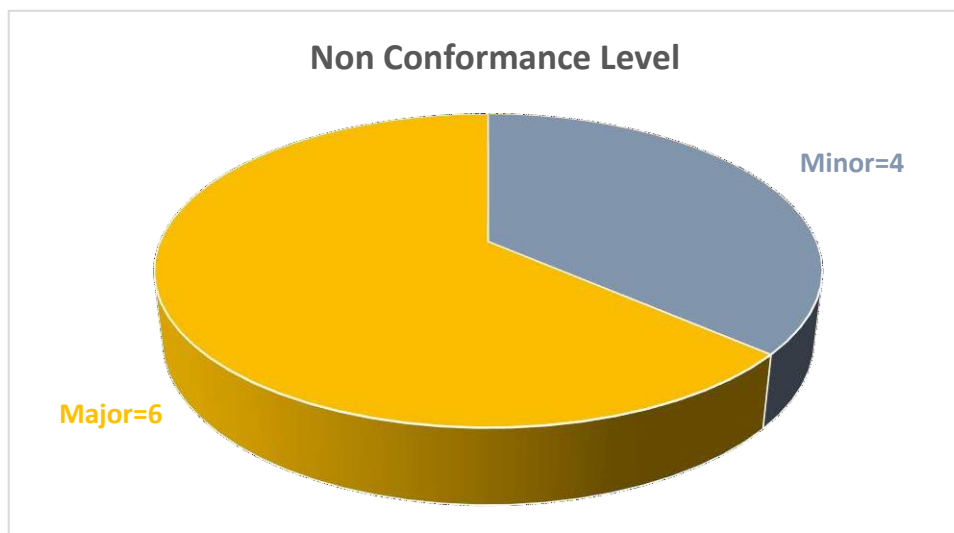


Figure 3-2 Summary of Issues by Non-Conformance at Sialkot

PLGA

44. The issues found during this reporting period at PLGA is given as under:-

- i. The issue of the scattered material, poor housekeeping was found. It was advised to the contractor to manage all waste properly.

- ii. Use of damaged electrical power and hand tools on site
- iii. Unprotected Air duct on basement zero level.
- iv. Unauthorized entry in confined area
- v. No Warning sheet at leading edges and related signboards. The non-conformance notices were issued to the contractor and it was conveyed to implement all Health safety and Environment Related measures specifically the measures mentioned above.

45. The summary of the issues is given as under:-

Table 3-6: Summary of Issues Tracking Activity for Current Period at PLGA

Project Name	Total number of issues for the project	Number of open issues	Number of Closed Issues	Percentage closed	Issues Open this reporting period	Issues Closed this reporting period
Punjab Local Government Academy (PLGA) in Lahore	4	0	4	100	4	4

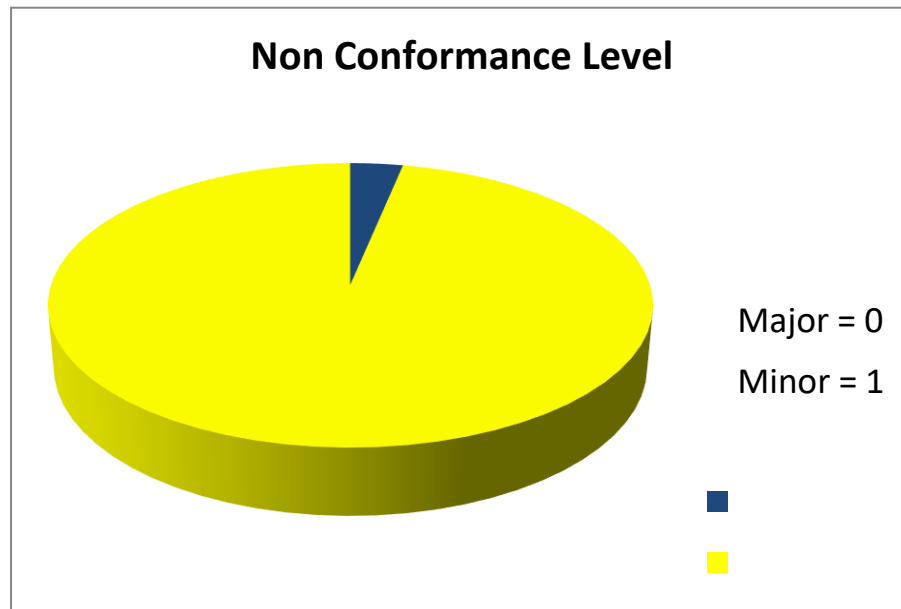


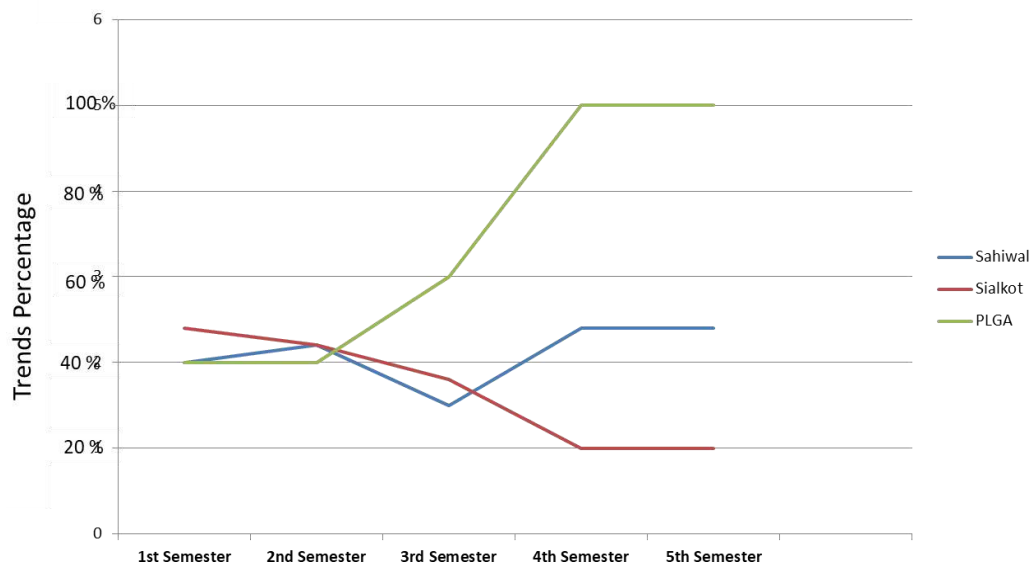
Figure 3-3 Summary of Issues by Non-Conformance at PLGA

46. The nominated site/ environmental inspectors of NESPAK are themselves catering the Environmental issues. The overall situation of sites was satisfactory;

47. Only few issues open in each of subproject which are mostly relevant to the use of PPEs due to personal behavior of workers or their careless attitude towards the safety,. Contractors are instructed to give awareness and training regularly for use of PPEs and supervision consultant instructed to strictly monitor the implementation.

3.4 Trends

48. As this is the fifth semiannual report for the WATSAN Contracts, so the trends during this and previous reporting period were negative in the start which then moving slowly towards positive based on comparing the conformance and issues. While for the PLGA information from previous period reports and the current period information are used to identify trends in conformance and issues. The overall conformance status of the project is neither positive nor negative.



3.5 Corrective Action Plan (CAP)

49. Corrective action plan was implemented to eliminate the issues in which required action with target date and responsibilities were assigned. The detail of CAP for each sub-project is described in Table 3-7 to Table 3-9 below

Table 3-7: Corrective Action Plan (CAP) For Environment, Health And Safety Issues For Sahiwal

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Target Date	Implementation Responsibility	Supervision Responsibility	Status by 31 st December, 2021	Timeline
1	Safe passage around deep trenches	Usage of only warning tape instead of hard barricade	Provision of hard barricade around deep trenches	Safe passage provided and Training of Workers conducted regarding hazards and risk control measures.	Continuous efforts needed	Contractors PMs	Supervision Health & Safety/Environmental Specialist	Non-compliance letters issued to contractors and Partially implemented	30 th July 2022
2	Covid-19 SOP's were not fully implemented	Some workers are not wearing Masks at site.	Masks should be provided to workers, the one who don't wear should be penalized.	Wearing of masks and presence of sanitizers and masks at camp and construction site.	Immediately	Environment Team Contractor's Management /	Environmental specialist	Partially Implemented	30 th July 2022

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3	Housekeeping at Campsites / Offices	The general housekeeping conditions at the camp and office blocks are required to be further improved.	Kitchen and Toilet areas should be kept clean all the times.	Noticeable levels of cleanliness. Verification by camp Incharge.	Continuous efforts needed	Contractor's Environment /Safety Team	Environmental specialist	Mostly Implemented	30 th July 2022
4	Trainings sessions	Frequency of trainings is required to be increased.	Arrangement of training sessions for HSE staff, Contractor's Management staff and key members of site staff for awareness of HSE Importance at worksite.	HSE training conducted and attended by all staff members	Every Month	OHS Manager and Health and Safety Team	Health & Safety/Environmental Specialist	Partially Implemented	30 th July 2022
5	Road Safety	Missing road safety / diversion signs at the diversion	Road safety signs / diversion signs to be installed.	Swift and safe traffic movement. Road safety signs installed.	Continuous efforts needed	Contractor's Health & Safety Team	Environmental specialist	Partially Implemented	30 th July 2022
6	Chemical Safety and management	Missing MSDS at chemical storage	Provision and display of MSDS in chemical store room	Complied with Chemical management standards	Continuous efforts needed	Contractor's Health & Safety Team	Environmental specialist	Partially Implemented	30 th July 2022

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7	Consultant supervision for SSEMP	Environment Specialist from SC is missing	Appointment of dedicated Environment Specialist from supervision consultant	Improved compliance of SSEMP	Continuous efforts needed	DTL NESPAK	DTL NESPAK		30th July 2022
8	Occupational health and safety	Workers are reluctant to wear PPEs regularly.	H&S Champion program on a monthly basis to encourage the workers adhere with various EHS requirements	PPEs worn by each staff and worker at site 100%.	Continuous efforts needed	Contractor's Health & Safety Team	Supervision Health & Safety/Environmental Specialist	-	30th July 2022

Table 3-8: Corrective Action Plan (CAP) For Environment, Health And Safety Issues For Sialkot

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Target Date	Implementation Responsibility	Supervision Responsibility	Status by 30 th Jun, 2022	Timeline
1	Safe workplace in deep trenches	Shoring of deep trenches was not provided to avoid land sliding	Provision of shoring and best engineering practices in deep/ confined spaces	Land sliding restricted and Training of Workers conducted regarding hazards and risk control measures.	Continuous efforts needed	Contractors PMs	Supervision Health & Safety/Environmental Specialist	Non-compliance letters issued to contractors and Partially implemented	30 th July 2022
2	Safe passage around deep trenches	Usage of only warning tape instead of hard barricade	Provision of hard barricade around deep trenches	Safe passage provided and Training of Workers conducted regarding hazards and risk control measures.	Continuous efforts needed	Contractors PMs	Supervision Health & Safety/Environmental Specialist	Non-compliance letters issued to contractors and Partially implemented	30 th July 2022

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Target Date	Implementation Responsibility	Supervision Responsibility	Status by 30 th Jun, 2022	Timeline
3	Occupational health and safety	Workers not provided with all essential PPEs, where provided they were not wearing PPE's.	Provision of required PPEs (Especially Safety Shoes, Mask & Gloves to Asphalt workers) to all staff at site.	PPEs worn by each staff and worker at site 100%.	Continuous efforts needed	Contractor's Health & Safety Team	Supervision Health & Safety/ Environmental Specialist	Now the Issue have been resolve, PPE's are Provided to the workers, where workers were not wearing PPE's Penalty letters issued to them by the contractor for strict implementation of SSEMP's.	30 th July 2022

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Target Date	Implementation Responsibility	Supervision Responsibility	Status by 30 th Jun, 2022	Timeline
4	Housekeeping at Campsites / Offices	The general housekeeping conditions at the camp and office blocks are required to be further improved.	Kitchen and Toilet areas should be kept clean all the times.	Noticeable levels of cleanliness. Verification by Engineer's	Continuous efforts needed	Contractor's Environment/ Safety Team	Environmental specialist	Mostly Implemented	30 th July 2022
5	Trainings sessions	Frequency of trainings is required to be increased.	Arrangement of training sessions for HSE staff, Contractor's Management staff and key members of site staff for awareness of HSE Importance at worksite.	HSE training conducted and attended by all staff members	Every Month	OHS Manager and Health and Safety Team	-	Mostly Implemented	
6	Excavation only such lengths of trenches which can be backfilled in 2 to 3 days in	Workers were not provided with coloured jackets and proper uniform and it is	Meetings with Site Staff to aware them about on ground conditions and what should be done to	Training of Workers conducted regarding hazards and risk control	Continuous efforts needed	Contractor's Environment/Safety Team	HSE Manager	Partially Implemented	30 th July 2022

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Target Date	Implementation Responsibility	Supervision Responsibility	Status by 30 th Jun, 2022	Timeline
	wide streets and 01 day in narrow streets to avoid inconvenience to the public.	advised to contractor to backfill excavations within 2-3 days.	avoid any mishap.	measures.					
7	Chemical Safety and management	Missing MSDS at chemical storage	Provision and display of MSDS in chemical store room	Complied Chemical management with standards	Continuous efforts needed	Contractor's Health & Safety Team	Environmental specialist		30 th July 2022
8	Consultant supervision for SSEMP	Environment Specialist from SC is missing	Appointment dedicated of Environment Specialist from supervision consultant	Improved compliance of SSEMP of	Continuous efforts needed	DTL NESPAK	DTL NESPAK		30 th July 2022
9	Occupational health and safety	Workers are reluctant to wear regularly PPEs	H&S Champion program on a monthly basis to encourage the workers adhere with various EHS requirements	PPE worn each staff worker at 100%. by and site	Continuous efforts needed	Contractor's Health Safety Team	Supervision Health & Safety/Environmental Specialist		30 th July 2022

Table 3-9: Corrective Action Plan (CAP) For Environment, Health And Safety Issues For PLGA

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Target Date	Implementation Responsibility	Supervision Responsibility	Status by 31st Jun, 2022
1	Use of damaged electrical power and hand tools on site	Use of hazardous power and hand tools	All tools to be maintained in good condition All damaged tools to be removed from use	Electrical tools are being appropriately stored to avoid damage Damaged tool has been removed from site Tools only being used for the task intended in line with specification All cables taped down, covered or attached at a high level	immediately	Environment Team Contractor's Management /	Environmental specialist	Implemented
2	Unprotected Air duct on basement zero level.	Worker could fall from unprotected air ducting	Every ducting on floor should be barricaded and covered to warn about potential hazard.	Unprotected duct at basement zero level on site has been covered and barricaded. Safety signboard has been placed. Worker have been warned and trained.	Continuous efforts needed	Environment Team Contractor's Management /	Environmental specialist	Implemented

3	Unauthorized entry in confined area	Entrance of nearby worker and visitor in confined area	No visitor and worker should be allowed to enter without work permit in confined area. Confined area should be barricade, signage must be displayed at entrance.	Safe system of work permit has been enforced.	Continuous efforts needed	Environment Team Contractor's Management	Environmental specialist	Implemented
4	No Warning sheet at leading edges and floor opening	Hazardous leading edges and floor opening at multiple floor	Protective Barricade sheets must be display on floor edges where parapet wall is not constructed yet to highlight potentially hazards	Use of Green net sheets and safety signboards on floor opening and leading edges to warn worker and visitor for potential hazard. Use of work permit for activity.	Continuous efforts needed	Environment Team Contractor's Management	Environmental specialist	Implemented

3.6 Unanticipated Environmental Impacts or Risks

1.1.1 COVID-19 PANDEMIC

50. The world has experienced a new potent challenge in the shape of Corona virus disease (COVID-2019). To intercept its local transmission Government of Punjab has issued Standard Operating Procedures for construction site. To ensure safety and prevention from COVID-19 at worksites, the following measures have been taken by the HSE teams at Sialkot, Sahiwal and PLGA Lahore, which have been strictly monitored:

- Temperature checking before entering to site and anyone who has high temperature or a new persistent cough and difficulty in breathing are not allowed to enter the construction site.
- Disinfection of working place and equipment periodically through Chlorine spray tanks
- Maintaining worker minimum 1-meter distance during work or at mess and sanitization before entering or leaving site,
- Visitors / meetings in closed room are not allowed or cancelled and safety sign regarding Covid-19 displayed.
- Ensure use of Personal Protective Equipment's (PPE) on site without PPEs workers / staff is not allowed to enter the site.
- Awareness training of workers to control the spread of epidemic and safety on construction site.
- To keep the workers safe from this pandemic situation, the contractor takes extra care and fully implement the Standard Operating Procedures (SOPs) issued by Punjab Government for construction industry. The contractor has started the Covid-19 vaccination program to ensure the health of staff and workers. The labour is not allowed to work if they are not vaccinated.

3.7 Grievance Redressal Mechanism

51. A grievance redress mechanism is already in place since May 5, 2020. It is three tiers structures, i) Grievance Redress Committee at Field Level, ii) Grievance Redress Committee at Worthy Commissioner Office Level and iii) Grievance Redress Committee at PMU and Local Government & Community

Development Department Level). The GRM is a gender responsive, culturally appropriate, and readily accessible to the stakeholders at no cost and without retribution. All these complaints were recorded in complaint register place in the respective sites offices, the complainants were informed through departments and community.

52. Field inspections by the Contractors, Management Consultant and CIUs were regularly made. Each of these has assigned manager in charge of environmental management. They also serve as grievance focal points.
53. During this reporting period many public complaints due to construction activities have been issued and resolve within 48 hours time period, so the community will not have to face any problem at each of subproject sites at Sahiwal and Sialkot while none of the complaint was received in case of PLGA. Overall, no major conflict with the community was observed. Cordial liaison has been maintained with local community. The details of complaints are presented in below tables 3-10 and 3-11.

Table 3-10: Grievance Register Record Lot-01, Lot0-02, Lot-04 Sialkot

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
02-01-22	Osama near defense road	HSE Manager	Verbal	PTCL line was damaged	PTCL team was called and maintenance were done and resolved the issue	Closed	02-01-22	00
16-01-22	Shafiq Principal Govt. Technical college Khadim Ali road Sialkot	HSE Manager	Written	Construction material not managed	Site incharge called the earthwork team and cleared the site.	Closed	17-01-22	01
16-01-22	Usama Bhatti jinah home	HSE Manager	Verbal	Water supply line was damaged	MC department was approached and damaged water supply line was rectified	Closed	16-01-22	00
20-01-22	Imran Sab	HSE Manager	Verbal	Manhole cover was stolen by someone	site incharge was called the team and they installed new manhole cover	Closed	20-01-22	00
03-02-22	Ahmad near khadim Ali road	HSE Manager	Verbal	Water supply line was damaged	MC department was approached and damaged water supply line was rectified	Closed	03-02-22	00
07-02-22	Locals resident near khadim Ali road	HSE Manager	Verbal	Electric cable was damaged	Electrician was called and repaired the damaged cable	Closed	07-02-22	00
12-02-22	Locals resident	HSE Manager	Verbal	Excavated material was not removed	Site incharge called the earthwork team and	Closed	12-02-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
					cleared the site so that locals not face any problem			
13-02-22	Local residents	HSE Manager	Verbal	Road pollution due to dust	HSE supervisor called the water browser operator and advised him to sprinkle water twice a day	Closed	13-02-22	00
18-02-22	Local residents	HSE Manager	Verbal	Electric wire was damaged	Electrician was called and repaired the damaged cable	Closed	18-03-22	00
04-03-22	Asif Iqbal local shopkeeper Khadim Ali Road	HSE Manager	Verbal	Dust issue	Site incharge was called and he advised the water sprinkling team to sprinkle the water twice a day so surrounding people may not face any issue due to dust pollution.	Closed	04-03-22	00
05-03-22	Advocate Jamshaid local resident model town Sialkot	HSE Manager	Verbal	Traffic jam	HSE Manager called the site HSE supervisor and said him to install sign board and traffic diversion board to avoid any kind of traffic jam	Closed	05-03-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
09-03-22	Tahir local resident defense road Sialkot	HSE Manager	Verbal	No access route for traffic	To provide route for the traffic worked area was backfilled and proper route was provided to traffic	Closed	09-03-22	00
17-03-22	Local resident Khadim Ali road	HSE Manager	Verbal	Provide guidance to people about traffic diversion	Help was taken from local police	Closed	17-03-22	00
22-03-22	Samam Ali Khadim Ali road Sialkot	HSE Manager	Verbal	Dust issue	HSE supervisor called the water sprinkling team to sprinkle the water twice a day so surrounding people may not face any issue due to dust pollution	Closed	22-03-22	00
28-03-22	Local resident Khadim Ali road Sialkot	HSE Manager	Verbal	No alternative route is provided	Alternative route for traffic flow was provided and diversion sign board was also installed for the ease of the locals	Closed	28-03-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
03-04-22	Mian Mughees Prem nagar SLK	HSE Manager	Verbal	Excavated material is not removed from the street	Site incharge called the team and removed the material	closed	03-04-22	00
12-04-22	Azeem Khan Khadim Ali road SLK	HSE Manager	Verbal	No access route for traffic	To provide route for the traffic worked area was backfilled and proper route was provided to traffic	Closed	12-04-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
18-04-22	Qurban Ali defense road Sialkot	HSE Manager	Telephonic	Dust problem due to vehicle movement	Water sprinkling team was instructed to sprinkle water twice a day	Closed	18-04-22	00
22-04-22	Local resident air ort road	HSE Manager	Verbal	Dust problem due to vehicle movement	Water sprinkling team was instructed to sprinkle water twice a day	Closed	22-04-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
28-04-22	Tahir leather industry owner Marala Road Sialkot	HSE Manager	Verbal	Gas line was reported as damaged.	SNGPL Line got damage. The contractor contacts the SNGPL authority to look after the damage of Pipeline. They immediately block the pipeline and work on its maintenance.	closed	28-04-22	00
15-05-22	Rehman Ali Owner of Filling station	HSE Manager	Written	Surface Dressing & Leveling in front of filling station at Marala Road	Immediately Site Crew was called with Machinery and rectification were made at the spot	Closed	15-05-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
17-05-22	Aziz Bhatti Shopkeeper Khadim Ali road	HSE Manager	Verbal	Dust issue due to vehicle movement	Water sprinkling team was advised to sprinkle water twice a day	Closed	17-05-22	00
19-05-22	Kamran Sadique principal HSC Defence road	HSE Manager	Via Phone	Dust issue due to vehicle movement	Water sprinkling team was advised to sprinkle water twice a day	Closed	19-05-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
19-05-22	Local Shop Keepers along 36 inch dia site	HSE Manager	Verbal	Disturbance Of Traffic due to Excavated material	Concern Site was Called at the spot and asked him to shift immediately excavated material.	Closed	19-05-22	00
23-05-22	Local Community resident near Marala road	HSE Manager	Verbal	Suffocation and Inhalation Problem due to dust	Concerned Sub Contractor was instructed strictly for water sprinkling on several time in a day	Closed	23-05-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
25-05-22	Ishfaq Chishti Double Cell Conduit Air Port Road	HSE Manager	Written	Electric cable was breakdown	ZKB electrician was called and immediately the issue was rectified	Closed	25-05-22	00
27-05-22	Zia Ullah kakaywali	HSE Manager	Verbal	Excavated material was not cleared from the streets	Lot 04 site incharge instructed the sub- contractor to clear all the site	Closed	27-05-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
19-06-22	Kamran Sadique principal HSC defense road	HSE Manager	Via Phone	Dust issue due to vehicle movement	Water sprinkling team was advised to sprinkle water twice a day	Closed	19-06-22	00
19-06-22	Local Shop Keepers along 36 inch dia site	HSE Manager	Verbal	Disturbance Of Traffic due to Excavated material	Concern Site was Called at the spot and asked him to shift immediately excavated material.	Closed	19-06-22	00

Date of Complaint	Complainant Name & Address	Complaint Received by	Method of Complaint Verbal, Letter, Email	Main Issue	Action Taken	Status	Date Closed	Days Open
15-06-22	Khurram Shahzad Kapoor wali Sialkot	DC office	Written	Alternative route is not provided	Alternative router was provided one from college road and other one from behind the chand bagg society all the alternative route was prepared well by grader and pits was filled with soil	Closed	16-06-22	01
22-06-22	Ishaq OHR Bonhin Road	HSE Manager	Written	Tough tile was not repaired	Site incharge called the earth work team and repaired the tough tile.	Closed	25-06-22	03
30-06-22	Locals22the earth work team and repaired the	HSE Manager	Verbal	Stagnant water of rain was not removed from the road near Double cell conduit	Site supervisor called the team and dewater the stagnant water from the road	Closed	30-06-22	00

Table 3-11: Grievance Register Record Lot-01 Lot-02 Lot-03 and Lot-04 Sahiwal

Date of complaint	Name & Address of complaint	Phone Number	Details of complaint	Action Taken include date	Details of follow up complaint	Sign off as action closed
03-01-2022	Najeeb Khan Jahaz Ground	----	Sewerage pipe damage	Channel was repaired. 03-01-2022	03-01-2022	Cleared
10-01-2022	Imran Bloch Farid Town	----	Dust issue	Water sprinkling on daily basis. 10-01-2022	10-01-2022	Cleared
17-01-2022	Maryam Shafi Farid Town	0332-7792132	Dust & Backfilling issues	Water sprinkling on daily basis. 17-01-2022	17-01-2022	Cleared

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18-01-2022	M Amir Farid Town	040458222	Pipe laying issue	The contractor trained the workers. 18-01-2022	18-01-2022	Cleared
18-01-2022	Haroon Aslam Farid Town	0321-6925022	Pipe missing issue	18-01-2022	18-01-2022	Cleared
31-01-2022	Rafqat Javeed Jahaz Ground	0305-5132384	Dismantling issues	Dismantling materials was removed on site 31-01-2022	31-01-2022	Cleared
05-02-2022	Zahid Farid Town	0301-3261651	Dismantling issues	Instructed to staff clear all the excavated materials from the site. 05-02-2022	05-02-2022	Cleared

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10-02-2022	M. Saeed Farid Town	0306-6922899	Dismantling issues	Instructed to staff clear all the excavated materials from the site. 10-02-2022	10-02-2022	Cleared
15-02-2022	M. Umair Farid Town	0331-6782922	Sewage pipe damaged	Sewage pipe was repaired within 24 hours. 15-02-2022	15-02-2022	Cleared
19-02-2022	Kamran Abad	0313-30025200	Gutter damaged	Gutter was repaired within 24 hours. 19-02-2022	19-02-2022	Cleared
26-02-2022	Ali Raza Farid Town	0303-5450512	Dust Issue	Water sprinkling required after 3 hours. 26-02-2022	26-02-2022	Cleared

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05-03-2022	Ali Razaq Farid Town	0348-5081933	Dust Issue	Water sprinkling required after 3 hours. 05-03-2022	05-03-2022	Cleared
12-03-2022	Naeem Aslam Farid Town	0309-5931789	Dismantling issues	Instructed to staff clear all the excavated materials from the site. 12-03-2022	12-03-2022	Cleared
18-03-2022	Umer Gondal Jahaz Ground	0345-6782134	Dismantling issues	Instructed to staff clear all the excavated materials from the site. 18-03-2022	18-03-2022	Cleared

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28-03-2022	Akif Mirza Farid Town	0300-4403512	Dismantling issues	Instructed to staff clear all the excavated materials from the site 28-03-2022	28-03-2022	Cleared
04-04-2022	Rehan Aslam Farid Town	0315-6518283	Sewage line damage	Sewage pipe was repaired within 24 hours. 04-04-2022	04-04-2022	Cleared
20-04-2022	M. Qasim Farid Town	0336-1419512	Dust Issue	Water sprinkling required after 3 hours. 20-04-2022	20-04-2022	Cleared

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22-04-2022	Haneef Jahaz Ground	0341-7585209	Dismantling issues	Instructed to staff clear all the excavated materials from the site. 22-04-2022	22-04-2022	Cleared
27-04-2022	Habib-ur-Rehman Jahaz Ground	0306-1419475	Water pipe line damage	Water pipe was repaired within 24 hours. 27-04-2022	27-04-2022	Cleared
10-05-2022	Aleem Farid Town	0305-1335450	Dismantling issues	Instructed to staff clear all the excavated materials from the site. 10-05-2022	10-05-2022	Cleared
18-05-2022	Wahad Ali Galla Mandi	0341-6513959	Sewage line damage	Sewage pipe was repaired within 24 hours. 18-05-2022	18-05-2022	Cleared

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24-05-2022	Waqas Zahid Canal Colony	0313-3579189	Dust Issue	Water sprinkling required after 3 hours. 24-05-2022	24-05-2022	Cleared
07-06-2022	M Bilal Farid Town	0304-5433202	Dust Issue	Water sprinkling required after 3 hours.	07-07-2022	Cleared
15-06-2022	M. Jameel Dosehra Ground	0345-1435253	Sewage Line Damage	Sewage line was repaired within 24 hours	15-06-2022	Cleared
19-06-2022	Saleem Amjad City Area	0336-7426512	Dismantling Issue	Dismantling materials was removed	19-06-2022	Cleared

26-06-2022	Hassan Ali Dosehra Ground	0309-4563089	Dismantling Issue	Dismantling materials was removed	26-06-2022	Cleared
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Table 3-12: Grievance Register Record Lot-02 and Lot-03

Date	Complainant Name	Gender	Complaint received	Method of Complaint	Main issue	Action taken	Status	Date closed
15-05-2022	Local resident of new fareed town	male	HSE manager	verbal	The existing sewerage course was broken and water flooded in to excavation trench	On immediate basis trenches were backfilled to avoid to damage house	closed	15-05-2022
20-05-2022	Shop owner insisted to shift the soil for their customer	Male	HSE manager	verbal	Excavated material	Immediately remove the extra soil	close	20-05-2022

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

54. Internal environmental monitoring consists of two types. The first type consists of visual inspections of project activities and associated impacts such as soil erosion, restoration of vegetation, solid waste disposal and etc. The second type requires field sampling and lab analysis of water quality, air quality and noise levels. The field sampling and lab analysis of each lot have been conducted, including air, noise and water quality during the reporting period for 1st and 2nd quarters at Sialkot. At Sahiwal, environmental monitoring for the first quarter was missed due to contractor financial issues, and the second environmental monitoring of lots 1 and 4 has been conducted. Having missed the quarterly environmental monitoring of lots 2 and 3, he has been instructed to conduct the monitoring at the earliest while at PLGA major structure has been completed and all the environmental monitoring's also have been completed in previous reporting period as per BOQ plan.
55. Field inspections have been undertaken by the on-site environmental and Health Safety team of Project Management Consultant including one ARE and one Inspector headed by Resident Engineer and Environmental Specialist on a regular basis. As far as contractors are concerned overall 4 member's team at each sub project implement and monitor the Environmental, Health and Safety that includes the Project Manager, Construction Manager, HSE Manager and Environmental Specialist.
56. The environmental monitoring was carried out by using, daily, weekly and monthly EMP compliance (checklists) as well as through visual observations to get information on the actual nature and extent of key impacts and the effectiveness on mitigation and enhancement measures outlined in the Site Specific Environmental Management Plans (SSEMP) and agreed by the Contractors under the contracts. The SSEMP covered all the aspects mentioned in the project specific EMPs for each project. The monitoring of noise and vibration, surface and groundwater, air quality, flora and fauna, camp sites, top soil erosion, cultural heritage and safety provisions are discussed in this section. All the subprojects are category B projects and environmental approval from ADB was obtained.

57. The IEEs prepared for subprojects includes Environmental management plan (EMP) that addresses the potential impacts. Mitigation measures are considered so that the projects are designed, constructed, and operated in compliance with applicable national and provincial laws and regulations and meets the requirements of ADB SPS, 2009. Contractors are provided with monitoring checklist for the better understanding of the Environment. The overall status of Environmental Compliance was monitored and presented as Annex D-F.

58. A monthly monitoring checklist was prepared to assess the environmental impacts of the projects on the surrounding environment. On careful review of this form, inconsistencies and duplication of questions were corrected such that any “yes” answer indicates compliance and any “no” indicates no compliance. The “NA” or not applicable answers were also tallied; however, no reasons for non-applicability were included, thus making these results less useful. To date the contractors, have prepared checklists till Jun, 2022 which have been checked by the site Environment Specialist and submitted to the Consultant office. The analysis showed that non-compliance was most often in the areas of waste disposal. Traffic management, dust pollutions, health and safety and contractor’s good housekeeping. The possible instructions related to the non-compliance have been given to the contractors by Environmental Specialist of Consultant which the contractor rectified within given time frame. The sample monthly monitoring checklist has been attached as Annexure C-E of this report.

4.2 Trends

59. Keeping in mind the construction volume the impacts on water quality, air quality and noise is negligible and no major change was noticed after analyzing the test results. The results of monitoring checklist indicate that EMP compliance is increasing as already discussed above.

4.3 Summary of Monitoring Outcomes

60. The Instrumental monitoring of some environmental parameters are discussed hereunder:

Sialkot Lot-01, Lot-02, Lot-4

4.3.1 INSTRUMENTAL MONITORING

61. The instrumental monitoring of air quality and noise as well as water testing has been conducted at sites.

4.3.2 NOISE MONITORING

62. Noise monitoring on construction sites is being carried out to assess impacts of noise level generated to curtail its adverse impacts on workers, nearby communities, and fauna of the area. For this purpose, noise level monitoring is being carried out by using digital noise level meter for continuous 24 hours to know the noise value at Defense Road & Khadim Ali Road for Lot-01, Marala Road and Airport Road for Lot-02, Airport Road for Lot-03, Water Works and Capital Road for Lot-04 and campsite considering the sensitive receptors at site. Contractors are advised to keep their machinery in good condition and provide personal protective equipment's (PPEs) like ear plugs to the working staff at noise generating sites. Speed of the trucks and other vehicles used for construction activities were to be controlled and the construction activities were to be limited to daytime only.

63. The environmental monitoring conducted during Mar, 2022 deduces that no noise or vibration related complaints from public or workers were registered at any of the subproject site. However, Environment team of NESPAK has reinforced contractor staff to adopt mitigation measures to reduce the impact of noise and vibration as delineated in EMPs. NESPAK environment team repeatedly advised the contractors to keep their machinery in good condition and provide personal protective equipment (PPE) like ear plugs to the working staff to worn at noise generating sites. HSE Manager advised the contractor to provide PPEs to workers. Contractors of all subproject's sites were advised to control vehicle speed and restrict construction activities to daytime only. Environmental Specialist advised the contractors to carry out noise monitoring by using noise meter on regular basis. Noise testing was carried out at 4 sub projects sites (2 Points on Each Project) and campsite where construction activities were in progress.

64. Results of instrumental monitoring of noise are given in the exhibit below:

Table 4-1: Noise Monitoring Results Lot 1, Lot 2, Lot-03 and Lot 4 for 1st Quarter

S. No	Sub Project	Result (Average 24hrs)	NEQS/WHO (dB)	PEQS (dB)
1	Lot-1	53.03	65	65
2		55.17	65	65
3	Lot-2	52.16	65	65
		61.05		
4	Lot-3	54.03	65	65
5		52.08	65	65
6	Lot-4	53.9	65	65
7		55.5	65	65
8	Camp Site	62.4	65	65

Table 4-2: Noise Monitoring Results Lot 1, Lot 2, Lot-03 and Lot 4 for 2nd Quarter

S. No	Sub Project	Result (Average 24hrs)	NEQS/WHO (dB)	PEQS (dB)
1	Lot-1	54.01	65	65
2		57.9	65	65
3	Lot-2	58.13	65	65
		59.6		
4	Lot-3	51.01	65	65
5		57.08	65	65
6	Lot-4	52.6	65	65
7		51.5	65	65
8	Camp Site	62.5	65	65

4.3.3 AIR QUALITY MONITORING

65. The potential sources of air pollution during construction are the vehicles, kick-off dust, asphalt plant and crusher. Visual observations were noted to monitor water sprinkling at dust prone areas during the construction activities. The occasional sprinkling of water observed at all sites. The concerned contractors were advised to take care to control the dust emissions. Visual observations

were also made for fitness of the vehicles to minimize the smoke emissions. The contractors' environment specialists of each Lots ensured that the dust should be reduced to maximum possible level so that it may not affect the workers and the surrounding environment including the native people.

66. Contractor is adopting measures helpful in controlling air quality deterioration in the subproject activity areas like regular water sprinkling to reduce the air dust emissions and regular tuning of vehicles maintaining the equipment properly to minimize the smoke and other gaseous emissions. The objective was to minimize the airborne particulate matter, dust pollution and fumes of vehicular emissions into the atmosphere to avoid negative impacts on the health of construction workers, residents, and nearby vegetation.
67. Visual observations were made to monitor regular water sprinkling at dust prone areas during the construction activities and to monitor the vehicular emissions to minimize the smoke emissions. Contractors ensured water sprinkling at most of the sites. Contractors are regularly checking up their construction vehicles and machinery to comply the vehicular exhaust emission levels. Contractors regularly tune their vehicles at all the subproject sites. The use of masks and helmets are mandatory at construction sites by workers. Transportation of excavated material by using covers on the dumpers to avoid spills is observed at Site.
68. The results of instrumental monitoring are presented in Table below;

Table 4-3: Air Quality Monitoring Results (24 hrs) Lot 1, Lot 2, Lot-03 and Lot 4 for 1st Quarter

S. No	Parameters	Unit	Lot-1	Lot-2	Lot-03	Lot-4	Camp site	PEQS	WHO	Baseline
1	PM 2.5	ug/m ³	26	28	29	31	31	35 ug/m ³	15	27
2			27	39	28	31				
3	PM 10	ug/m ³	64	61	71	55	65	150 ug/m ³	45	129
4			72	56	69	77				
5	CO	mg/m ³	1.69	0.85	0.95	0.88	0.99	5 mg/m ³	--	0.74
6			0.92	0.85	0.79	0.89				
7	NO ₂	ug/m ³	3.28	2.56	5.29	10.96	5.39	80	40	15.67
8			8.39	7.69	6.29	5.29				
9	SO ₂	ug/m ³	15.96	14.75	18.56	16.97	16.89	120 ug/m ³	125	18.79
10			15.69	14.69	13.75	17.69				
11	NO	ug/m ³	5.25	4.9	6.08	8.29	9.45	40 ug/m ³	--	10.75
12			7.29	8.2	7.19	9.36				
13	NO _x	ug/m ³	8.96	6.71	11.69	19.25	14.89	130 ug/m ³	120.0	26.42
14			15.69	15.85	13.45	15.63				

Table 4-4: Air Quality Monitoring Results (24 hrs) Lot 1, Lot 2, Lot-03 and Lot 4 for 2nd Quarter

S. No	Parameters	Unit	Lot-1	Lot-2	Lot - 03	Lot-4	Campsit e	PEQS	WHO	Baseline
1	PM 2.5	ug/m ³	28	29	29	28	28	35 ug/m ³	15	27
2			28		28	27				
3	PM 10	ug/m ³	47	75	71	82	68	150 ug/m ³	45	129
4			71		69	55				
5	CO	mg/m ³	0.3	0.5	0.95	04	0.47	5 mg/m ³	--4	0.74
6			0.6		0.79	0.7				
7	NO ₂	ug/m ³	1.5	16.5	5.29	21.8	4.2	80	25	15.67
8			1.4		6.29	10.8				
9	SO ₂	ug/m ³	18.9	19.5	18.56	14.8	24.5	120 ug/m ³	40	18.79
10			12.8		13.75	18.9				
11	NO	ug/m ³	4	14.5	6.08	3.7	14.2	40 ug/m ³	--	10.75
12			3.7		7.19	4.2				
13	NO _x	ug/m ³	5.2	31.5	11.69	25.4	18.5	130 ug/m ³	120.0	26.42
14			15.69	15.85	13.45	10.8				

69. All the environmental parameters were analyzed during the environmental testing to assess the level of compliance with the most stringent standards/guidelines between the PEQS and IFC standards. As can be observed in the **Tables 4-2** above, the pollutant parameter PM_{2.5} on few of monitoring sites and PM₁₀ at camp site is exceeding the applicable standards/guidelines of IFC with the remaining parameters within the applicable limits. The main reason for the exceedance of PM_{2.5} is overall poor air quality due to traffic and industrialization in Sialkot city. However, it shall be ensured that more stringent measures are implemented in order to ensure that these exceedances are brought within the applicable limits when the monitoring is conducted in the next quarter. In particular, the following measures shall be implemented:

- An increased volume of sprinkling of water shall be conducted to ensure that the airborne dust emissions are brought down to within the applicable standards/guidelines.

- Excavated material will be covered and will not be stored for long intervals site;
- All vehicles, machinery, equipment and generators used during construction activities will be kept in good working condition and be properly tuned and maintained in order to minimize the exhaust emissions.
- Preventive measures against dust will be adopted for on-site mixing and unloading operations.

4.3.4 WATER QUALITY MONITORING

70. Subproject construction activities should not lead to pollution or contamination of surface and groundwater in the subproject area knowing that contamination bears direct effects on human health. Therefore, preventive measures are required to be taken to save water sources. Contractors are guided to take measures at camp site to prevent water pollution in the adjoining stream, water channel and in groundwater: Construction of sewage system with septic tank to dispose of sanitary wastewater and lined wash areas are the other measures contractors were asked to take to prevent pollution of water. Furthermore, contractors are asked to avoid oils spills in subproject areas.

71. Environment staff has observed no surface or groundwater pollution caused by construction activities. Contractors tested surface and drinking water from certified labs for physical, chemical and biological parameters. No water borne disease (gastro, diarrhea, etc.) has been noticed. Sewerage system/septic tanks at camp sites were constructed. Contractors are advised to ensure operation and maintenance of drainage system to avoid contamination of ground and surface water sources. Contractors are also advised to avoid oil spill to protect ground water and surface water channels.

72. The samples of drinking water from project sites and surface water quality were tested in 2022. The results are given in the Annexure-B.

Table 4-5: Drinking Water Quality Monitoring Results at Sialkot for 1st Quarter (Lot 1, 2 & 4)

S#	Parameters	PEQS Limits	WHO Limits	Unit	Lot-1	Lot-2	Lot-03	Lot-4
01	PH	6.5 – 8.5	6.5 – 8.5	pH	7.58	7.47	7.69	7.68
02	Ordour	Non-Objectionable	Non-Objectionable	-	Nil	Nil	Nil	Nil
03	Taste	Non-Objectionable	Non-Objectionable	-	Unobj	Unobj	Unobj	Unobj

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04	Color	<15 TCU	<15 TCU	Pt/Co	Unobj	Unobj	Unobj	unobj
05	Turbidity	<5 NTU	<5 NTU	NTU	1.3	0.5	0.39	2.4
06	Total Hardness	<500 mg/l	<500 mg/l	mg/l	132.0	235	152	239
07	Total Dissolved Solid	<1000	<1000	mg/l	479	726	915	697
08	Chloride (Cl)	<250	-	mg/l	29	54	144	35
09	Cyanide (Cn)	<0.05	<0.07	mg/l	BDL	BDL	BDL	BDL
10	Fluoride (F)	<1.5	<1.5	mg/l	BDL	0.24	0.46	0.7
11	Nitrite	<3 (P)	<3 (P)	mg/l	0.05	BDL	0.02	0.05
12	Nitrate	<50	<50	mg/l	0.139	0.652	3.692	0.328
13	Phenol	-	-	mg/l	<0.01	BDL	BDL	BDL
14	Residual Chlorine	0.2 – 0.5	-	mg/l	<0.1	BDL	BDL	BDL
15	Aluminum (Al)	<0.2	-	mg/l	BDL	BDL	BDL	BDL
16	Cadmium	0.01	0.003	mg/l	BDL	BDL	BDL	BDL
17	Copper	2	2	mg/l	BDL	BDL	BDL	BDL
18	Chromium	<0.05 (P)	<0.05	mg/l	BDL	BDL	BDL	BDL
19	Mercury	<0.001	<0.006	mg/l	BDL	BDL	BDL	BDL
20	Antimony	<0.005 (P)	<0.02	mg/l	BDL	BDL	BDL	BDL
21	Nickel	<0.02	<0.07	mg/l	BDL	BDL	BDL	BDL
22	Zinc	5.0	-	mg/l	BDL	BDL	BDL	BDL
23	Arsenic	<0.05 (P)	<0.01	mg/l	BDL	BDL	BDL	0.02
24	Barium	0.7	0.7	mg/l	BDL	BDL	BDL	BDL
25	Manganese	<0.5	-	mg/l	BDL	BDL	BDL	BDL
26	Lead	<0.05	<0.01	mg/l	BDL	BDL	BDL	BDL
27	Selenium	0.01 (P)	0.04	mg/l	BDL	BDL	BDL	BDL
28	Ammonia	-	-	mg/l	BDL	BDL	BDL	BDL
29	Boron	0.3	2.4	mg/l	BDL	BDL	BDL	BDL
30	Iron	-	-	mg/l	0.1	BDL	BDL	BDL
31	Total Coliforms	0/100ml	0/100ml	CFU/100mm	0	0	0	0
32	Faecal Coliforms (Ecoli)	0/100ml	<0.5	CFU/100mm	0	0	0	0

Table 4-6: Drinking Water Quality Monitoring Results at Sialkot for 2nd Quarter (Lot 1, 2 & 4)

S#	Parameters	PEQS Limits	WHO Limits	Unit	Lot-1	Lot-2	Lot-03	Lot-4
01	PH	6.5 – 8.5	6.5 – 8.5	pH	7.78	7.47	7.69	7.42
02	Ordour	Non-Objectionable	Non-Objectionable	-	Nil	Nil	Nil	Nil
03	Taste	Non-Objectionable	Non-Objectionable	-	Unobj	Unobj	Unobj	Unobj
04	Color	<15 TCU	<15 TCU	Pt/Co	Unobj	Unobj	Unobj	unobj
05	Turbidity	<5 NTU	<5 NTU	NTU	0.23	0.24	0.39	0.5
06	Total Hardness	<500 mg/l	<500 mg/l	mg/l	132.0	185	152	176
07	Total Dissolved Solid	<1000	<1000	mg/l	479	582	915	546
08	Chloride (Cl)	<250	-	mg/l	35.9	63	144	56
09	Cyanide (Cn)	<0.05	<0.07	mg/l	BDL	BDL	BDL	BDL
10	Fluoride (F)	<1.5	<1.5	mg/l	0.5	0.7	0.46	0.7
11	Nitrite	<3 (P)	<3 (P)	mg/l	BDL	BDL	0.02	BDL
12	Nitrate	<50	<50	mg/l	0.014	0.175	3.692	0.039
13	Phenol	-	-	mg/l	BDL	BDL	BDL	BDL
14	Residual Chlorine	0.2 – 0.5	-	mg/l	<0.1	BDL	BDL	BDL
15	Aluminum (Al)	<0.2	-	mg/l	BDL	BDL	BDL	BDL
16	Cadmium	0.01	0.003	mg/l	BDL	BDL	BDL	BDL
17	Copper	2	2	mg/l	BDL	BDL	BDL	BDL
18	Chromium	<0.05 (P)	<0.05	mg/l	BDL	BDL	BDL	BDL
19	Mercury	<0.001	<0.006	mg/l	BDL	BDL	BDL	BDL
20	Antimony	<0.005 (P)	<0.02	mg/l	BDL	BDL	BDL	BDL
21	Nickel	<0.02	<0.07	mg/l	BDL	BDL	BDL	BDL
22	Zinc	5.0	-	mg/l	BDL	0.059	BDL	0.07
23	Arsenic	<0.05 (P)	<0.01	mg/l	BDL	BDL	BDL	0.008
24	Barium	0.7	0.7	mg/l	BDL	BDL	BDL	BDL
25	Manganese	<0.5	-	mg/l	BDL	BDL	BDL	BDL
26	Lead	<0.05	<0.01	mg/l	BDL	BDL	BDL	BDL
27	Selenium	0.01 (P)	0.04	mg/l	BDL	BDL	BDL	BDL
28	Ammonia	-	-	mg/l	BDL	BDL	BDL	BDL

29	Boron	0.3	2.4	mg/l	BDL	BDL	BDL	BDL
30	Iron	-	-	mg/l	0.1	BDL	BDL	BDL
31	Total Coliforms	0/100ml	0/100ml	CFU/100mm	0	0	0	0
32	Faecal Coliforms (Ecoli)	0/100ml	<0.5	CFU/100mm	0	0	0	0

Sahiwal Lot-01, Lot-02, Lot-03 & Lot-04

73. Third party environmental monitoring from the lab for first quarter of this year is missed due to financial issues of contractor, contractor is advised to carried out the monitoring at earliest. Lot-2 and 3 was not conducted the environmental monitoring due to financial issues. However, the following practices were adopted to physically monitor the sites and impacts assessment
74. The potential sources of air pollution during construction are the vehicles, kick-off dust, asphalt plant and crusher. Visual observations were noted to monitor water sprinkling at dust prone areas during the construction activities. The occasional sprinkling of water observed at all sites. The concerned contractors were advised to take care to control the dust emissions. Visual observations were also made for fitness of the vehicles to minimize the smoke emissions. The contractors' environment specialists of each Lot ensured that the dust should be reduced to maximum possible level so that it may not affect the workers and the surrounding environment including the native people.
75. Contractor is adopting measures helpful in controlling air quality deterioration in the subproject activity areas like regular water sprinkling to reduce the air dust emissions and regular tuning of vehicles maintaining the equipment properly to minimize the smoke and other gaseous emissions. The objective was to minimize the airborne particulate matter, dust pollution and fumes of vehicular emissions into the atmosphere to avoid negative impacts on the health of construction workers, residents, and nearby vegetation.
76. Visual observations were made to monitor regular water sprinkling at dust prone areas during the construction activities and to monitor the vehicular emissions to minimize the smoke emissions. Contractors ensured water sprinkling at most of the sites. Contractors are regularly checking up their construction vehicles and machinery to comply the vehicular exhaust emission levels. Contractors regularly tune their vehicles at all the subproject sites. The

use of masks and helmets are mandatory at construction sites by workers. Transportation of excavated material by using covers on the dumpers to avoid spills is observed at Site.

77. Noise monitoring on construction sites is being carried out to assess impacts of noise level generated to curtail its adverse impacts on workers, nearby communities, and fauna of the area. Contractors are advised to keep their machinery in good condition and provide personal protective equipment's (PPEs) like ear plugs to the working staff at noise generating sites. Speed of the trucks and other vehicles used for construction activities were to be controlled and the construction activities were to be limited to daytime only.
78. However, Environment team of NESPAK has reinforced contractor staff to adopt mitigation measures to reduce the impact of noise and vibration as delineated in EMPs. Environmental Specialist advised the contractors to carry out noise monitoring by using noise meter on regular basis.

4.3.5 NOISE MONITORING

79. Noise monitoring on construction sites is being carried out to assess impacts of noise level generated to curtail its adverse impacts on workers, nearby communities, and fauna of the area. For this purpose, noise level monitoring is being carried out by using digital noise level meter for continuous 24 hours to know the noise value at subproject locations. Contractors are advised to keep their machinery in good condition and provide personal protective equipment's (PPEs) like ear plugs to the working staff at noise generating sites. Speed of the trucks and other vehicles used for construction activities were to be controlled and the construction activities were to be limited to daytime only.
80. The environmental monitoring conducted during may, 2022 deduces that no noise or vibration related complaints from public or workers were registered at any of the subproject site. However, Environment team of NESPAK has reinforced contractor staff to adopt mitigation measures to reduce the impact of noise and vibration as delineated in EMPs. NESPAK environment team repeatedly advised the contractors to keep their machinery in good condition and provide personal protective equipment (PPE) like ear plugs to the working staff to worn at noise generating sites. HSE Manager advised the contractor to provide PPEs to workers. Contractors of all subproject's sites were advised to control vehicle speed and restrict construction activities to daytime only.

Environmental Specialist advised the contractors to carry out noise monitoring by using noise meter on regular basis. Noise testing was carried out at 3 sub projects (3 Points on Each Project) where construction activities were in progress.

81. Results of instrumental monitoring of noise are given in the exhibit below:

Table 4-7: Noise Monitoring Results of 2nd quarter Lot 1 and lot 4 at sahiwal

S. No	Sub Project	Result (Average 24hrs)	NEQS/WHO (dB)	PEQS (dB)
1	Lot-1	62.82	65	65
2	Lot-4	60.1	65	65

4.3.6 AIR QUALITY MONITORING

82. The potential sources of air pollution during construction are the vehicles, kick-off dust, asphalt plant and crusher. Visual observations were noted to monitor water sprinkling at dust prone areas during the construction activities. The occasional sprinkling of water observed at all sites. The concerned contractors were advised to take care to control the dust emissions. Visual observations were also made for fitness of the vehicles to minimize the smoke emissions. The contractors' environment specialists of each Lots ensured that the dust should be reduced to maximum possible level so that it may not affect the workers and the surrounding environment including the native people.

83. Contractor is adopting measures helpful in controlling air quality deterioration in the subproject activity areas like regular water sprinkling to reduce the air dust emissions and regular tuning of vehicles maintaining the equipment properly to minimize the smoke and other gaseous emissions. The objective was to minimize the airborne particulate matter, dust pollution and fumes of vehicular emissions into the atmosphere to avoid negative impacts on the health of construction workers, residents, and nearby vegetation.

84. Visual observations were made to monitor regular water sprinkling at dust prone areas during the construction activities and to monitor the vehicular emissions to minimize the smoke emissions. Contractors ensured water sprinkling at most of the sites. Contractors are regularly checking up their construction vehicles and machinery to comply the vehicular exhaust emission

levels. Contractors regularly tune their vehicles at all the subproject sites. The use of masks and helmets are mandatory at construction sites by workers. Transportation of excavated material by using covers on the dumpers to avoid spills is observed at Site.

85. The results of instrumental monitoring are presented in Table below;

Table 4-8: Air Quality Monitoring Results (24 hrs) Lot-01 and Lot-04

S. No	Parameter s	Unit	Lot-1	Lot-4	Campsit e	PEQS	WHO	Baseline
1.	PM 2.5	ug/m ³	33.21	31.2	26.63	35 ug/m ³	15	30
2.	PM 10	ug/m ³	115.13	139	129.88	150 ug/m ³	45	127
3.	CO	mg/m ³	2.17	0.7	0.48	5 mg/m ³	4	0.73
4.	NO ₂	ug/m ³	25.43	21.8	12.09	80	25	15.70
5.	SO ₂	ug/m ³	20.53	14.8	7.66	120 ug/m ³	40	18.52
6.	NO	ug/m ³	17.9	3.7	5.07	40 ug/m ³	--	9.49
7.	NO _x	ug/m ³	43.33	25.4	17.16	130 ug/m ³	120.0	25.19

86. All the environmental parameters were analyzed during the environmental testing to assess the level of compliance with the most stringent standards/guidelines between the PEQS and IFC standards. As can be observed in the **Tables 4-9** above, the pollutant parameters PM_{2.5} and PM₁₀ on all sites are exceeding the WHO standards/guidelines with the remaining parameters within the applicable limits. The main reason for the exceedances of PM₁₀ and PM_{2.5} is overall poor air quality due traffic and industrialization in Sahiwal city. However, it shall be ensured that more stringent measures are implemented in order to ensure that these exceedances are brought within the applicable limits when the monitoring is conducted in the next quarter. In particular, the following measures shall be implemented:

- An increased volume of sprinkling of water shall be conducted to ensure that the airborne dust emissions are brought down to within the applicable standards/guidelines.
- Excavated material will be covered and will not be stored for long intervals at site; All vehicles, machinery, equipment and generators used during construction activities will be kept in good working condition and be properly tuned and maintained in order to minimize the exhaust emissions.

- Preventive measures against dust will be adopted for on-site mixing and unloading operations.

4.3.7 NATURAL HABITAT PROTECTION

87. As per SSEMP, the contractors should avoid damaging the natural habitats and to replant the damaged plants, if unavoidable, after construction. Also, the native wildlife and habitats should not be disturbed. However, no tree has been cut during construction processes on any of the subproject. Similarly, no native species are being disturbed due to the construction activities. Tree plantation cost is kept for each subproject.

88. Neither flora nor fauna were disturbed by the contractors until now at any of the subproject area since the subprojects involve only Construction of Water Supply and Sewerage System at Sialkot city which locate farer to wildlife habitats. Wildlife sanctuary does exist near any subproject site. No hunting of birds and animal is reported. Continuous monitoring is being carried out by environmental inspectors of NESPAK to check any hunting activity or activities damaging vegetation or wildlife habitat.

4.4 Material Resources Utilization

89. Material resources utilization is necessary to meet the objectives of the project and to satisfy the client's requirements. During reporting period, the Contractor faced financial problems which affected the project progress. The contractor's construction resources include:

- Materials
- Construction plant, tools and equipment
- Human Resources
- Space and facilities
- Subcontractor
- Finance

Table 4-9: Resources Used for Lot-01 & Lot-02 Sahiwal

Resources	Unit	Quantity			
		Lot-01	Lot-02	Lot-03	Lot-04
Material					
Cement	Ton /Bags	34980 bags	2453.04 ton	2253.04 ton	10798 Bags
Sand	Cft	19500	163189	143189	28231
Crush	Cft	29170	219335	189335	63166
Diesel	Ltr	167411	305115	15192	14284
Petrol	Ltr	14237	17923	10486	11975
Steel	Ton	540	560.38	536.38	221.966
Machinery					
Excavator	No.	4	3	3	1
Water Bozer	No.	1	1	1	1
Tractor Trolly	No.	4	7	7	1
Loader	No.	2	3	3	1
Front Blade Tractor	No.	3	4	4	2
Crane	No.	1	2	2	1
Pipe Production Machines	No.	-	5	5	7
Pipe Testing Machine	No.	-	1	1	-
Long Trailer(for pipe Shifting)	No.	2	2	2	-
Batch plant	No.	-	1	1	-
HDPE jointing machine	No.	3	-	-	-
Concrete Vibrator	No.	4	8	8	1
Plate Compactor	No.	3	4	4	1
Road Rollers	No	3	6	6	1
Mini Roller	No	2	3	3	1
Human Resource					
Engineer	No.	4	6	6	6
Supervisor/Forman/Surveyor	No.	13	18	18	15
Labour	No.	300	170	200	200

Table 4-10: Resources Used for Lot-01, Lot-02 & Lot-04 Sialkot

Resources	Unit	Quantity		
		Lot-01 & Lot-02	Lot-03	Lot-04
Material				
Cement	Ton/Bags	1950 Ton	-	955 Bags
Sand	Cft	150750	325290	260555
Crush	Cft	6580	-	5230
Steel	Ton	325	-	195
Diesel	Ltr	32450 & 35550	3090	9945
Petrol	Ltr	25200 & 14600	7590	9452
Machinery				
Excavator	No.	13	2	1
Water Bozer	No.	2	1	1
Tractor Trolly	No.	8	3	3
Loader	No.	4	2	1
Front Blade Tractor	No.	2	1	1
Crane	No.	4	1	1

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Pipe Production Machines	No.	4	-	-
Pipe Testing Machine	No.	1	-	-
Long Trailer(for pipe Shifting)	No.	2	1	-
Batch plant	No.	1	1	-
HDPE jointing machine	No.	-	2	2
Concrete Vibrator	No.	5	-	3
Plate Compactor	No.	5	2	1
Road Rollers	No.	2	1	-
Mini Roller	No.	2	1	1
Human Resource				
Engineer	No.	4	3	4
HSE Manager	No.	1	1	1
Safety Officer	No.	4	1	2
Supervisor/Forman/Surveyor	No.	17	10	13
Labour	No.	65	60	98

Table 4-11: Resources Used for PLGA

Resources	Unit		
		Quantity	
Material			
Cement	Bags	34,842	
Sand	Cft	174,783	
Crush	Cft	304,525	
Steel	Ton	450	
Diesel	Ltr	7324	
Petrol	Ltr	217	
Machinery(Daily Average)			
Generators	No.	5	
Loaders	No.	3	
Tower Crane	No.	1	
Jumping Compactor	No.	1	
Concrete Viberator	No.	4	
Water Pump	No.	3	
Crane	No.	1	
Welding Machine	No.	1	
Bar Cutting Machine	No.	3	
Bar Bending Machine	No.	3	
Tractor Trolley	No.	2	
Tractor Trailer	No.	1	
Transit Mixer	No.	3	
Water Boozor	No	1	
Concrete Batching Plant		1	
Wood Cutter		2	

Grinder		2	
Human Resource (Daily Average)			
Engineer	No.	5	
Supervisor/Forman/Surveyor	No.	13	
Labor	No.	79	

90. The use of water at construction sites for human needs, is basically related to the essential demands of employees of the construction site and these are preserved in accordance with the labour laws. At the construction site, the human water consumption, is for the following facilities: sanitary, housing, dining place, laundry, and kitchen, when preparing meals.

91. The other major use of water is for the sprinkling of water at project site for compaction and around the project site for dust control. Consumption of water for the reporting period at all project sites is given in Table 4-12 to 4-14 below

Table 4-12 Water Consumption During Current Period at Sahiwal

Sr. No.	Activity	Water Consumption in meter cube (m ³) for period January 2022 to June 2022
Lot- 1		
1	Accommodation at workers camp	160
2	Dust Suppression Activity	180
3	Site Offices	230
Lot-2		
4	Accommodation at workers camp	230
5	Dust Suppression Activity	330
6	Site Offices	150
Lot-3		
7	Accommodation at workers camp	230
8	Dust Suppression Activity	330
9	Site Offices	150
Lot-4		
10	Accommodation at workers camp	220
11	Dust Suppression Activity	180
12	Site Offices	140
Total Water Consumption		2530

Table 4-13 Water Consumption During Current Period at Sialkot

Sr. No.	Activity	Water Consumption in meter cube (m ³) for period January 2022 to June 2022
Lot- 1		
1	Accommodation at workers camp	191
2	Dust Suppression Activity	501
3	Site Offices	300
Lot- 2		
1	Accommodation at workers camp	180
2	Dust Suppression Activity	299
3	Site Offices	121
Sr. No.	Activity	Water Consumption in meter cube (m ³) for period January 2022 to June 2022
Lot- 3		
1	Accommodation at workers camp	147
2	Dust Suppression Activity	330
3	Site Offices	103
Lot-4		
4	Accommodation at workers camp	203
5	Dust Suppression Activity	153
6	Site Offices	182
Total Water Consumption		2710

Table 4-14 Water Consumption During Current Period at PLGA

Sr. No.	Activity	Water Consumption in meter cube (m ³) for period January 2022 to June 2022
1	Accommodation at workers camp	84
2	Dust Suppression Activity	384
3	Site Offices	270
Total Water Consumption		738

4.5 Chemical Storage and Arrangement

92. Chemicals used are very limited and mainly include epoxy and grouting powder.

All chemical are stored in Proper Shaded/ Dry Place at base camps of contractors with following arrangements

- Placed properly on concrete slab or steel sheet
- MSDS provided in store room
- Store Kept Clean/ Not Use for Other Activity
- Proper Ventilation provided
- Adequate PPEs are provided
- First Aid Facility provided Site & Camp
- Fire Extinguisher available
- Warning Signs installed

4.6 Waste Management

93. The construction waste from the project site consists of asphalt waste, batteries, containers/drums, excavated natural material, oil filters, motor oil, scrap material and concrete waste. The waste from offices and labour camp consists of the municipal waste both solid and liquid effluent.

94. The liquid waste from camp offices has been disposed of by using the septic tank. The septic tank is present at all the Lots and liquid waste has been disposed properly.

95. Each type of solid waste has been managed separately and is discussed in Table 4-15.

Table 4-15 General Waste Management Practice

Sr. No	Type of Waste	Mode of Disposal/Use
1	Asphalt Waste	<ul style="list-style-type: none"> • Reuse in applications such as base, and sub-base and some is blended for use in new asphalt
2	Batteries	<ul style="list-style-type: none"> • Sold to the Scrap metal recyclers
3	Empty Containers/drums	<ul style="list-style-type: none"> • Sold to the Scrap metal recyclers
4	Excavated natural material	<ul style="list-style-type: none"> • Reused off sites
5	Oil filters	<ul style="list-style-type: none"> • Sold to Recyclers
6	Motor Oil	<ul style="list-style-type: none"> • Sold to oil recycler for reprocessing and recovery.

7	Scrap material	<ul style="list-style-type: none"> Sold to the Scrap metal recyclers
8	Concrete Waste	<ul style="list-style-type: none"> Reuse in pavement base and sub-base
9	Municipal Solid Waste	<ul style="list-style-type: none"> Disposed in Landfill site

4.6.1 CUMULATIVE WASTE GENERATION

96. The waste generated all of three project sites from the cutting of earth is reused for back filling. The unused excavated material is disposed of at designated sites. Negligible construction waste including wire cutters, plastic and paper, etc. is generated at the site which can be recycled and reused in second market. Currently, all such waste is segregated disposed of temporarily on designated sites, identified and demarked before construction. Such waste is then removed to be reused in second market on regular interval with the help of specified subcontractors, assigned by each contractor.

97. Domestic waste is sold out to the vendors which then finally dispose off all collected wastes at designated Landfill Sites of each city. This method is identified in IEE reports and also the general practice of local municipality.

4.6.2 CURRENT PERIOD

Table 4-16 Waste Generation and Management During Current Reporting Period at Sahiwal

Sr. No	Type of Waste	Classification	Waste Source	Quantity	Mode of Disposal/Use
1	Batteries	Hazardous	Power using products such as	06 Nos. (All Lots)	Sold to the Scrap metal recyclers
			construction vehicles and generators		
2	Empty Containers/ drums	Non-Hazardous (residues have been removed by washing or vacuuming)	Use to Transport and storage Fuel and lubricants	23 Nos. (All Lots)	Sold to the Scrap metal recyclers
3	Excavated natural material	Non-Hazardous	From Excavation of Soil	189 cubic meters (All Lots)	Reused off sites
4	Oil filters	General solid waste (non-putrescible)	From Machinery, Construction Vehicles and Generators	39 Nos. (All Lots)	Sold to Recyclers

5	Motor Oil	Hazardous	From Machinery, Construction Vehicles and Generators	173 Litres (All Lots)	Sold to oil recycler for reprocessing and recovery.
6	Concrete Waste	General solid waste (non-putrescible)	culverts construction	20 - 27 m³ (All Lots)	Reuse in pavement base and sub-base
7	Municipal Solid Waste	General solid waste	Offices, Camp Site	03.4 Ton (All Lots)	Disposed in Landfill site
8	Medical waste	Hazardous	Camps	0	

Table 4-17 Waste Generation and Management During Current Reporting Period at Sialkot

Sr. No	Type of Waste	Classification	Waste Source	Quantity	Mode of Disposal/Use
1	Batteries	Hazardous	Power using products such as construction vehicles and generators	09 Nos. (All Lots)	Sold to the Scrap metal recyclers
2	Empty Containers/ drums	Non-Hazardous (residues have been removed by washing or vacuuming)	Use to Transport and storage Fuel and lubricants	12 Nos. (All Lots)	Sold to the Scrap metal recyclers
3	Excavated natural material	Non-Hazardous	From Excavation of Soil	256 cubic meters (All Lots)	Reused off sites
4	Oil filters	General solid waste (non-putrescible)	From Machinery, Construction Vehicles and Generators	72 Nos. (All Lots)	Sold to Recyclers
5	Motor Oil	Hazardous	From Machinery, Construction Vehicles and Generators	135 Litres (All Lots)	Sold to oil recycler for reprocessing and recovery.
6	Concrete Waste	General solid waste (non-putrescible)	culverts construction	15 - 20 m³ (All Lots)	Reuse in pavement base and sub-base
7	Municipal Solid Waste	General solid waste	Offices, Camp Site	1.7 Ton (All Lots)	Disposed in Landfill site

	Medical waste	Hazardous	Camps	0	
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Table 4-18 Waste Generation and Management During Current Reporting Period at PLGA

Sr. No	Type of Waste	Classification	Waste Source	Quantity	Mode of Disposal/Use
1	Batteries	Hazardous	Power using products such as construction vehicles and generators	07Nos.	Sold to the Scrap metal recyclers
2	Empty Containers/ drums	Non-Hazardous (residues have been removed by washing or vacuuming)	Use to Transport and storage Fuel and lubricants	34 Nos.	Sold to the Scrap metal recyclers
4	Oil filters	General solid waste (non-putrescible)	From Machinery, Construction Vehicles and Generators	27 Nos.	Sold to Recyclers
5	Motor Oil	Hazardous	From Machinery, Construction Vehicles and Generators	61 Litres	Sold to oil recycler for reprocessing and recovery.
6	Concrete Waste	General solid waste (non-putrescible)	culverts construction	07-015 m³	Reuse in pavement base and sub-base
7	Municipal Solid Waste	General solid waste	Offices, Camp Site	0.006 Ton	Disposed in Landfill site
8	Medical waste	Hazardous	Camps	0	

4.7 Health and Safety

4.5.1 COMMUNITY HEALTH AND SAFETY

98. During reporting period, the Contractor took utmost care for community health and safety. No incidents related to the community health and safety has been occurred during the current reporting period. The following measures were taken to ensure the safety of community:

- The project site was cordoned off, especially the areas where machinery is involved were barricaded and constantly monitored to ensure that local residents, particularly children stay away from construction area. Also, no machinery was left unattended, particularly in running condition.
- Drivers were provided orientation on safe driving practices to minimize accidents and to prevent spill of hazardous substances and other construction materials during transport.
- The contractor has deployed adequate number of flagmen carrying flags, whistles etc. to facilitate community, avoid road traffic accidents and ensure smooth movement of the traffic. Furthermore, contractor's offices are keeping good coordination with their respective City Managers and site Resident Engineers for effective implementation of the road safety measures. Additionally, the each contractor has deployed adequate numbers of safety cones, installed warning/reflective taps, displayed informative sign boards at multiple locations and hold consultation meeting with the community to aware them regarding the project nature and possible hazards.

4.5.2 WORKER SAFETY AND HEALTH

99. Health Safety training and instructions are provided to workers on regular basis specifically awareness regarding COVID-19 preventive measures. Proper Emergency Response & Awareness System Regular supervision and monitoring of demolition and construction phase is carried out in compliance with the Health and Safety requirements as per standard specifications outlined in EMP and in the Contract. One incident related to the workers' health and safety have been occurred during the current reporting period.

100. First aid medical facility was provided by contractor for each project site. Construction activities have minor impacts on safety and health of workers. Prior to starting the project engineering and administrative control measures were taken

by the contractor. For example, provision of Personal Protective Equipment (PPE) to the work force is considered the mandatory step in health and safety management system. No incidents related to the workers' health and safety have been occurred during the current reporting period except Sahiwal. HSE response record for each subproject site is showed below in table 4-19.

Table 4-19: Health Data

HSE Response	Sahiwal	Sialkot	PLGA	Accumulative
No. of persons provided with First Aid	3	06	03	12
No. of persons referred to hospitals	1	0	0	1
No. of persons diagnosed COVID-19	0	0	0	0
No of fatalities	1	0	0	1

101. In order to comply the Environmental management plan (EMP) and HSE of project area contractor strictly complied with the health safety and environment rules and regulations. Basic first aid medical facility was provided by contractor for each project site. Layout plan for camp site, indicating safety measures taken by the contractor, e.g. firefighting equipment, safe storage of construction material, security, fencing, and contingency measures in case of accidents.

4.5.4 FIREFIGHTING ARRANGEMENTS

102. Fire Extinguishers are inspected on regular basis and kept in good condition. "Smoking is prohibited" signs are displayed at project site. The Contractors have provided the fire extinguishers at each camp site. Furthermore, the trainings and TBTs are delivered at site to the concerned workers how to use the fire extinguishers at the time of any fire hazards. Since the project started at site, no fire accident has occurred at site.

103. The overall working environment in the project area needs utmost improvements to make it completely safe with the implementation of corrective action plans however no major incident/accident or casualty has been reported in Sialkot and Lahore but in Sahiwal one incident has been reported in the month of May 2022.

4.5.5 Use of PPEs

104. As per Health Safety and Environment (HSE) Plan, the Contractors are responsible for provision of full PPEs for the labour and staff deployed at work. For safe execution of the work, the Contractor has deputed an HSE officer and for

adequate supervision of the HSE issues at site. At all three subprojects i.e. Sahiwal, Sialkot and PLGA Lahore overall status of use of PPEs is satisfactory. The PPEs issued to worker are Dust Mask, Ear Plugs, Safety Gloves, Safety Boots, Safety Jacket, Safety Helmet and Safety Goggles. First Aid kits are available at campsite, but ambulance is not available at any subproject's sites, Contractors have arranged other vehicles in case of emergency. However, Govt. hospitals as well as private clinics are available in close vicinity to deal with any major injuries and health issues, dispensary is also available at campsite. One accident/incident of major nature is reported during May 2022 in Sahiwal. Contractors are advised to ensure provision of Ambulance on priority basis.

4.5.6 SAFETY SIGNBOARDS

105. Safety sign posters are considered one of the tools of creating awareness among the workers. The Civil Contractor has arranged satisfactory work in this regard at all subprojects sites of Sialkot, Sahiwal and PLGA Lahore.

4.8 Appropriate Staff Name and Contact Details

106. Details mentioned in Table 1.1.

4.8.1 INCIDENTS DURING THE REPORTING PERIOD

107. No such incident has taken place at any of subproject's sites of Sialkot and Lahore.

108. In Sahiwal on 28 May 2022, during excavation of trench for laying 18" dia sewerage line, contractor damaged water supply line of Municipal Corporation due to which trench was flooded with water. As per request of Contractor, Municipal Corporation repaired the water supply line on the same day. But on very next day, Sunday, 29 May 2022 at 10:00 am (Accident Date) water supply line was again damaged and trench was again flooded with water. Without intimation to EPCM consultant, contractor at his own tries to fix it. During repair work with no safety measures (including PPE, proper dewatering, emergency management plan) 01 Laborer (Mr. Tahir Abbas) jumped into muddy trench to fix water supply line and in a while trench slide over the working labor. Meanwhile 02 laborers try to save buried worker but due to muddy trench they also got stuck in trench and trench also slides over them. As contractor was working without any emergency management plan, they had no rescue plan, therefore Rescue 1122 was immediately called. These workers were pulled out of fallen earthen mass by joint efforts of all those who were present at site. Two workers survived while the 3rd worker (Mr. Tahir

Abbas s/o Gulam Hussain) died due to suffocation at spot. The other two were badly injured and later fully recovered by providing first aid and carrying out oxygen therapy with a defibrillator. Those who were present at site make out all efforts to save the precious human life, but all in vain. Compensation and corrective measures are attached in Annex I

4.8.2 FATALITIES

109. The overall working environment in the project area needs utmost improvements to make it completely safe with the implementation of corrective action plans however no major incident/accident or casualty has been reported on any of the sub projects till now in Sialkot and Lahore.

110. It was reported that one fatality occurred in the city of Sahiwal in May 2022. (Incident investigation report attached in Annexure I).

4.9 HSE Training

111. Regular internal trainings at all subprojects sites related to HSE were given to the concerned staff and work force by the contractor's environmentalist and OHS Managers on regular basis. This has been reflected in respective monthly progress reports. **HSE training sessions are attached in Annexures J.**

112. The laborers were encouraged to participate in this training and advised that safety should be ensured. HSE training was delivered on following topics:

- Use of PPEs
- Slip, Trip and fall Hazards
- Access Paths
- Safety of Scaffolding
- Oil Spillage
- Electrical Wires Hazards
- Noise Hazards
- Welding, Cutting and Grinding
- Excavations

113. HSE staff motivates labour to follow the standard procedures during the execution of work by providing them rewards i.e declaring the H & S champion of the month and incentives.

5. FUNCTIONING OF THE SSEMP

5.1 SSEMP Review

113. It was observed that all the subprojects are implementing the measures proposed in the EMP and SSEMP. This was mainly due to the fact that the contractor's nominated staff were trained on Environment, Health & Safety which in turn helped a lot in implementation of mitigation measures proposed.

114. As these subprojects mainly involve soil/earthworks, dust suppression measures were stressed upon by the contractor. The contractors' staff was persuaded to maintain good house-keeping and waste generation/management.

Sahiwal Lot-01, Lot-02, Lot-03 and Lot-04

115. The contractors are mostly complying with the conditions mentioned in SSEMP, however few lacking's were observed discussed below:-

- There is weak implementation of PPE's found on Lot I and II for which it was conveyed to contractor to fulfil all Safety related guidelines. The contractor was also given instruction that site supervisor should take care of these issues and enforce the use of PPE's during construction activities. After the instruction the situation on Lots were getting better.
- In SSEMP there is plan for COVID SOP's implementation, but few workers at site were observed without masks. Contractors were advised to implement all WHO's Covid SOP's.
- Flags men were not sufficient due to which problems were occurring during work site due to which traffic congestions occurring. Contractors were advised to position the Flagmen at each diversion and evade any traffic blockings.
- At Lot-02 and Lot-03 sites work in deep trench was involved and due to the unstable soil strata issue of land sliding was faced for which contractor strictly instructed to provide shoring of trench and adopt best engineering practices to avoid land sliding issue.
- Debris material was present at site which should be removed to protect community health and safety and to avoid social issues.
- Water Sprinklings should be done at each point regarding this matter contractor was instructed to ensure the sprinklings the site and plant regularly.

Sialkot Lot-01, Lot-02, Lot-04

116. The contractor is mostly complying with the conditions mentioned in SSEMPs, However; few lacking's were observed discussed below-:

- There was weak implementation of PPE's found on Lot I and IV for which the non-conformance notices were issued to the contractor. The contractor was also given instruction that site supervisor should take care of these issues and enforce the use of PPE's during construction activities. After the instructions the situation on both lots were getting better.
- At Lot-02 and few of Lot-01 sites deep excavation and work in deep trench was involved and due to the unstable soil strata issue of land sliding was faced for which contractor strictly instructed to provide shoring of trench and adopt best engineering practices to avoid land sliding issue.
- Positioning of Flags men at each diversion was causing problems at work site due to which traffic congestions were occurring. Contractor was advised to position the Flagmen at each diversion and evade any traffic blockings.
- There was issue related to damage to utilities at both Lot 1 & 4. It was causing problems for community and there was a lot of complains received on this issue. The problem is expected because the project area is very congested. The utility related issue got resolve within 24 hours whenever occurs.
- Water Sprinklings should be done at each point regarding this matter contractor were instructed to ensure the sprinklings the site and plant regularly. Water sprinkling was observed at all construction sites and no complaint was registered regarding this matter.

PLGA

117. Monitoring for the implementation of SSEMP has been actively carried out by the Consultants and PMU site staff throughout the reporting period. Following are the observations in this regard;

118. As this project mainly involve building construction works, dust suppression measures were stressed upon by the NESPAK staff. The contractors` staff was persuaded to maintain good house-keeping and waste generation/ management.

119. The contractor is mostly complying with the conditions mentioned in SSEMP, however few lacking's were observed discussed below-:

- In SSEMP there is plan for COVID SOP's implementation, but few workers at site were observed without masks. Contractor was advised to implement all WHO's Covid SOP's.
 - Water Sprinklings should be done at each point regarding this matter contractor was instructed to ensure the sprinklings the site and plant regularly.
120. The implementation of environmental monitoring plan remained satisfactory and internal monitoring has been carried out in accordance with the monitoring plan at each subproject sites.
121. The SSEMPs provide adequate guidance for the mitigation of environmental impacts resulting from the current construction activities. All the mitigation measures set out in the SSEMPs are appropriate and no change is needed at this stage of the project.

6. GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practices

124. The subprojects can have some considerable environmental impacts for which suitable mitigation measures proposed in SSEMPs were in place to counter the impacts.
125. In most workplaces, accidents are a nuisance for the worker and a headache for Project Management Team. However, at construction sites, accidents have the potential to be life threatening. With every new story about environmental disasters and trapped labourers, construction sites become less and less appealing — even as the population grows and demands new, updated structures increases. Regarded as one of the most dangerous professions, construction work on the job site can be considered anything but entirely safe. Obviously, the employers do need to mitigate safety hazards to construction workers, but the workers need to keep in mind a lot of precautions themselves when working in such hazardous conditions.
126. Thus, construction sites must be strived to safeguard their employees if not for the ethical reasons, then for the economic ones. The following Good Practices at project sites

6.1.1 AWARENESS

127. Before any worker — no matter his or her role or experience level — can set foot on a construction site, he or she must be fully cognizant of the possible hazards. Ignorant workers are perhaps the biggest dangers at any construction sight, as their unknowing mistakes put everyone else at risk. Understanding of perils at hand and sustaining a perpetual state of alertness is perhaps the number-one best way to prevent accidents for which awareness campaign and risk assessment of each activity is done before start of the new activity for the staff.

6.1.2 TRAINING

128. Though most of a construction worker's skills can be gained on the job, safety is one skill set that is best learned before works enter the construction site. Occasional trainings are held on all sites for the laborers on standard safety and security practices. Experienced workers were also provided with same trainings to refresh their knowledge of standard safety by attending regular training sessions throughout the project cycle.

6.1.3 COMMUNICATION

129. Accidents are more likely to occur when workers are unsure what to expect. Direct communication regarding the day's goals and activities resulted in cut down on surprises that could cause bodily harm. Construction workers and supervisors are equipped with devices, like smartphones or headsets, which allow fast and efficient communication among team members.

6.1.4 SUPERVISION

130. Ideally, construction workers would fully understand the ramifications of inadequate safety precautions and thus act in a manner to ensure site-wide well-being — but this is not a perfect world. So, every site must have a strong supervisor who is willing and capable of enforcing safety standards with no exceptions. Such supervision is provided in almost all the sites (giving the best conformance level of +90%). The site specific good practices are as followed

Sahiwal Lot-01, Lot-02, Lot-03 and Lot-04

- Establishment of Contractor's camp is within the permissible standards and parameters
- Site Specific Environmental Management Plan is in place with true letter and spirit
- Sanitation and wastewater disposal at camp site has been monitored
- Job opportunities are preferably provided to the locals
- A good liaison is established between CIU, Supervisory consultant and contractor to follow the environmental safeguard guidelines
- All workers and machinery have been got insured by the contractor.
- Noise and Vibrations are found within PEQS limits

Sialkot Lot-01, Lot-02, Lot-04

- Noise and Vibrations are found within PEQS and WHO limits
- Air Quality has been monitored and within safe limits except PM10 and Pm2.5
- Drinking water Quality has been monitored and within safe limits
- Flora and Fauna are not unnecessarily damaged
- Health Safety standards are compliant
- Complaint register is in place of project site and No complaint/conflict observed

- A good liaison is established between CIU, Supervisory consultant and contractor to follow the environmental safeguard guidelines

PLGA Lahore

- Contractor has taken very strict action to avoid the corona virus contract.
- Frequent water sprinkling was observed to avoid dust pollution.
- Disinfection of working place and equipment periodically through Chlorine spray tanks.

6.2 Opportunities for Improvement

131. Overall quality of work and environment is partially satisfactory at site.
However, Improvement is required;

6.2.1 INNOVATION

132. The development of new practices that will enhance safety and security should always be encouraged, and workers should avoid speaking against legislation aimed at improving safety protocols. Perhaps with enough innovation, all construction sites can give 100 percent conformance. For example the HSE Penalty has been applied to the workers if they avoid the HSE practices, it is encouraging and will make workers to fulfil all health and safety rules at site. H&S Champion program on a monthly basis to encourage the workers adhere with various EHS requirements. This can comprise of monetary rewards for workers, posting pictures on notice boards etc.

6.2.2 TRANSPARENCY

133. The worst thing any construction contractor can do for its reputation is attempting a cover-up. Hiding accidents not only lowers the opinion of a single endeavour — it paints the construction sites as a whole in a negative light. Ultimately, people understand that accidents happen, and as long as contractors are doing their best to foster a safe environment for their workers, any accidents that do occur will only contribute to the growing need to augment modern safety techniques. Transparency, along with the other practices on this list, will help construction as a whole become a safer industry in which to work.

Sahiwal Lot-01, Lot-02, Lot-03 and Lot-04

- Reporting period and quarterly environmental monitoring timeline should be followed strictly.
- Restoration should be timely and in efficient way to avoid the nuisance for public
- Shoring and hard barricade at deep worksites should be ensured for the safety of workers and to avoid public exposure.
- Timely removal of surplus material from construction sites to avoid nuisance for the public.
- All the concerned staffs have been instructed to improve OHS performance levels including use of PPEs, implementation of working hours etc.
- Training sessions must be conducted more frequently

Sialkot Lot-01, Lot-02, Lot-04

- Restoration should be timely and in efficient way to avoid the nuisance for public
- Shoring and hard barricade at deep worksites should be ensured for the safety of workers and to avoid public exposure
- Timely removal of surplus material from construction sites to avoid nuisance for the public
- Material transportation should be in the night time to avoid traffic issues
- All the concerned staff has been instructed to improve OHS performance levels including use of PPEs, implementation of working hours etc.
- More campaigns regarding project's sites safety for public awareness needed

PLGA, Lahore

- The EPCM should continue to provide both off and onsite HSE training to the Contractor's top/middle management, supervisory staff and workers for the capacity building and providing them necessary awareness on how to deal with HSE issues that arises on day to day basis.
- The trucks carrying construction material should be properly covered to avoid public nuisance.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

134. During this reporting period, activities of WATSAN construction works are in progress. At the start of the construction, the contractors have partially fulfilled their duties about Environment, Health and Safety issues but now things are better and contractor is giving full attention to the mitigation measures and implementation of environmental management and monitoring plan.
135. Environmental provisions have been incorporated into contracts of the works constructions
136. Field inspections by the Contractor, Management Consultants and PMU were regularly made. Each of these has assigned manager in charge of environmental management. They also serve as grievance focal points.
137. Project related information and associated contact details have been posted in the bulletin boards at all construction sites. Public complaints can also be lodged in register and telephone. To date, many public complaints have been issued and resolve within 48 hours' time period, so the community will not have to face any problem.
138. The issue of the housekeeping, waste disposal, PPES, signage, dust suppression and covering waste material, while issue of PPES were found on all WATSAN on-going works in both Sahiwal and Sialkot sites for which the non-conformance notice were issued after which the contractor has taken the relevant measures.
139. Main Contractors camps and labour camps, storage areas and vehicle/machinery places are being maintained according to prevailing Environment, health and safety standards at all sections
140. All the HSE component status, during reporting period is satisfactory. No major complaint and accident have been reported.
141. Copy of the Camp site Guidelines, Grievance register and monthly SSEMP Compliance Checklists was available at all the sub projects. A person designated from the contractor's side was present at each site to coordinate implementation of SSEMP recommendations and any first aid related issues.

142. No noise and vibration related complaints from public or workers were registered.
143. No surface water or ground water contamination was reported due to oil spillages, solid waste dumping during the reporting period. However, it is recommended spill control equipment should be ensured at campsite.
144. No flora and fauna were disturbed by the construction activity. No mortality of wild animal was reported.
145. No cultural heritage sites/ wetland/ protected area/ mangrove/ estuarine lies in RoW of any of the sub project alignment.
146. No damage to the agricultural land due to borrow pits or topsoil erosion was reported. However cost-effective mitigation measures are suggested to avoid soil erosion at site.
147. During construction, special attention has been given in the areas where there are encroachments on the roads side, to minimize the impact on the livelihood of the locals. The contractors are well aware of the problem and working accordingly.
148. The construction waste from the project site consists of batteries, containers/drums, excavated natural material, oil filters, motor oil, scrap material and concrete waste. The waste from offices and labour camp consists of the municipal waste both solid and liquid effluent. All waste has been disposed of as per the plan described in SSEMP.
149. Traffic management and safety is being given the top most priority in the overall project corridor.
150. Child labour was not observed on any subproject. Contractors were advised to discourage child labour in future as well. It was advised that Identity verification should be carried out prior to hiring and the record should be maintained.
151. No complaints regarding transmission of Communicable diseases (such as STI's and HIV/AIDS) were reported.
152. No ozone depleting substances are used. Only approved substances (chemicals and technologies) are used having negligible significance to the climate change.
153. Overall, no major conflict with the community was observed. Cordial liaison has been maintained with local community.

7.2 Recommendations

154. The following recommendation should be applied to all the subprojects i.e. WATSAN work Sahiwal, WATSAN work Sialkot and PLGA, Lahore

- All the plans established in SSEMP(s) must be implemented in full swing.
- Regular internal and external inspections are required along with routine visual inspections and monitoring.
- Contractors of all subprojects are required to arrange proper external training of staff and maintain its record. During this reporting period, the external training was not conducted.
- H&S Champion program on a monthly basis to encourage the workers adhere with various EHS requirements. This can comprise of monetary rewards for workers, posting pictures on notice boards etc.
- Contractors are advised to motivate and train staff for the use of PPE's.
- Traffic management and safety should be the top most priority in the overall project corridor. The Traffic Management Plan should be available at all sites.
- Spill control equipment should be ensured at campsite

Table 7.1- Status on ADB CAP January 2022 (As of June 2022)



	Required Action	Timeline	Implantation Responsibility	Supervision Responsibility	Status as of June 2022	Revised Timeline
i.	Hiring of designated experienced Environment specialist	28 February	CSC	PMU/ADB	To be hired yet	15 September 2022
ii.	Approval of SSEMPs Roads, Parking Shed, WWTPs	Before starting civil works	Contractor	CSC/PMU	In process	Before starting civil works
iii.	Improvement needs in Camps management and housekeeping	Routinely	Contractor	CSC	In process	Routinely
iv.	Use of WHO guidelines 2021 on air parameters	In coming monitoring	Contractor	CSC	Implemented	Implemented
v.	Avoid Soil contamination by placing all chemicals and oil on paved/concrete platform with bunded wall. Placing trays to avoid spills.	28 February	Contractor	CSC	In process	15 September 2022
vi.	Maintaining record of wastes (domestic, hazardous, medical) and	Monthly	Contractor	CSC	Implemented	Implemented

Semi Annual Environmental Monitoring Report No.5
Punjab Intermediate Cities Improvement Investment Program

	reflects in SAEMRS					
vii.	Placing generators on paved area and ensuring that all generators have stack emission outlets. The generators shall be placed at height to minimize impacts.	28 February	Contractor (all camps and sites)	CSC	In process	15 September 2022
viii .	Provision of all required PPES	Daily	Contractor	CSC	In process	15 September 2022
ix.	Provision of good quality lift and harness	As required	Contractor	CSC	In process	15 September 2022
x	Provision of safe, healthy conditions	Daily	Contractor	CSC	In process	15 September 2022
xi	Covering all exposed electric wires	As required	Contractor	CSC	Implemented	Implemented

APPENDICES

ANNEXURE – A Non-Conformance Notices NCN

 **LOCAL GOVERNMENT & COMMUNITY DEVELOPMENT DEPARTMENT**
PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIIP)
CITY IMPLEMENTATION UNIT, SAHIWAL 

No.LG&CDD/PICIIP/CIU-SWL/1069
Dated: 1st June, 2022

To,

Resident Engineer M/s NESPAK, Sahiwal.
Mr.Shi Xiaolin M/S China Gansu (CGICOP) Sahiwa.

Subject: STRICTLY IMPLEMENTATION OF SAFETY MEASURE AT LOT-2 AND LOT-3

2. It is submitted that the undersigned had informed the Contractor CGICOP several times via letters No LG&CDD/PICIIP/CIU-SWL/845(21-3-2022), LG&CDD/PICIIP/CIU-SWL/811(4-3-2022), LG&CDD/PICIIP/CIU-SWL/ 972(21-5-2022), LG&CDD/PICIIP/CIU-SWL/956(12-5-2022), LG&CDD/PICIIP/CIU-SWL/ 971(19-5-2022), LG&CDD/PICIIP/CIU-SWL/987(24-5-2022), LG&CDD/PICIIP/CIU-SWL/ 843-A(19-3-2022), LG&CDD/PICIIP/CIU-SWL/785(23-2-2022), LG&CDD/PICIIP/CIU-SWL/714 (14-01-2022) LG&CDD/PICIIP/CIU-SWL/783 (18-2-2022), LG&CDD/PICIIP/CIU-SWL/738(21-01-2022) LG&CDD/PICIIP/CIU-SWL/769(11-2-2022) regarding the non-compliance of EMP implementation on site.

3. Furthermore infrastructure engineer on the direction of undersigned had informed the Contractor CGICOP via letter No. LG&CDD/PICIIP/CIU-SWL/ 987 dated May 24, 2022 This letter acts as an official warning to the contractor that "if they violate any safety measures, we will not pay any amount under EMP's bill furthermore if they damage any utility of any department without intimation to the concerned department then the legal proceedings will be initiated against their concern persons" despite this letter they do not fulfill the safety arrangement as per contract.



4. As a result, The incident occurred at railway line near Dosehra ground on 29 May 2022 at 10-30 am, During the excavation of sewerage line lot 2 in which excavated soil fell in the trench and three workers got buried under the soil two got injured while the other one has died.

5. CGICOP violates the contract's safety legal requirements, regulations, and standards. According to the contract between PICIIP and the contractor/CGICOP, the contractor is solely responsible for ensuring Health and Safety measures on-site and for all its employees. The agreement states that all safety requirements must be followed in accordance with current labour and health and safety legislation in the country, as well as additional protections that have been mandated by the contract. These include establishing preventive and emergency preparation with medical professionals and ambulances/first aid always necessary on-site; personal protective equipment (PPE) for workers and all visitors on-site; and the designation of an accident prevention officer at the site, to highlight a few.

6. In accordance with GCC clause 6.7 "Health and Safety" read with PCC "The contractor shall ensure that all applicable work safety standards are complied with during execution of works. If contractor fails to comply the provision stated therein the contractor will be fined at the rate of 10,000/day of delay in provision of these facilities. This fine shall be deducted from any payment due to the contractor"


City Implementation Unit (CIU), House No. 72-X (Near Excise & Taxation Office, Opposite The Country School)
Old Civil Lines Sahiwal. Ph: 040-9200137

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 **LOCAL GOVERNMENT & COMMUNITY DEVELOPMENT DEPARTMENT**
PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIIP)
CITY IMPLEMENTATION UNIT, SAHIWAL 

7. If they continue to violate the safety laws and regulations It may cause a big loss in the future.

8. Therefore you are hereby to charge the penalty against the contractor on violation of safety regulation as per contract.


Research Analyst Environment
CIU, PICIIP, LG & CD Department
Sahiwal

CC:-

- i. Director M&E, PMU PICIIP, Lahore.
- ii. Deputy Director safeguard, PMU PICIIP, Lahore.
- iii. The Engineer/PM/DTL EPCM.
- iv. Office copy

City Implementation Unit (CIU), House No. 72-X (Near Excise & Taxation Office, Opposite The Country School)
Old Civil Lines Sahiwal. Ph: 040-9200137

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LOCAL GOVERNMENT & COMMUNITY DEVELOPMENT DEPARTMENT
PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIIP)
CITY IMPLEMENTATION UNIT, SAHIWAL



No.LG&CDD/PICIIP/CIU-SWL/987

Dated:24 May 2022.

To,

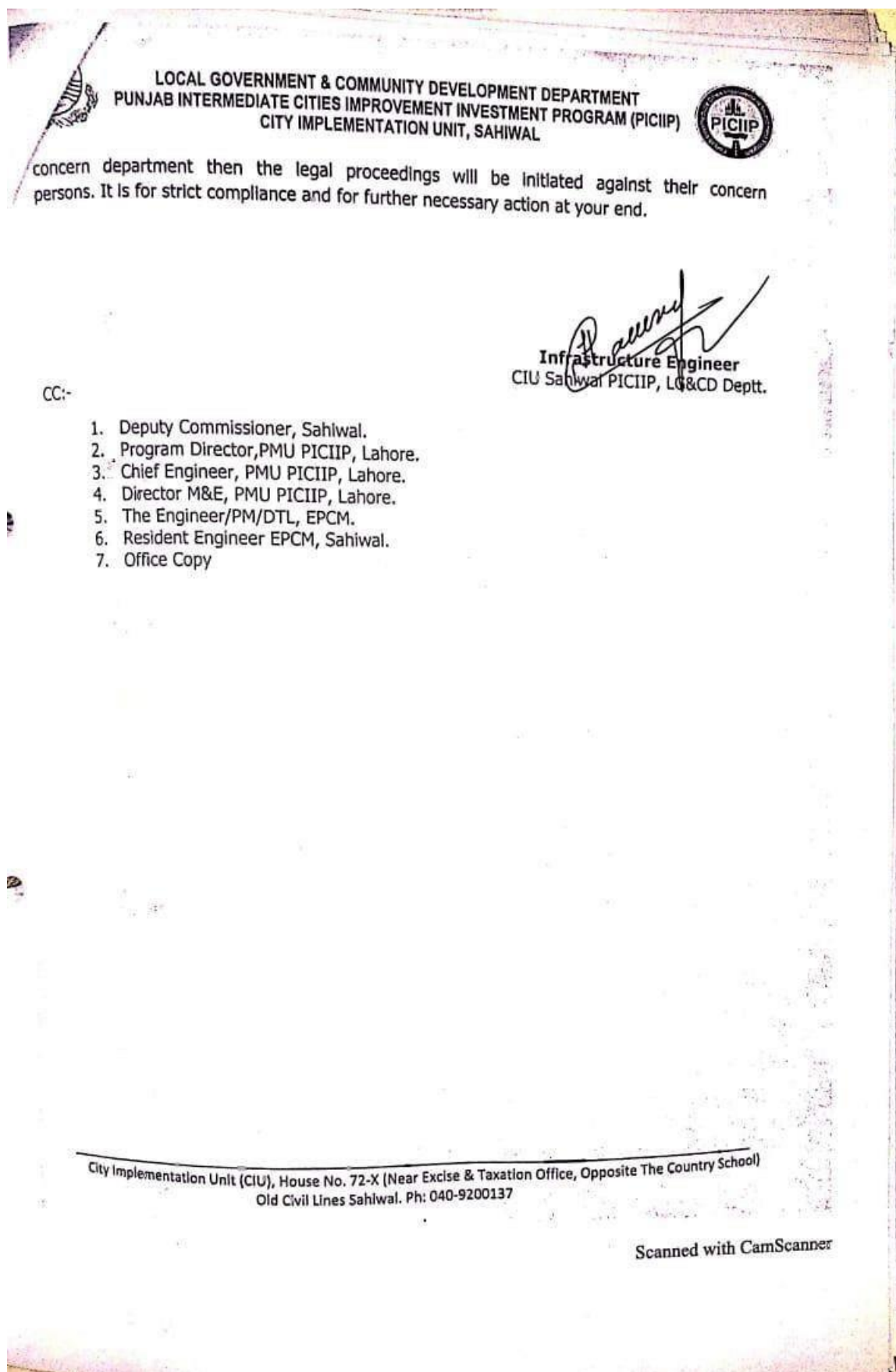
Project Manager, M/s TMT MAC JV, Sahiwal
Project Manager, M/s CGICOP JV, Sahiwal
Project Manager, M/s ZKB -Reliable JV, Sahiwal
Project Manager, M/s ZKB-Brothers JV, Sahiwal



Subject: **COMPLIANCE OF SAFETY MEASURES AT ALL SITES**

2. This is with reference to the meeting held with Deputy Commissioner Sahiwal, NESPAK, and a team of CIU Sahiwal on 24 May 2022 at 10 a.m. The Deputy Commissioner/City Manager PICIIP has been directed to ensure strict safety measures at all project sites.
 - i. Ensure the personal protective equipment.
 - ii. All sides of excavated trenches should be protected with fencing and barricades to ensure the safety of workers and the public.
 - iii. It is necessary to sprinkle the water three times a day at all excavated sites.
 - iv. Stakeholders are unable to open their stores due to poor management of excavated debris, which also affects their source of revenue. The excavated material must be shifted to the designated LBDC area.
 - v. Remove the soil from the excavation site's edges.
 - vi. Provide appropriate alternate routes to local stakeholders.
 - vii. After laying pipe, immediate backfilling is essential.
 - viii. Display the informative, preventative signboard and TMP at each site.
 - ix. There are no protections in place to prevent land sliding, which could result in an accident.
 - x. A nightlight must be installed.
 - xi. There are no reflective stickers that must be applied as a precaution.
 - xii. Entrance and exit of the trenches must be covered.
 - xiii. Recognizing the crucial importance of adhering to the highest safety and occupational health standards for workers and the communities in which we live.
3. In accordance with GCC clause 4.18 "Environmental Protection," clause 4.8 "Safety Procedure," 6.7 "Health and Safety" read with PCC, and BOQ "Environmental Management Plan (EMP) Implementation," the contractor shall take all reasonable precautions to maintain health and safety at all sites/camps at all times during the contract period.
4. This letter acts as an official warning to the contractor that if they violate any safety measures, we will not pay any amount under EMP's bill furthermore, City Manager PICIIP directed all contractors if they damage any utility of any department without intimation to.

City Implementation Unit (CIU), House No. 72-X (Near Excise & Taxation Office, Opposite The Country School)
Old Civil Lines Sahiwal. Ph: 040-9200137

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 **LOCAL GOVERNMENT & COMMUNITY DEVELOPMENT DEPARTMENT**
PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIP)
CITY IMPLEMENTATION UNIT, SAHIWAL 

No.LG&CDD/PICIP/CIU-SWL/ 971
Dated:19 May 2022.

To,
Resident Engineer
M/s NESPAK, Sahiwal.

Subject: NONCOMPLIANCE OF SAFETY MEASURES AT LOT 2


This is with reference to subject mentioned above

2. During the site visit the following shortcomings were observed which need to be addressed.

- Protect all sides of excavated trenches with fencing and Hard barricade for safety of working labor and public.
- Sprinkling is required thrice a day at all excavated sites of sewer lines.
- Stakeholders are unable to open their shops due to poor management of excavated material that also affect their source of income. The excavated material must be shifted at designated LBDC area.
- Remove the soil from the edges of excavation site.
- Give the proper alternate route to local stakeholders.
- Immediately backfilling is required after laying pipe.
- Place the informatory and precautionary signboard at each site.

3. As per contract agreement GCC clause 4.18 "Protection of Environment", clause 4.8 "safety procedure", 6.7 "Health and safety" read with PCC and as per BOQ "Environmental Management Plan (EMP) Implementation" The contractor shall all time during period of the contract take all reasonable precautions to maintain the health safety at all site/camp.

4. Therefore you are hereby asked to instruct the contractor for compliance of HSE measures at all sites otherwise contractor will be the responsible for any claims or litigation whatsoever.


Infrastructure Engineer
CIU Sahiwal PICIP, LG&CD Deptt.

CC:-

- Director (Infra), PMU PICIP, Lahore.
- Director M&E, PMU PICIP, Lahore.
- Office Copy

City Implementation Unit (CIU), House No. 72-X (Near Excise & Taxation Office, Opposite The Country School)
Old Civil Lines Sahiwal, Ph: 040-9200137

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NON CONFORMANCE NOTICE (NCN-1) Sialkot Lot-01, Lot-02 & Lot-04



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No. LG&CDD/PICIIIP/CIU-SKT/368/2022
Date: 12-02-2022

Project Manager,
Lot-02, WATSAN
PICIIIP, Sialkot.

Project Manager,
Lot-04, WATSAN
PICIIIP, Sialkot.

Subject: ABSENCE of HSE MANAGERS OF LOT-02 & LOT-04.

It has been noticed that HSE Manager's post for Lot-02 is till vacant from the day one and you only artificially showed HSE Manager on the day of ADB's Safeguard Mission for just to manipulate them including supervision consultant and client.

Mr. Umer Umair HSE Manager Lot-04 is staying absent from the site on intermittent basis for long time. Absence of HSE Manager affects the implementation of SSEMP and non-compliance of contractual obligation, therefore you are instructed to hire the HSE Manager for Lot-02 immediately and ensure the fulltime availability of HSE manager on site.

Research Analyst Environment
City implementation Unit,
PICIIIP.

- CC:
- Director M&E, PMU, PICIIIP
 - Deputy Director, Safeguard, PMU, PICIIIP
 - Infrastructure Engineer
CIU, PICIIIP.
 - RE, NESPAK

CIU- Sialkot (PICIIIP), Municipal Corporation, Sialkot Fort, Near Urdu Bazar, Sialkot
■ 052-9250155

NON CONFORMANCE NOTICE (NCN-2)



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No: LG&CDD/PICIIIP/CIU-SKT/30-394/2022
Date: 28-02-2022

Project Manager,
Lot-02, WATSAN
PICIIIP, Sialkot.

Subject: LOT-2 LAYING OF CONDUITS AND ALLIED WORK, WATSAN, PICIIIP SIALKOT.
MISERABLE HSE SITUATION AT LOT-02 SITES.

Ref: LG&CDD/PICIIIP/CIU-SKT/262/2021 Dated: 28-07-2021

During the site visit Dated 25-02-2022 it was observed that

- The site was not barricade properly and public was crossing alongside the deep trench very unsafely
- No measures placed to stop land sliding that can lead to any accident i.e damage to adjacent building structure and especially high voltage electricity wire poles

You were instructed before many times to ensure the safety and implementation of SSEMP in true letter and spirit but no serious effort made in this regard yet. Therefore, you are again strictly instructed to immediately place hard barricade alongside the deep trench, provide safe passage to pedestrians and adopt best engineering practices to stop land sliding for elimination of poor safety conditions from site.

Research Analyst Environment
City implementation Unit,
PICIIIP.

CC:

- i. Chief Engineer, PMU, PICIIIP
- ii. Director Infrastructure, PMU, PICIIIP
- iii. Director M&E, PMU
- iv. Deputy Director, PMU, PICIIIP
- v. Infrastructure Engineer, CIU, PICIIIP
- vi. DTL, NESPAK
- vii. RE, NESPAK

CIU- Sialkot (PICIIIP), House # A-108, Khokhar Town, Defense Road, Sialkot
■ 052-9250155

NON CONFORMANCE NOTICE (NCN-3)



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No. LG&CDD/PICIP/CIU-SKT/30-426/2022

Date: 17-03-2022

Project Manager,
Lot-04, WATSAN
PICIP, Sialkot.

Subject: **LOT-04: WATER DISTRIBUTION NETWORK, WATSAN, PICIP SIALKOT.**
UNSAFE LIFT OPERATION AND WORKERS WITHOUT SAFETY HARNESS
AT OHR

Ref:
LG&CDD/PICIP/CIU-SKT/263/2021
LG&CDD/PICIP/CIU-SKT/21-25/2021

With reference to above mentioned letter numbers non-compliance notices were already served you but there is still no serious efforts are taken to ensure the health and safety of workers. While execution of OHR construction lift operation is very unsafe for workers usage and don't have the basic necessary protections also labour is dangerously working at more than 90 feet height without using the necessary PPEs i.e safety harness, helmet and can lead to any incident.

You are again instructed to strictly comply with all the standard HSE procedure with 100% implementation in true letter and spirit. Environmental Compliance Checklist and pictorial evidences are also attached.

Research Analyst Environment
City Implementation Unit,
PICIP.

- CC:
- Chief Engineer, PMU, PICIP
 - Dir. M&E, PMU, PICIP
 - DD Safeguards, PMU, PICIP
 - Infrastructure Engineer, CIU, PICIP
 - DTL NESPAK, PICIP
 - RE NESPAK, WATSAN Sialkot

CIU- Sialkot (PICIP), House # A-108, Khokhar Town, Defense Road, Sialkot
■ 052-9250155

NON CONFORMANCE NOTICE (NCN-4)



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No. LG&CDD/PICIIIP/CIU-SKT/30-432/2022
Date: 21-03-2022

Resident Engineer,
NESPAK,
PICIIIP, Sialkot.

SUBJECT: REMINDER
LOT-2 LAYING OF CONDUITS AND ALLIED WORK, WATSAN, PICIIIP SIALKOT.
METHOD STATEMENT REQUIRED FOR LAYING OF DOUBLE CELL CONDUITS.

The contractor ZKB-Reliable has started work on double cell conduits at Airport Road while the approved method statement is not submitted yet. I am again directed to remind you to furnish the approved method statement for laying of double cell conduits, that should be comprehensive in health and safety aspects of workers and public due to high risk working activities and exposure of public with the construction site as the proposed road is heavily commercialized with markets, schools, hospitals and residential areas.

Your earliest response in this regard is expected in the best interest of project.

Research Analyst Environment
City Implementation Unit,
PICIIIP.

- CC:
- i. Chief Engineer, PMU, PICIIIP
 - ii. Director Infrastructure, PMU, PICIIIP
 - iii. Director M&E, PMU
 - iv. Deputy Director, Safeguard, PMU, PICIIIP
 - v. Infrastructure Engineer, CIU, PICIIIP
 - vi. DTL, NESPAK

CIU- Sialkot (PICIIIP), House # A-108, Khokhar Town, Defense Road, Sialkot
☎ 052-9250155

NON CONFORMANCE NOTICE (NCN-5)



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No. LG&CDD/PICIP/CIU-SKT/30-444/2022
Date: 05-04-2022

Project Manager,
Lot-02, ZKB-Reliable
PICIP, Sialkot.

Subject: **LOT-2 LAYING OF CONDUITS AND ALLIED WORK, WATSAN, PICIP SIALKOT.**
MISERABLE HSE SITUATION AT LOT-02 SITES.

Ref:
LG&CDD/PICIP/CIU-SKT/30-394/2022 Dated: 26-02-2022
LG&CDD/PICIP/CIU-SKT/264/2021 Dated: 28-09-2021
LG&CDD/PICIP/CIU-SKT/212/2021 Dated: 13-07-2021
LG&CDD/PICIP/CIU-SKT/21-26/2021 Dated: 29-06-2021

During the site visit Dated 05-04-2022 it was observed that

- No measures placed to stop land sliding that can lead to any accident i.e damage to adjacent building structure and especially high voltage electricity wire poles
- The site was not barricade properly and public was crossing alongside the deep trench very unsafely
- No water sprinkling carried out to control dust

You were instructed before many times to ensure the safety and implementation of SSEMP in true letter and spirit but no serious effort made in this regard yet. Therefore, you are again strictly instructed to immediately place hard barricade alongside the deep trench, provide safe passage to pedestrians and adopt best engineering practices to stop land sliding for elimination of poor safety conditions from site.

HSE checklist and pictorial evidence are also attached.

Research Analyst Environment
City Implementation Unit,
PICIP.

- CC:
- i. Chief Engineer, PMU, PICIP
 - ii. Director Infrastructure, PMU, PICIP
 - iii. Director M&E, PMU
 - iv. Deputy Director, Safeguard, PMU, PICIP
 - v. Infrastructure Engineer, CIU, PICIP
 - vi. RE, NESPAK
 - vii. DTL, NESPAK

CIU- Sialkot (PICIP), House # A-108, Khokhar Town, Defense Road, Sialkot
☎ 052-9250155

NON CONFORMANCE NOTICE (NCN-6)



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No. LG&CDD/PICIIP/CIU-SKT/30-503/2022
Date: 10-06-2022

Project Manager,
Lot-01, WATSAN
PICIIP, Sialkot.

Subject: LOT-01 LAYING OF SEWERAGE SYSTEM AND ALLIED WORKS WATSAN
SIALKOT
NON-COMPLIANCE OF SSEMP.

Ref Letters:

LG&CDD/PICIIP/CIU-SKT/30-379/2022 Date: 29-01-2022
LG&CDD/PICIIP/CIU-SKT/30-327/2021 Date: 28-12-2021
LG&CDD/PICIIP/CIU-SKT/30-327/2021 Date: 28-07-2021

During the site visit Dated 09-12-2022 at Roras Road and Defence Road it is observed that HSE standards implementation was miserable, surplus material was not removed properly, no work done on restoration and uneven road surface was creating risk for public safety and grievance. It was also observed that water sprinkling was not applied to suppress the dust. You are already instructed many times to implement the SSEMP with full extent and to ensure the safety of public but no serious effort made in this regard.

You are again instructed to follow the due standards and ensure your HSE team to remove these issues from site. Compliance checklist and pictorial evidence are also attached.

Research Analyst Environment
City Implementation Unit,
PICIIP.

CC:

- i. Chief Engineer, PICIIP
- ii. Director M&E, PICIIP
- iii. Deputy Director, Safeguard, PICIIP
- iv. Infrastructure Engineer, CIU, PICIIP
- v. DTL NESPAK, PICIIP
- vi. RE NESPAK, WATSAN Sialkot

CIU- Sialkot (PICIIP), Municipal Corporation, Sialkot Fort, Near Urdu Bazar, Sialkot
☎ 052-9250155

NON CONFORMANCE NOTICE (NCN-7)



Punjab Intermediate Cities Improvement Investment Program
City Implementation Unit, Sialkot
Local Government & Community Development Department



No. LG&CDD/PICIP/CIU-SKT/30-504/2022
Date: 10-06-2022

Project Manager,
Lot-04, WATSAN
PICIP, Sialkot.

Subject: LOT-04: WATER DISTRIBUTION NETWORK, WATSAN, PICIP SIALKOT,
UNSAFE LIFT OPERATION AT PREM NAGAR OHR AND WORKERS
WITHOUT PPEs WITH NO SAFETY ARRANGEMENT AT MIANAPURA

Ref:
LG&CDD/PICIP/CIU-SKT/30-426/2022
LG&CDD/PICIP/CIU-SKT/263/2021
LG&CDD/PICIP/CIU-SKT/21-25/2021

During the site visit Dated 09-12-2022 at Mianapura and Prem Nagar OHR site it is observed that HSE standards implementation was miserable, surplus material was not removed properly, PPEs not used by workers, no safety signage was present and creating risk for workers and public safety and grievance. Lift operation for construction of OHR at Prem Nagar was seriously dangerous and unsafe. You are already instructed many times to implement the SSEMP with full extent and to ensure the safety of public but no serious effort made in this regard. You are again instructed to follow the due standards and ensure your HSE team to remove these issues from site. Compliance checklist and pictorial evidence are also attached.

Research Analyst Environment
City Implementation Unit,
PICIP.

CC:
i. Chief Engineer, PMU, PICIP
ii. Dir. M&E, PMU, PICIP
iii. DD Safeguards, PMU, PICIP
iv. Infrastructure Engineer, CIU, PICIP
v. DTL NESPAK, PICIP
vi. RE NESPAK, WATSAN Sialkot

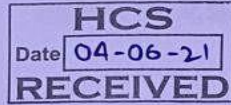
CIU- Sialkot (PICIP), House # A-108, Khokhar Town, Defense Road, Sialkot
☎ 052-9250155

NON CONFORMANCE NOTICE (NCN-1) PLGA



Ref: 3976/13/MHK/01/272

M/s Habib Construction Services
Project Office – PLGA



Date: June 04, 2021
3:55
Attn: Project Manager PLGA

ESTABLISHMENT OF PUNJAB LOCAL GOVERNMENT ACCADEMY LAHORE
SUBMISSION OF MEP SCHEDULE/PROGRESS OF WORKS

SAFETY, SECURITY AND PROTECTION OF THE ENVIRONMENT

It is reiterated with concern that arrangements pertaining to Health, Safety, and Environmental in light of the Government notifications, sub clause GCC 24.1 of PCC and this office instructions are not fully in effect.

You are once again advised to fulfil all safety arrangements in order to avoid any misfortune.

For strict compliance as per contract must be ensured.

Any delays arising due to these negligence will solely be liable to your firm.


(Signature) 04/06/2021
(Muhammad Hanif Khokhar)
Construction Manager


Copy to:

- i) PD, PMU-PICIIP, Punjab Local Government & Community Development
- ii) DPD, PMU-PICIIP, Punjab Local Government & Community Development
- iii) CE, PMU-PICIIP, Punjab Local Government & Community Development
- iv) DTL/PM, EPCM-NESPAK ARTELIA Jv
- v) SRE, EPCM-NESPAK ARTELIA Jv
- vi) D, PMU-PICIIP, Punjab Local Government & Community Development
- vii) Office Copy



ANNEXURE B: Sahiwal: Environmental Test Result Reports 2nd Quarter

Lot-1






LAB 121
17025

Ambient Air Quality Monitoring Serial # 20B / 26216

Job Reference Number	GCEC-PK-152/2022
Monitoring Point	Sahiwal Bypass (Near McDonald's)
Date of Intervention	05-Jun-2022 to 06-Jun-2022
Monitoring Coordinates	30°39'34.2"N 73°08'10.1"E


Sr. #	Time	CO (mg/m ³)	NO (µg/m ³)	NO ₂ (µg/m ³)	NO _x (µg/m ³)	SO ₂ (µg/m ³)
49.	11:00	2.27	17.9	25.43	43.33	20.57
50.	12:00	2.21	15.56	26.21	41.77	21.84
51.	13:00	2.87	18.68	25.21	43.89	23.54
52.	14:00	2.32	16.86	23.96	40.82	22.11
53.	15:00	2.34	16.54	26.54	43.08	24.56
54.	16:00	2.17	18.11	27.07	45.18	22.57
55.	17:00	2.24	15.65	26.86	42.51	24.6
56.	18:00	2.56	17.11	24.32	41.43	25.47
57.	19:00	2.96	14.65	26.07	40.72	20.86
58.	20:00	2.12	18.01	27.02	45.03	22.08
59.	21:00	2.45	15.65	25.09	40.74	24.55
60.	22:00	1.99	17.33	25.93	43.26	21.68
61.	23:00	2.65	16.55	24.89	41.44	21.23
62.	0:00	1.87	18.86	27.02	45.88	24.95
63.	1:00	2.82	15.81	22.17	37.98	24.23
64.	2:00	1.95	17.75	24.93	42.68	26.35
65.	3:00	2.31	15.97	23.91	39.88	26.74
66.	4:00	2.12	17.86	25.89	43.75	24.73
67.	5:00	2.09	16.2	24.23	40.43	23.12
68.	6:00	2.43	18.75	25.89	44.64	25.41
69.	7:00	2.07	18.68	27.11	45.79	26.44
70.	8:00	2.16	17.86	24.89	42.75	25.56
71.	9:00	2.65	16.65	25.11	41.76	24.12
72.	10:00	2.87	18.11	26.77	44.88	26.87
Average Concentration		2.71	17.44	25.44	42.65	24.22





Lab Manager
Green Crescent Environmental
Consultants (Pvt) Ltd.



GREEN CRESCENT ENVIRONMENTAL CONSULTANTS (PVT) LTD.

Pakistan Office: House No. 365-B Block B, Canal View, Lahore, Pakistan. Tel: 042-35963884-85 Mobile: 0322-4100912 Email: manager.operations@gcec.pk Web: www.gcec.com



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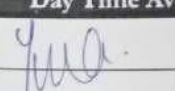
Punjab-EPA Certified Federal-EPA Certified

Noise Level Monitoring Report

Serial # 20B / 26219

Job Reference Number	GCEC-PK-152/2022
Monitoring Point	Sahiwal Bypass (Near McDonald's)
Date of Intervention	05-Jun-2022 to 06-Jun-2022
Monitoring Coordinates	30°39'34.2"N 73°08'10.1"E

Sr. #	Time	Method/Technique	Unit	Results LAavg	PEQS (Commercial)
Night Time					
49.	23:00	Noise Meter	dB	51.34	55.0
50.	00:00	Noise Meter	dB	52.34	
51.	01:00	Noise Meter	dB	53.24	
52.	02:00	Noise Meter	dB	49.34	
53.	03:00	Noise Meter	dB	51.34	
54.	04:00	Noise Meter	dB	50.64	
55.	05:00	Noise Meter	dB	63.54	
56.	06:00	Noise Meter	dB	61.34	
Night Time Average			dB	54.14	55.0
Day Time					
57.	07:00	Noise Meter	dB	63.4	65.0
58.	08:00	Noise Meter	dB	64.7	
59.	09:00	Noise Meter	dB	64.9	
60.	10:00	Noise Meter	dB	64.2	
61.	11:00	Noise Meter	dB	65.7	
62.	12:00	Noise Meter	dB	65.2	
63.	13:00	Noise Meter	dB	67.8	
64.	14:00	Noise Meter	dB	65.1	
65.	15:00	Noise Meter	dB	66.1	
66.	16:00	Noise Meter	dB	63.7	
67.	17:00	Noise Meter	dB	62.7	
68.	18:00	Noise Meter	dB	63.4	
69.	19:00	Noise Meter	dB	55.1	
70.	20:00	Noise Meter	dB	55.7	
71.	21:00	Noise Meter	dB	53.2	
72.	22:00	Noise Meter	dB	54.9	
Day Time Average			dB	62.24	65.0




Green Crescent Environmental Consultants (Pvt) Ltd.

GREEN CRESCENT ENVIRONMENTAL CONSULTANTS (PVT) LTD.


Pakistan Office: House No. 368-B Block B, Canal View, Lahore, Pakistan. Tel: 042-35962884-85 Mobile: 0322-4100912 Email: manager.operations@gcec.ae Web: www.gcec.com




Figure 4: Environmental Monitoring at Sub Way




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Ambient Air Quality Monitoring

Serial # 20B / 26211

Job Reference Number	GCEC-PK-152/2022
Monitoring Point	Arifwala Bypass (Near Subway)
Date of Intervention	04-Jun-2022 to 05-Jun-2022
Monitoring Coordinates	30°37'56.7"N 73°05'41.2"E

Sr. #	Time	CO (mg/m ³)	NO (µg/m ³)	NO ₂ (µg/m ³)	NO _x (µg/m ³)	SO ₂ (µg/m ³)
25.	11:00	2.34	15.89	23.87	39.76	19.59
26.	12:00	2.12	16.67	22.64	39.31	18.61
27.	13:00	2.01	15.78	24.02	39.8	20.57
28.	14:00	2.05	16.81	23.77	40.58	21.38
29.	15:00	1.21	15.57	22.79	38.36	20.52
30.	16:00	1.12	17.74	25.02	42.76	22.12
31.	17:00	2.23	18.01	24.05	42.06	20.22
32.	18:00	2.54	15.65	22.79	38.44	18.69
33.	19:00	2.22	13.65	19.47	33.12	19.48
34.	20:00	1.06	14.32	21.01	35.33	20.78
35.	21:00	2.45	15.32	20.58	35.9	19.63
36.	22:00	1.04	14.34	18.57	32.91	19.02
37.	23:00	1.23	13.35	19.79	33.14	18.45
38.	0:00	2.34	12.56	20.23	32.79	17.35
39.	1:00	2.13	14.32	19.77	34.09	16.52
40.	2:00	2.11	13.35	18.99	32.34	15.59
41.	3:00	1.34	14.24	20.9	35.14	16.58
42.	4:00	2.65	13.32	18.77	32.09	16.45
43.	5:00	1.45	14.78	19.77	34.55	17.11
44.	6:00	1.45	15.65	20.57	36.22	18.45
45.	7:00	1.99	17.34	24.43	41.77	17.11
46.	8:00	2.71	16.11	22.79	38.9	19.01
47.	9:00	1.76	16.89	23.79	40.68	21.23
48.	10:00	2.34	17.89	22.34	40.23	20.81
Average Concentration		1.12	15.40	22.15	37.09	18.97


Lab Manager
Green Crescent Environmental
Consultants (Pvt) Ltd

Noise Level Monitoring Report


Serial # 20B / 26214

Job Reference Number		GCEC-PK-152/2022			
Monitoring Point		Arifwala Bypass (Near Subway)			
Date of Intervention		04-Jun-2022 to 05-Jun-2022			
Monitoring Coordinates		30°37'56.7"N 73°05'41.2"E			


Sr. #	Time	Method/Technique	Unit	Results	PEQS (Commercial)
				LAavg	
Night Time					
25.	23:00	Noise Meter	dB	51.32	55.0
26.	00:00	Noise Meter	dB	50.22	
27.	01:00	Noise Meter	dB	50.62	
28.	02:00	Noise Meter	dB	52.42	
29.	03:00	Noise Meter	dB	49.52	
30.	04:00	Noise Meter	dB	51.32	
31.	05:00	Noise Meter	dB	60.22	
32.	06:00	Noise Meter	dB	58.22	
Night Time Average			dB	52.98	55.0
Day Time					
33.	07:00	Noise Meter	dB	60.3	65.0
34.	08:00	Noise Meter	dB	61.2	
35.	09:00	Noise Meter	dB	62.3	
36.	10:00	Noise Meter	dB	62.4	
37.	11:00	Noise Meter	dB	64.3	
38.	12:00	Noise Meter	dB	60.3	
39.	13:00	Noise Meter	dB	61.2	
40.	14:00	Noise Meter	dB	60.2	
41.	15:00	Noise Meter	dB	63.5	
42.	16:00	Noise Meter	dB	62.3	
43.	17:00	Noise Meter	dB	64.2	
44.	18:00	Noise Meter	dB	60.1	
45.	19:00	Noise Meter	dB	59.2	
46.	20:00	Noise Meter	dB	54.5	
47.	21:00	Noise Meter	dB	53.6	
48.	22:00	Noise Meter	dB	55.4	
Day Time Average			dB	62.06	65.0




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Ambient Air Quality Monitoring

Serial # 20B / 26206

Job Reference Number	GCEC-PK-152/2022
Monitoring Point	Sahiwal City (Near Pumpan Wala Chowk)
Date of Intervention	03-Jun-2022 to 04-Jun-2022
Monitoring Coordinates	30°40'33.4"N 73°06'08.6"E

Sr. #	Time	CO (mg/m ³)	NO (µg/m ³)	NO ₂ (µg/m ³)	NO _x (µg/m ³)	SO ₂ (µg/m ³)
1.	11:00	1.98	12.98	18.98	31.96	16.43
2.	12:00	1.56	13.65	17.82	31.47	15.87
3.	13:00	1.93	15.02	18.87	33.89	17.21
4.	14:00	1.89	14.21	19.21	33.42	16.34
5.	15:00	1.98	14.23	18.89	33.12	15.87
6.	16:00	3.13	19.32	28.07	47.39	23.31
7.	17:00	2.19	18.54	26.99	45.53	24.45
8.	18:00	2.98	17.87	25.32	43.19	25.32
9.	19:00	2.91	20.07	27.07	47.14	20.71
10.	20:00	3.07	18.82	28.02	46.84	21.93
11.	21:00	3.21	17.43	25.04	42.47	24.42
12.	22:00	2.38	19.02	25.12	44.14	23.93
13.	23:00	2.66	17.51	26.43	43.94	22.35
14.	0:00	2.96	20.07	28.02	48.09	25.35
15.	1:00	2.77	17.02	24.01	41.03	24.08
16.	2:00	1.93	18.96	25.11	44.07	26.22
17.	3:00	2.26	18.02	26.65	44.67	23.67
18.	4:00	2.98	19.07	27.12	46.19	24.58
19.	5:00	3.16	17.41	26.04	43.45	22.98
20.	6:00	2.38	19.96	25.32	45.28	26.98
21.	7:00	3.02	18.31	28.11	46.42	27.01
22.	8:00	3.19	19.07	27.09	46.16	25.41
23.	9:00	2.62	17.96	26.11	44.07	26.94
24.	10:00	2.82	18.98	27.76	46.74	23.67
Average Concentration		2.66	18.65	26.44	42.53	24.07

Lab Manager
Green Crescent Environment
Consultants (Pvt) Ltd.



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Noise Level Monitoring Report

Serial # 20B / 26209

Job Reference Number	GCEC-PK-152/2022
Monitoring Point	Sahiwal City (Near Pumpna Wala Chowk)
Date of Intervention	03-Jun-2022 to 04-Jun-2022
Monitoring Coordinates	30°40'33.4"N 73°06'08.6"E

Sr. #	Time	Method/Technique	Unit	Results	PEQS (Commercial)
				LAavg	
Night Time					
1.	23:00	Noise Meter	dB	53.18	55.0
2.	00:00	Noise Meter	dB	53.18	
3.	01:00	Noise Meter	dB	52.48	
4.	02:00	Noise Meter	dB	50.48	
5.	03:00	Noise Meter	dB	53.18	
6.	04:00	Noise Meter	dB	51.98	
7.	05:00	Noise Meter	dB	63.28	
8.	06:00	Noise Meter	dB	59.08	
Night Time Average			dB	54.61	55.0
Day Time					
9.	07:00	Noise Meter	dB	63.1	65.0
10.	08:00	Noise Meter	dB	62.4	
11.	09:00	Noise Meter	dB	63.2	
12.	10:00	Noise Meter	dB	62.2	
13.	11:00	Noise Meter	dB	64.3	
14.	12:00	Noise Meter	dB	61.6	
15.	13:00	Noise Meter	dB	64.3	
16.	14:00	Noise Meter	dB	62.3	
17.	15:00	Noise Meter	dB	63.5	
18.	16:00	Noise Meter	dB	61.2	
19.	17:00	Noise Meter	dB	63.1	
20.	18:00	Noise Meter	dB	64.2	
21.	19:00	Noise Meter	dB	61.2	
22.	20:00	Noise Meter	dB	53.6	
23.	21:00	Noise Meter	dB	53.2	
24.	22:00	Noise Meter	dB	55.1	
Day Time Average			dB	62.83	65.0

Lab Manager
Green Environment
Consultants (Pvt) Ltd.

Lot-4

Environmental Test Result Reports 2nd Quarter




NOISE LEVEL MONITORING REPORT

Reference No: WELCOS/2022/04/009-3 Date: 25 May, 2022

Name of Industry/ Client: ZKSHIZLABILE (IV)

Address: 16-KM SAHRAWAL-PARAPATTAN ROAD NEAR FALIH FARM
FREEZE

Coordinates: 30.6583333 N, 73.1561111 E

Monitoring Point: BYPASS-NEAR MCDONALD'S

Observation Date: 24 May, 2022

Completion Date: 25 May, 2022

Sr.No	Time	Noise dB	PEGS
1	14:00	57.1	Day: 65 dB
2	15:00	61.5	
3	16:00	59.6	
4	17:00	58.8	
5	18:00	59.6	
6	19:00	58.8	
7	20:00	56.4	
8	21:00	57.1	
9	22:00	61.5	
10	23:00	59.6	
11	00:00	58.8	Night: 55 dB
12	1:00	56.4	
13	2:00	60.2	
14	3:00	55.3	
15	4:00	57.8	
16	5:00	52.9	
17	6:00	53.4	
18	7:00	51.6	Day: 65 dB
19	8:00	57.1	
20	9:00	61.5	
21	10:00	59.6	
22	11:00	58.8	
23	12:00	51.1	
24	14:00	53.6	

Signature: _____





No. 06173

Water Environment Laboratories & Consultancy Services (WELCOS)

24 D, Punjab University Town E, Dyalpuri-Jinnah, Lahore Pakistan.

info@welcos.com.pk

www.welcos.com.pk

0300-722100, 0300-1117222



AMBIENT AIR QUALITY MONITORING

Reference No: WELCOS/2022/AA/1005-3

Date: 25-May, 2022

Name of Industry/ Client: ZKB-RELAHEE (JV)
Address: 16-KM SAHRAWAL, PARPATTA ROAD NEAR FAUJI FARM
BRIDGE
Coordinates: 30-6503333 N, 75-1361111 E
Monitoring Point: BYPASS NEAR MCDONALD'S
Intervention Date: 20 May, 2022
Completion Date: 21 May, 2022

Sr. No	Time	CO ₂ (mg/m ³)	SO ₂ (µg/m ³)	NO (µg/m ³)	NO ₂ (µg/m ³)	NO _x (µg/m ³)
1	14:00	0.41	1.8	2.3	1.7	3.8
2	15:00	0.51	11.3	3.2	0.4	3.3
3	16:00	0.38	10.1	3.5	0.2	3.4
4	17:00	0.41	15.4	2.9	2.3	5.1
5	18:00	0.35	34.5	4.5	3.4	7.2
6	19:00	0.41	4.7	2.3	5.4	7.9
7	20:00	0.67	9.6	3.1	2.4	7.8
8	21:00	0.38	14.7	3.6	2.3	6.5
9	22:00	0.45	17.1	6.5	5.7	11.4
10	23:00	0.54	16.5	11.8	2.1	13.9
11	00:00	0.18	22.8	10.8	0.8	11.5
12	1:00	0.66	13.2	14.3	0.1	14.1
13	2:00	0.41	9.8	6.4	2.7	9.7
14	3:00	0.43	15.7	0.2	3.1	3.3
15	4:00	0.68	17.4	5.9	2.8	8.1
16	5:00	0.75	16.9	7.9	6.9	8.8
17	6:00	0.42	4.7	4.5	1.7	5.3
18	7:00	0.51	9.6	0.0	2.4	2.4
19	8:00	0.51	6.8	5.1	3.8	8.5
20	9:00	0.41	7.5	3.1	0.3	3.6
21	10:00	0.55	25.4	1.2	0.5	1.8
22	11:00	0.43	14.8	2.2	1.5	3.7
23	12:00	0.42	22.5	1.4	1.4	3.4
24	14:00	0.42	20.0	1.7	2.1	4.9
Average		0.741306	18.90208	6.258774	18.87322	15.96308

Signature: _____



No. 06174



Water Environment Laboratories & Consultancy Services (WELCOS)
G-28 D, Punjab University Town II, Jhokan-e-Jinnah, Lahore Pakistan.

☐ info@welcos.com.pk
☐ www.welcos.com.pk
☎ 0300-722186, 0304-1117221




AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS-2022/AA/1086-J Date: 23 May, 2022

Name of Industry/Client: ZKB-RELAHLE (JV)

Address: 36-KM NATIONAL PARKWAY ROAD NEAR FAUJI FARM FREEZE

Coordinates: 30.65833333 N, 73.13611111 E

Monitoring Point: BYPASS NEAR McDONALD'S

Intervention Date: 20 May, 2022

Completion Date: 21 May, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	320 µg/m ³	18.9 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO ₂)	24 hours	40 µg/m ³	4.2 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	10.8 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	15.9 µg/m ³	Complies
5.	Ozone (O ₃)	24 hours	130 µg/m ³	37 µg/m ³	Complies
6.	Respirable Particulate Matter (PM ₁₀)	24 hours	150 µg/m ³	55 µg/m ³	Complies
7.	Respirable Particulate Matter (PM _{2.5})	24 hours	35 µg/m ³	27 µg/m ³	Complies
8.	Carbon Monoxide (CO)	24 hours	5 mg/m ³	0.7 mg/m ³	Complies
9.	Suspended particulate matter (SPM)	24 hours	500 µg/m ³	130 µg/m ³	Complies
10.	Lead (Pb)	24 hours	1.5 µg/m ³	0.13 µg/m ³	Complies

Terms and Conditions:

- Report cannot be used regarding compliance of any regulation, DPO or any other court case.
- This report should be represented as a whole and not as parts.
- This responsibility of the actual use of the results reported in this report lies with the client.


 Prepared By


 Reviewed By


 Approved By


 Report No.





Water, Environment Laboratories & Consultancy Services (WELCOS)

29-D, Punjab University Town 8, Khyber Pakhtunkhwa, Lahore Pakistan

Email: info@welcos.com.pk
 Web: www.welcos.com.pk
 Tel: 0300-722186, 0304-1117222



NOISE LEVEL MONITORING REPORT

Reference No: WELCOS/2022/N/1006-2

Date: 25 May, 2022

Name of Industry/Client:

ZK-B RELIABLE (JV)

Address:

16-KM SAHRAWAL-PARPATAN ROAD NEAR FAUJI FARM
FREEZE

Coordinates:

30.56561111 N, 73.13916667 E

Monitoring Point:

77 PIPELINE NEAR DISPOSAL STATION

Intervention Date:

19 May, 2022

Completion Date:

29 May, 2022

Sl No	Time	Noise dBi	PEROS
1	14:00	56.4	Day 65 dB
2	15:00	60.2	
3	16:00	55.3	
4	17:00	57.8	
5	18:00	53.6	
6	19:00	58.8	
7	20:00	56.4	
8	21:00	60.2	
9	22:00	55.3	
10	23:00	57.8	
11	00:00	53.6	Night 55 dB
12	1:00	52.6	
13	2:00	54.3	
14	3:00	50.4	
15	4:00	60.2	
16	5:00	55.3	
17	6:00	53.4	
18	7:00	51.6	Day 65 dB
19	8:00	56.4	
20	9:00	60.2	
21	10:00	55.3	
22	11:00	52.2	
23	12:00	51.1	
24	14:00	53.6	

Signature: _____



No. 06176



AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/086-2

Date: 25 May, 2022

Name of Industry/Client: ZKJ-RELAJB/C (PV)
Address: 16-KM SADIWAL-PAKISTAN ROAD NEAR PAUJI FARM
FRI1211
Coordinates: 30.56561311 N, 73.15916667 E
Monitoring Point: T2 PIPE LINE NEAR DISPOSAL STATION
Intervention Date: 19 May, 2022
Completion Date: 20 May, 2022

Sr. No	Time	CO ₂ (ppm)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	NO _x (µg/m ³)	NO _y (µg/m ³)
1	14:00	0.41	5.8	2.2	1.7	3.8
2	15:00	0.55	11.5	3.2	0.4	3.1
3	16:00	0.55	10.1	3.6	0.2	3.4
4	17:00	0.41	15.4	2.9	2.3	5.1
5	18:00	0.39	38.3	4.8	2.4	7.2
6	19:00	0.42	4.7	2.7	3.4	7.0
7	20:00	0.67	9.6	5.1	2.4	7.8
8	21:00	0.38	14.7	3.6	3.3	6.5
9	22:00	0.45	17.1	6.5	5.7	11.8
10	23:00	0.54	16.5	11.8	2.1	13.9
11	00:00	0.18	23.8	10.8	0.6	11.8
12	1:00	0.66	13.2	14.1	0.1	14.1
13	2:00	0.47	9.8	6.4	2.1	9.7
14	3:00	0.45	15.7	0.2	3.1	3.3
15	4:00	0.68	17.4	5.9	2.8	8.1
16	5:00	0.35	16.9	7.9	0.9	8.8
17	6:00	0.42	4.7	4.5	1.7	5.1
18	7:00	0.51	5.6	0.0	2.4	2.4
19	8:00	0.51	6.8	5.1	3.8	9.4
20	9:00	0.41	7.5	3.3	0.3	3.6
21	10:00	0.55	15.4	1.2	0.5	1.8
22	11:00	0.42	14.8	1.2	1.3	2.7
23	12:00	0.42	22.1	1.4	1.4	3.4
24	13:00	0.42	20.9	3.7	2.1	8.9
Average:		0.7148996	14.852369	3.7488695	21.85236	25.41785

Signature: _____



No. 06177



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29 D, Punjab University Tower II, Khyab-e-Jinnah, Lahore Pakistan

info@welts.com.pk
www.welts.com.pk
0300-722180, 0304-1117222




AMBIENT AIR QUALITY MONITORING

Reference No: WELCOS/2022/AA/TIM-2

Date: 25 May, 2022

Name of Industry/ Client: ZICH-RELAIBLE (PV)

Address: 10-KM SAHRAWAL-PARPATAN ROAD NEAR FAJRI FARM PHASE

Coordinates: 31.58861111 N, 71.19916667 E

Monitoring Point: 72' PIPE LINE NEAR DISPOSAL STATION

Intervention Date: 19 May, 2022

Completion Date: 20 May, 2022

Analysis Parameters:

Sr. No.	Parameters	PQS Limit		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	14.5 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO ₂)	24 hours	40 µg/m ³	3.7 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/m ³	21.8 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO ₂)	24 hours	120 µg/m ³	25.4 µg/m ³	Complies
5.	Ozone (O ₃)	24 hours	130 µg/m ³	45 µg/m ³	Complies
6.	Respirable Particulate Matter (PM ₁₀)	24 hours	150 µg/m ³	82 µg/m ³	Complies
7.	Respirable Particulate Matter (PM _{2.5})	24 hours	35 µg/m ³	28 µg/m ³	Complies
8.	Carbon Monoxide (CO)	24 hours	4 µg/m ³	0.7 µg/m ³	Complies
9.	Suspended particulate matter (SPM)	24 hours	500 µg/m ³	121 µg/m ³	Complies
10.	Lead (Pb)	24 hours	1.5 µg/m ³	0.33 µg/m ³	Complies

Terms and Conditions:

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🌐 www.welcos.com.pk

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NOISE LEVEL MONITORING REPORT

Reference No: WELCOS/2022/10/1086-1

Date: 25 May, 2022

Name of Industry/ Client: ZKIS-RELAIDEE (TV)
Address: 16 KM KADWAL PARPATTA ROAD NEAR SAJIT FARM
PHEETH
Coordinates: 30.6361111N, 73.1111111E
Monitoring Point: BYPASS 40 PIPE LINE NEAR ARIF WALA BYPASS
Intervention Date: 18 May, 2022
Completion Date: 19 May, 2022

Sl No	Time	Noise dB	PEQs
1	14:00	54.3	Day: 65 dB
2	15:00	60.1	
3	16:00	57.1	
4	17:00	61.5	
5	18:00	59.6	
6	19:00	58.8	
7	20:00	56.4	
8	21:00	60.2	
9	22:00	55.3	
10	23:00	57.8	
11	00:00	53.6	Night: 55 dB
12	1:00	52.6	
13	2:00	54.3	
14	3:00	51.5	
15	4:00	50.8	
16	5:00	52.9	
17	6:00	53.4	
18	7:00	51.6	Day: 65 dB
19	8:00	54.5	
20	9:00	52.8	
21	10:00	57.7	
22	11:00	52.2	
23	12:00	51.1	
24	14:00	53.8	

Signature: _____



No. 06179



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G-29 D, Punjab University Tower E, Khayaban-e-Jinnah, Lahore Pakistan.

✉ info@welcos.com.pk
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AMBIENT AIR QUALITY MONITORING

Reference No: WELCOS/2022/AA/1086-1

Date: 25 May, 2022

Name of Industry/Client:

ZKH-RELIABLE (P)

Address:

15-KM SADIQ WALI-PARPATIAN ROAD NEAR FAUZI FARM
FREDER

Coordinates:

30.300000N, 73.100000E

Monitoring Point:

BYPASS OR PIPELINE NEAR ARIF WALI BYPASS

Intervention Date:

18 May, 2022

Completion Date:

19 May, 2022

Sr. No	Time	CO ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)
1	14:00	0.41	5.8	2.2	1.7	3.8
2	15:00	0.53	11.5	3.2	0.4	3.1
3	16:00	0.35	10.3	2.6	0.2	2.4
4	17:00	0.43	15.4	2.9	2.3	3.5
5	18:00	0.35	34.5	4.5	2.4	7.2
6	19:00	0.41	4.7	2.7	5.4	7.9
7	20:00	0.67	9.6	5.1	2.4	7.8
8	21:00	0.38	14.7	3.8	3.3	6.5
9	22:00	0.45	17.1	6.5	5.7	11.4
10	23:00	0.54	16.5	13.8	2.1	13.9
11	00:00	0.18	22.4	10.8	0.6	13.5
12	1:00	0.69	19.2	14.1	0.1	14.1
13	2:00	0.41	9.8	0.4	2.7	0.7
14	3:00	0.45	15.3	0.2	3.1	3.3
15	4:00	0.08	17.4	5.9	2.8	8.1
16	5:00	0.35	16.9	2.9	0.9	8.8
17	6:00	0.42	4.7	4.4	1.7	5.1
18	7:00	0.51	9.6	0.0	2.4	2.4
19	8:00	0.51	6.8	5.1	3.8	8.5
20	9:00	0.41	7.5	3.3	0.3	3.6
21	10:00	0.55	15.4	1.2	0.5	1.8
22	11:00	0.43	14.8	3.2	1.5	2.7
23	12:00	0.42	22.3	1.4	1.4	3.4
24	14:00	0.42	20.0	3.3	2.1	6.9
Average:		0.68741	12.85147	3.765296	1.485369	6.3741399

Signature:



No. 06150



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20-D, Punjab University Town II, Khyber-e-Azmat, Lahore Pakistan.

info@welcos.com.pk
www.welcos.com.pk
0300-722180, 0304-1117222




AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/1086-1

Date: 25 May, 2022

Name of Industry/Client: ZK-H-HS ABLE (JV)

Address: 16-KM SAHAWAL PAKPATTAN ROAD NEAR FAIR FARM (RYE2)

Coordinates: 76.6341111N, 73.1311111E

Monitoring Point: BYPASS 40 PIPELINE NEAR ABIF WALA BYPASS

Intervention Date: 18 May, 2022

Completion Date: 19 May, 2022

Analysis Parameters

Sl. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 hours)		
1.	Sulphur Dioxide (SO_2)	24 hours	120 $\mu g/m^3$	12.8 $\mu g/m^3$	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 $\mu g/m^3$	3.7 $\mu g/m^3$	Complies
3.	Oxides Of Nitrogen as (NO_2)	24 hours	80 $\mu g/m^3$	1.4 $\mu g/m^3$	Complies
4.	Oxides Of Nitrogen as (NO_x)	24 hours	120 $\mu g/m^3$	5.2 $\mu g/m^3$	Complies
5.	Ozone (O_3)	24 hours	120 $\mu g/m^3$	49 $\mu g/m^3$	Complies
6.	Respirable Particulate Matter PM_{10}	24 hours	150 $\mu g/m^3$	71 $\mu g/m^3$	Complies
7.	Respirable Particulate Matter $PM_{2.5}$	24 hours	35 $\mu g/m^3$	28 $\mu g/m^3$	Complies
8.	Carbon Monoxide (CO)	24 hours	5 mg/m ³	0.0 mg/m ³	Complies
9.	Suspended particulate matter (SPM)	24 hours	800 $\mu g/m^3$	137 $\mu g/m^3$	Complies
10.	Lead (Pb)	24 hours	1.5 $\mu g/m^3$	0.12 $\mu g/m^3$	Complies

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29 D, Punjab University Town II, Khyab-e-Jinnah, Lahore Pakistan.

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ANNEXURE C: Sialkot: Environmental Test Result Reports 1st & 2nd Quarter



AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/937-1

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.499 N, 74.498715 E
Monitoring Point Defense Road (LOT # 1)
Intervention Date: 21 March, 2022
Completion Date 22 March, 2022

Analysis Parameters

S #	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO ₂)	24 hours	120 µg/ m ³	15.96 µg/m ³	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 µg/ m ³	5.25 µg/m ³	Complies
3	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/ m ³	3.28 µg/m ³	Complies
4	Oxides Of Nitrogen as (NO _x)	24 hours	120 µg/ m ³	8.96 µg/m ³	Complies
5	Ozone (O ₃)	01 hours	130 µg/ m ³	56 µg/m ³	Complies
7	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/ m ³	64 µg/m ³	Complies
8	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	26 µg/m ³	Complies
9	Carbon Monoxide (CO)	08 hours	5 mg/m ³	1.69 µg/m ³	Complies

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29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk
www.welcos.com.pk
0300-722180, 0304-117222



NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-1

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.499 N, 74.498715 E
Monitoring Point: Defense Road (LOT # 1)
Intervention Date: 21 March, 2022
Completion Date: 22 March, 2022

Sr. No	Time	Noise dB	PEQS
1.	15:00	53.7	Day 65 dB
2.	16:00	52.6	
3.	17:00	54.1	
4.	18:00	55.8	
5.	19:00	54.2	
6.	20:00	53.7	Night 55 dB
7.	21:00	52.6	
8.	22:00	52.4	
9.	23:00	53.3	
10.	00:00	54.	
11.	01:00	52.6	
12.	02:00	53	
13.	03:00	53.4	
14.	04:00	55.5	
15.	05:00	52.9	
16.	06:00	53.7	Day 65 dB
17.	07:00	52.6	
18.	08:00	54.1	
19.	09:00	55.8	
20.	10:00	54.2	
21.	11:00	53.7	
22.	12:00	52.6	
23.	13:00	54.1	
24.	14:00	55.8	

Signature: _____



AMBIENT AIR QUALITY TEST REPORT

Reference No. WELCOS/2022/AA/937-6

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.497655 N, 74.52789 E
Monitoring Point: Hakeem Khadim Ali Road (LOT # 1)
Intervention Date: 26 March, 2022
Completion Date: 27 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO ₂)	24 hours	120 µg/ m ³	15.69 µg/m ³	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 µg/ m ³	7.29 µg/m ³	Complies
3	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/ m ³	8.39 µg/m ³	Complies
4	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/ m ³	15.69 µg/m ³	Complies
5	Ozone (O ₃)	01 hours	130 µg/ m ³	78 µg/m ³	Complies
6	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/ m ³	72 µg/m ³	Complies
7	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	27 µg/m ³	Complies
8	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.92 µg/m ³	Complies

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29 D, Punjab University Town II, Khyber-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk
www.welcos.com.pk
0300-722180, 0304-1117222



NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-6

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)

Address: ZKB-Reliable Base Camp Marala Road Sialkot

Coordinates: 32.497655 N, 74.52789 E

Monitoring Point: Hakeem Khadim Ali Road (LOT # 1)

Intervention Date: 26 March, 2022

Completion Date: 27 March, 2022

Sr No	Time	Noise dB	PEQS
1.	16:00	54.5	Day 65 dB
2.	17:00	53.3	
3.	18:00	57.2	
4.	19:00	57.5	
5.	20:00	61.3	
6.	21:00	54.5	
7.	22:00	53.3	
8.	23:00	57.2	Night 55 dB
9.	00:00	54.5	
10.	01:00	54.5	
11.	02:00	53.3	
12.	03:00	57.2	
13.	04:00	55.4	
14.	05:00	53.4	
15.	06:00	55.5	
16.	07:00	54.9	
17.	08:00	52.4	
18.	09:00	54.6	
19.	10:00	53.5	
20.	11:00	54.5	Day 65 dB
21.	12:00	53.3	
22.	13:00	57.2	
23.	14:00	54.5	
24.	15:00	53.3	

Signature: _____



No. 04856



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29 D, Punjab University Town II, Khybani-e-Jinnah, Lahore Pakistan.

Info@welcos.com.pk
www.welcos.com.pk
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Test Report of Ground Water Sample

Reference No. WELCOS/2022/GW/937-1

Date: 31st March, 2022

Name of Industry ZKB-RELAIBLE (JV)

Sample Location: ZKB-Reliable Base Camp Marala Road Sialkot

Source of sample: Defense Road (LOT # 1) Sample Collected: WELCOS

Analysis start date: 22nd March, 2022 Date of collection: 21st March, 2022

Analysis Completion Date 30th March, 2022 Grab/Composite Grab

Environmental Conditions: Temperature 22-28 °C Humidity <70%

Analysis Parameters

Sr.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
1.	pH	-	6.5-8.5	7.58	APHA 4500H ⁺ B	Complies
2.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
3.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Color	TCU	Unobj.	Unobj.	Sensory Method	Complies
5.	TDS	mg/l	< 1000	479	APHA 2140 C	Complies
6.	Conductivity	µS/cm	NGVS	826	APHA 2510 B	Complies
7.	Chloride	mg/l	< 250	29	APHA 4500 Cl-B	Complies
8.	Hardness	mg/l	< 500	132	APHA 2340 C	Complies
9.	Calcium	mg/l	200	116	APHA 3500 Ca-B	Complies
10.	Magnesium	mg/l	150	23	APHA 3500 Mg B	Complies
11.	Turbidity	NTU	<5 NTU	1.3	APHA 2130 B	Complies
12.	Fluoride	mg/l	≤ 1.5	BDL	APHA 4500 F D	Complies
13.	Nitrate (NO ₃)	mg/l	≤ 50	0.139	APHA 4500 NO ₃ -B	Complies
14.	Nitrite (NO ₂)	mg/l	≤ 3	0.05	APHA 4500 NO ₂ B	Complies
15.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
16.	Cadmium	mg/l	0.01	BDL	APHA 2112 B	Complies
17.	Manganese	mg/l	≤ 0.5	BDL	APHA-3113 B	Complies
18.	Zinc	mg/l	5	BDL	APHA 3111 B	Complies
19.	Arsenic	mg/l	≤ 0.05	BDL	APHA 3113 B	Complies



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29 D, Punjab University Town II, Khyber-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk
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Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program



Sr.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
20	Copper	mg/l	2	BDL	APHA 3113-B	Complies
21	Lead	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
22	Nickel	mg/l	≤ 0.02	BDL	APHA 3113-B	Complies
23	Chromium	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
24	Mercury	mg/l	≤ 0.001	BDL	APHA 3112-B	Complies
25	Selenium	mg/l	0.01	BDL	APHA 3114-B	Complies
26	Barium	mg/l	0.7	BDL	APHA 3113-B	Complies
27	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28	Total Coliform	CFU	0	0	APHA 9222-B	Complies
29	E.coli	CFU	0	0	APHA 9222-D	Complies

Abbreviations:

PEQS Punjab Environmental quality Standards **BDL** Below Detectable Limit **APHA** American Public Health Association **NGVS** No Guideline value set **CFU** Colony Forming Unit **NTU** Nephelometric Turbidity Unit

Terms and Conditions:

- Analysis was conducted on the request of proponent for his own PEQS compliance.
- This report should be produced as a whole and not in parts.
- The sample is retained for 15 days after the issuance date of report from the laboratory.

Disclaimer:

- This test result is based solely on the particular sample(s) identified above, and should not be reported in parts.
- In case the sample is collected by client, the responsibility of sample's integrity lies with the client/customer.
- While we have taken all reasonable precautions to ensure validity of test results, we do not assume any liability thereof beyond the amount of the fee charged for the analysis/test.
- The Party shall assume full responsibility for the ethical use of the results in the test report and we shall be held free from any and all claims, which may result from the use of such data by the clients or others.
- After completion of the test, the sample (if required) will be retained for 2 weeks until negotiated otherwise through documented communication.
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29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk
www.welcos.com.pk
0300-722180, 0304-1117222

Lot-2



AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/937-2

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.515903 N, 74.494711 E
Monitoring Point: Marala Road Single Cell Conduit (LOT # 2)
Intervention Date: 22 March, 2022
Completion Date: 23 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	14.75 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 µg/m ³	4.9 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	2.56 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO _x)	24 hours	120 µg/m ³	6.71 µg/m ³	Complies
5.	Ozone (O ₃)	01 hours	130 µg/m ³	57 µg/m ³	Complies
6.	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/m ³	61 µg/m ³	Complies
7.	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	28 µg/m ³	Complies
8.	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.85 µg/m ³	Complies

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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-2

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.515903 N, 74.494711 E
Monitoring Point: Marala Road Single Cell Conduit (LOT # 2)
Intervention Date: 22 March, 2022
Completion Date: 23 March, 2022

Sr No	Time	Noise dB	PEQS
1.	16:00	52.6	Day 65 dB
2.	17:00	53.4	
3.	18:00	51.7	
4.	19:00	52.5	
5.	20:00	53.6	
6.	21:00	56.2	
7.	22:00	55.4	Night 55 dB
8.	23:00	54.5	
9.	00:00	52.6	
10.	01:00	53.4	
11.	02:00	51.7	
12.	03:00	52.6	
13.	04:00	53.4	
14.	05:00	51.7	
15.	06:00	52.5	
16.	07:00	54.8	
17.	08:00	51.7	
18.	09:00	53.6	Day 65 dB
19.	10:00	52.6	
20.	11:00	53.4	
21.	12:00	51.7	
22.	13:00	52.6	
23.	14:00	53.4	
24.	15:00	51.7	

Signature: _____



No. 04868





AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/937-5

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.523464 N, 74.491563 E
Sampling Point: Old Airport Road Double Cell Conduit (LOT # 2)
Intervention Date: 25 March, 2022
Completion Date: 26 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	14.69 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 µg/m ³	8.2 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	7.69 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/m ³	15.85 µg/m ³	Complies
5.	Ozone (O ₃)	01 hours	130 µg/m ³	68 µg/m ³	Complies
6.	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/m ³	56 µg/m ³	Complies
7.	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	39 µg/m ³	Complies
8.	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.85 µg/m ³	Complies

Terms and Conditions:

- Report cannot be used regarding compliance of any complaint, EPO or any other court case.
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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-5

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.523464 N, 74.491563 E
Sampling Point: Old Airport Road Double Cell Conduit (LOT # 2)
Intervention Date: 25 March, 2022
Completion Date: 26 March, 2022

Sr No	Time	Noise dB	PEQS
1.	16:00	62.3	Day 65 dB
2.	17:00	61.3	
3.	18:00	57.3	
4.	19:00	58.4	
5.	20:00	62.3	
6.	21:00	62.3	
7.	22:00	61.3	
8.	23:00	57.3	
9.	00:00	58.4	Night 55 dB
10.	01:00	56.4	
11.	02:00	62.3	
12.	03:00	61.3	
13.	04:00	57.3	
14.	05:00	58.4	
15.	06:00	62.3	
16.	07:00	61.3	
17.	08:00	62.3	
18.	09:00	61.3	
19.	10:00	57.3	
20.	11:00	59.2	
21.	12:00	61.7	Day 65 dB
22.	13:00	60.1	
23.	14:00	62.3	
24.	15:00	61.2	

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Test Report of Ground Water Sample

Reference No. WELCOS/2022/GW/937-2 Date: 31st March, 2022

Name of Industry ZKB-RELAIBLE (JV)

Sample Location: ZKB-Reliable Base Camp Marala Road Sialkot

Source of sample: Marala Road - Single- Cell Conduit (LOT # 2) Sample Collected: WELCOS

Analysis start date: 22nd March, 2022 Date of collection: 21st March, 2022

Analysis Completion Date 30th March, 2022 Grab/Composite Grab

Environmental Conditions: Temperature 22-28 °C Humidity <70%

Analysis Parameters

Sr.#	Parameters	Units	FEQS	Result	Test Method Used	Remarks
1.	pH	-	6.5-8.5	7.47	APHA 4500H ⁺ B	Complies
2.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
3.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Color	TCU	Unobj.	Unobj.	Sensory Method	Complies
5.	TDS	mg/l	< 1000	726	APHA 2140 C	Complies
6.	Conductivity	µS/cm	NGVS	943	APHA 2510 B	Complies
7.	Chloride	mg/l	< 250	54	APHA 4500 Cl-B	Complies
8.	Hardness	mg/l	< 500	235	APHA 2340 C	Complies
9.	Calcium	mg/l	200	58	APHA 3500 Ca-B	Complies
10.	Magnesium	mg/l	150	18	APHA 3500 Mg B	Complies
11.	Turbidity	NTU	<5 NTU	0.5	APHA 2130 B	Complies
12.	Fluoride	mg/l	≤ 1.5	0.24	APHA 4500 F D	Complies
13.	Nitrate (NO ₃)	mg/l	≤50	0.652	APHA 4500 NO ₃ -B	Complies
14.	Nitrite (NO ₂)	mg/l	≤ 3	BDL	APHA 4500 NO ₂ B	Complies
15.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
16.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
17.	Manganese	mg/l	≤0.5	BDL	APHA-3113 B	Complies
18.	Zinc	mg/l	5	BDL	APHA 3111 B	Complies
19.	Arsenic	mg/l	≤ 0.05	BDL	APHA 3113 B	Complies



No. 04889



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Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program



Sr.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
20	Copper	mg/l	2	BDL	APHA 3113-B	Complies
21	Lead	mg/l	< 0.05	BDL	APHA 3113-B	Complies
22	Nickel	mg/l	< 0.02	BDL	APHA 3113-B	Complies
23	Chromium	mg/l	< 0.05	BDL	APHA 3113-B	Complies
24	Mercury	mg/l	< 0.001	BDL	APHA 3112-B	Complies
25	Selenium	mg/l	0.01	BDL	APHA 3114-B	Complies
26	Barium	mg/l	0.7	BDL	APHA 3113-B	Complies
27	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28	Total Coliform	CFU	0	0	APHA 9222-B	Complies
29	E.coli	CFU	0	0	APHA 9222-D	Complies

Abbreviations:

PEQS Punjab Environmental quality Standards **BDL** Below Detectable Limit **APHA** American Public Health Association **NGVS** No Guideline value set **CFU** Colony Forming Unit **NTU** Nephelometric Turbidity Unit

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- The sample is retained for 15 days after the issuance date of report from the laboratory.

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- The Party shall assume full responsibility for the ethical use of the results in the test report and we shall be held free from any and all claims, which may result from the use of such data by the clients or others.
- After completion of the test, the sample (if required) will be retained for 2 weeks until negotiated otherwise through documented communication.
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Reviewed By: _____

Approved By: _____

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Lot-3



AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/937-3

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.526698 N, 74.478181 E
Monitoring Point: Force Main Line (LOT # 3)
Intervention Date: 23 March, 2022
Completion Date: 24 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	18.56 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 µg/m ³	6.08 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	5.29 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO _x)	24 hours	120 µg/m ³	11.69 µg/m ³	Complies
5.	Ozone (O ₃)	01 hours	130 µg/m ³	63 µg/m ³	Complies
6.	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/m ³	71 µg/m ³	Complies
7.	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	29 µg/m ³	Complies
8.	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.95 µg/m ³	Complies

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Reviewed By

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No. 04867



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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-3

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.526698 N, 74.478181 E
Monitoring Point: Force Main Line (LOT # 3)
Intervention Date: 23 March, 2022
Completion Date: 24 March, 2022

Sr No	Time	Noise dB	PEQS
1.	16:00	55.4	Day 65 dB
2.	17:00	54.3	
3.	18:00	52.8	
4.	19:00	53.8	
5.	20:00	51.4	
6.	21:00	58.5	
7.	22:00	55.4	
8.	23:00	54.3	Night 55 dB
9.	00:00	52.8	
10.	01:00	53.8	
11.	02:00	51.4	
12.	03:00	54.8	
13.	04:00	55.4	
14.	05:00	54.3	
15.	06:00	52.8	
16.	07:00	52.6	
17.	08:00	51.7	
18.	09:00	52.2	
19.	10:00	53.4	Day 65 dB
20.	11:00	55.8	
21.	12:00	55.4	
22.	13:00	54.3	
23.	14:00	52.8	
24.	15:00	53.8	

Signature: _____



No. 04865



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AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/937-4

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Mirala Road Sialkot
Coordinates: 32.523169 N; 74.490393 E
Monitoring Point: Disposal Station (LOT # 3)
Intervention Date: 24 March, 2022
Completion Date: 25 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	13.75 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 µg/m ³	7.19 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	6.29 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/m ³	13.45 µg/m ³	Complies
5.	Ozone (O ₃)	01 hours	130 µg/m ³	64 µg/m ³	Complies
6.	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/m ³	69 µg/m ³	Complies
7.	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	28 µg/m ³	Complies
8.	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.79 µg/m ³	Complies

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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-4

Date: 31 March, 2022

Name of Industry/ Client:

ZKB-RELAIBLE (JV)

Address:

ZKB-Reliable Base Camp Marala Road Sialkot

Coordinates:

32.523169 N, 74.490393 E

Monitoring Point

Disposal Station (LOT # 3)

Intervention Date:

24 March, 2022

Completion Date

25 March, 2022

Sr No	Time	Noise dB	PEQS
1.	16:00	53.6	Day 65 dB
2.	17:00	55.3	
3.	18:00	52.3	
4.	19:00	58.5	
5.	20:00	54.8	
6.	21:00	57.5	
7.	22:00	53.5	
8.	23:00	54.8	
9.	00:00	52.4	Night 55 dB
10.	01:00	53.6	
11.	02:00	55.3	
12.	03:00	52.3	
13.	04:00	52.5	
14.	05:00	53.6	
15.	06:00	55.3	
16.	07:00	52.3	
17.	08:00	55.5	
18.	09:00	52.8	
19.	10:00	53.6	Day 65 dB
20.	11:00	55.3	
21.	12:00	52.3	
22.	13:00	55.5	
23.	14:00	52.8	
24.	15:00	53.6	

Signature: _____



No. 04862



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Test Report of Ground Water Sample

Reference No. WELCOS/2022/GW/937-3 **Date:** 31st March, 2022

Name of Industry: ZKB-RELAIBLE (JV)

Sample Location: ZKB-Reliable Base Camp Mirala Road Sialkot

Source of sample: Force Main Line (LOT # 3) **Sample Collected:** WELCOS

Analysis start date: 22nd March, 2022 **Date of collection:** 21st March, 2022

Analysis Completion Date: 30th March, 2022 **Grab/Composite:** Grab

Environmental Conditions: Temperature: 22-28 °C Humidity: <70%

Analysis Parameters

Sl.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
1.	pH	-	6.5-8.5	7.69	APHA 4500H ⁺ B	Complies
2.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
3.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Color	TCU	Unobj.	Unobj.	Sensory Method	Complies
5.	TDS	mg/l	< 1000	915	APHA 2140 C	Complies
6.	Conductivity	µS/cm	NGVS	1136	APHA 2510 B	Complies
7.	Chloride	mg/l	< 250	144	APHA 4500 Cl-B	Complies
8.	Hardness	mg/l	< 500	152	APHA 2340 C	Complies
9.	Calcium	mg/l	200	75	APHA 3500 Ca-B	Complies
10.	Magnesium	mg/l	150	26	APHA 3500 Mg-B	Complies
11.	Turbidity	NTU	<5 NTU	0.39	APHA 2130 B	Complies
12.	Fluoride	mg/l	≤ 1.5	0.46	APHA 4500 F D	Complies
13.	Nitrate (NO ₃)	mg/l	≤50	3.692	APHA 4500 NO ₃ -B	Complies
14.	Nitrite (NO ₂)	mg/l	≤ 3	0.02	APHA 4500 NO ₂ -B	Complies
15.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
16.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
17.	Manganese	mg/l	≤0.5	BDL	APHA-3113 B	Complies



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Sr.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
18.	Zinc	mg/l	5	BDL	APHA 3111 B	Complies
19.	Arsenic	mg/l	≤ 0.05	BDL	APHA 3113 B	Complies
20.	Copper	mg/l	2	BDL	APHA 3113-B	Complies
21.	Lead	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
22.	Nickel	mg/l	≤ 0.02	BDL	APHA 3113-B	Complies
23.	Chromium	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
24.	Mercury	mg/l	≤ 0.001	BDL	APHA 3112 B	Complies
25.	Selenium	mg/l	0.01	BDL	APHA 3114 B	Complies
26.	Barium	mg/l	0.7	BDL	APHA 3113 B	Complies
27.	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28.	Total Coliform	CFU	0	0	APHA 9222 B	Complies
29.	E.coli	CFU	0	0	APHA 9222 D	Complies

Abbreviations:

PEQS Punjab Environmental quality Standards BDL Below Detectable Limit APHA American Public Health Association NGVS No Guideline value set CFU Colony Forming Unit NTU Nephelometric Turbidity Unit

Terms and Conditions:

- Analysis was conducted on the request of proponent for his own PEQS compliance.
- This report should be produced as a whole and not in parts.
- The sample is retained for 15 days after the issuance date of report from the laboratory.

Disclaimer:

- This test result is based solely on the particular sample(s) identified above, and should not be reported in parts.
- In case the sample is collected by client, the responsibility of sample's integrity lies with the client/customer.
- While we have taken all reasonable precautions to ensure validity of test results, we do not assume any liability thereof beyond the amount of the fee charged for the analysis/test.
- The Party shall assume full responsibility for the ethical use of the results in the test report and we shall be held free from any and all claims, which may result from the use of such data by the clients or others.
- After completion of the test, the sample (if required) will be retained for 2 weeks until negotiated otherwise through documented communication.
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Lot-4



AMBIENT AIR QUALITY TEST REPORT

Reference No. WELCOS/2022/AA/937-7

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.496608 N, 74.522407 E
Monitoring Point: Capital OHT (LOT # 4)
Intervention Date: 27 March, 2022
Completion Date: 28 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO_2)	24 hours	120 $\mu g/m^3$	16.97 $\mu g/m^3$	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 $\mu g/m^3$	8.29 $\mu g/m^3$	Complies
3	Oxides Of Nitrogen as (NO_2)	24 hours	80 $\mu g/m^3$	10.96 $\mu g/m^3$	Complies
4	Oxides Of Nitrogen as (NO_x)	24 hours	80 $\mu g/m^3$	19.25 $\mu g/m^3$	Complies
5	Ozone (O_3)	01 hours	130 $\mu g/m^3$	62 $\mu g/m^3$	Complies
6	Respirable Particulate Matter PM_{10}	24 hours	150 $\mu g/m^3$	55 $\mu g/m^3$	Complies
7	Respirable Particulate Matter $PM_{2.5}$	24 hours	35 $\mu g/m^3$	31 $\mu g/m^3$	Complies
8	Carbon Monoxide (CO)	08 hours	5 mg/m^3	0.88 $\mu g/m^3$	Complies

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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS 2022/AA 937-7

Date: 31 March, 2022

Name of Industry/Client: ZKB-RELIABLE (PV)

Address: ZKB-Reliable Base Camp Marala Road Sialkot

Coordinates: 32.496608 N, 74.522407 E

Monitoring Point: Capital OHT (LOT # 4)

Intervention Date: 27 March, 2022

Completion Date: 28 March, 2022

Sr No	Time	Noise dB	PEQS
1.	16:00	53.3	Day 65 dB
2.	17:00	57.2	
3.	18:00	55.4	
4.	19:00	53.4	
5.	20:00	61.5	
6.	21:00	63.2	
7.	22:00	64.5	
8.	23:00	55.8	Night 55 dB
9.	00:00	56.7	
10.	01:00	53.3	
11.	02:00	57.2	
12.	03:00	55.4	
13.	04:00	53.4	
14.	05:00	53.3	
15.	06:00	57.2	
16.	07:00	54.9	
17.	08:00	52.4	
18.	09:00	54.6	
19.	10:00	53.5	
20.	11:00	53.3	Day 65 dB
21.	12:00	57.2	
22.	13:00	55.4	
23.	14:00	53.4	
24.	15:00	53.3	

Signature: _____



No. 04853



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info@welcos.com.pk

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AMBIENT AIR QUALITY TEST REPORT

Reference No. WELCOS/2022/AA/937-8

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.499472 N, 74.535185 E
Monitoring Point: Water Works T10
Intervention Date: 28 March, 2022
Completion Date: 29 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	17.69 µg/m ³	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 µg/m ³	9.36 µg/m ³	Complies
3	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	5.29 µg/m ³	Complies
4	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/m ³	15.63 µg/m ³	Complies
5	Ozone (O ₃)	01 hours	130 µg/m ³	65 µg/m ³	Complies
6	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/m ³	77 µg/m ³	Complies
7	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	31 µg/m ³	Complies
8	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.89 µg/m ³	Complies

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NOISE LEVEL MONITORING REPORT

Reference No, WELCOS/2022/AA/937-8

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)

Address: ZKB-Reliable Base Camp Marala Road Sialkot

Coordinates: 32.499472 N, 74.535185 E

Monitoring Point: Water works T10

Intervention Date: 28 March, 2022

Completion Date: 29 March, 2022

Sr No	Time	Noise dB	PEQS
1	16:00	54.9	Day 65 dB
2	17:00	52.4	
3	18:00	54.6	
4	19:00	61.5	
5	20:00	61.5	
6	21:00	63.2	
7	22:00	54.9	
8	23:00	52.4	Night 55 dB
9	00:00	54.6	
10	01:00	53.5	
11	02:00	53.3	
12	03:00	57.2	
13	04:00	55.4	
14	05:00	53.4	
15	06:00	55.5	
16	07:00	54.9	
17	08:00	52.4	
18	09:00	54.6	
19	10:00	54.9	Day 65 dB
20	11:00	52.4	
21	12:00	54.6	
22	13:00	53.5	
23	14:00	54.9	
24	15:00	52.4	

Signature: _____



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AMBIENT AIR QUALITY TEST REPORT

Reference No. WELCOS/2022/AA/937-9

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.568676 N, 74.499479 E
Monitoring Point: Camp site (LOT # 4)
Intervention Date: 29 March, 2022
Completion Date: 30 March, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO ₂)	24 hours	120 µg/m ³	16.89 µg/m ³	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 µg/m ³	9.45 µg/m ³	Complies
3	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/m ³	5.39 µg/m ³	Complies
4	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/m ³	14.89 µg/m ³	Complies
5	Ozone (O ₃)	01 hours	130 µg/m ³	79 µg/m ³	Complies
6	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/m ³	65 µg/m ³	Complies
7	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	31 µg/m ³	Complies
8	Carbon Monoxide (CO)	08 hours	5 mg/m ³	0.99 µg/m ³	Complies

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info@welcos.com.pk

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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/937-9

Date: 31 March, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)

Address: ZKB-Reliable Base Camp Marala Road Sialkot

Coordinates: 32.568676 N, 74.499479 E

Monitoring Point: Camp site (LOT # 4)

Intervention Date: 29 March, 2022

Completion Date: 30 March, 2022

Sr No	Time	Noise dB	PEQS
1	16:00	62.5	Day 65 dB
2	17:00	61.5	
3	18:00	62.6	
4	19:00	61.5	
5	20:00	61.5	
6	21:00	63.2	
7	22:00	64.5	
8	23:00	55.8	
9	00:00	56.7	Night 55 dB
10	01:00	54.5	
11	02:00	53.3	
12	03:00	57.2	
13	04:00	55.4	
14	05:00	53.4	
15	06:00	55.5	
16	07:00	54.9	
17	08:00	52.4	
18	09:00	54.6	
19	10:00	53.5	
20	11:00	64.9	
21	12:00	62.5	Day 65 dB
22	13:00	63.9	
23	14:00	62.2	
24	15:00	65.5	

Signature: _____



No. 04847



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Test Report of Ground Water Sample

Reference No. WELCOS/2022/GW/937-7 Date: 31st March, 2022

Name of Industry ZKB-RELAIBLE (JV)

Location: ZKB-Reliable Base Camp Marala Road Sialkot

Source of sample Capital OHT (LOT # 4) Sample Collected: WELCOS

Analysis start date: 22nd March, 2022 Date of collection: 21st March, 2022

Analysis Completion Date 30th March, 2022 Grab/Composite Grab

Environmental Conditions: Temperature 22-28 °C Humidity <70%

Analysis Parameters

Sr.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
1.	pH	-	6.5-8.5	7.68	APHA 4500H ⁺ B	Complies
2.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
3.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Color	TCU	Unobj.	Unobj.	Sensory Method	Complies
5.	TDS	mg/l	< 1000	697	APHA 2140 C	Complies
6.	Conductivity	µS/cm	NGVS	1045	APHA 2510 B	Complies
7.	Chloride	mg/l	< 250	35	APHA 4500 Cl-B	Complies
8.	Hardness	mg/l	< 500	230	APHA 2140 C	Complies
9.	Calcium	mg/l	200	36	APHA 3500 Ca-B	Complies
10.	Magnesium	mg/l	150	28	APHA 3500 Mg B	Complies
11.	Turbidity	NTU	<5 NTU	2.4	APHA 2130 B	Complies
12.	Fluoride	mg/l	≤ 1.5	0.7	APHA 4500 F D	Complies
13.	Nitrate (NO ₃)	mg/l	≤50	0.328	APHA 4500 NO ₃ -B	Complies
14.	Nitrite (NO ₂)	mg/l	≤ 3	0.05	APHA 4500 NO ₂ B	Complies
15.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
16.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
17.	Manganese	mg/l	≤0.5	BDL	APHA-3115 B	Complies
18.	Zinc	mg/l	5	BDL	APHA 3111 B	Complies
19.	Arsenic	mg/l	≤ 0.05	0.02	APHA 3113 B	Complies



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29 D, Punjab University Town II, Khyber-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk
www.welcos.com.pk
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Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program



Sr.#	Parameters	Units	PEQS	Result	Test Method Used	Remarks
20.	Copper	mg/l	2	BDL	APHA 3113-B	Complies
21.	Lead	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
22.	Nickel	mg/l	≤ 0.02	BDL	APHA 3113-B	Complies
23.	Chromium	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
24.	Mercury	mg/l	≤ 0.001	BDL	APHA 3112 B	Complies
25.	Selenium	mg/l	0.01	BDL	APHA 3114 B	Complies
26.	Barium	mg/l	0.7	BDL	APHA 3113 B	Complies
27.	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28.	Total Coliform	CFU	0	0	APHA 9222 B	Complies
29.	E.coli	CFU	0	0	APHA 9222 D	Complies

Abbreviations:

PEQS Punjab Environmental quality Standards BDL Below Detectable Limit APHA American Public Health Association NGVS No Guideline value set CFU Colony Forming Unit NTU Nephelometric Turbidity Unit

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- Analysis was conducted on the request of proponent for his own PEQS compliance
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- The sample is retained for 15 days after the issuance date of report from the laboratory.

Disclaimer:

- This test result is based solely on the particular sample(s) identified above, and should not be reported in parts
- In case the sample is collected by client, the responsibility of sample's integrity lies with the client/customer
- While we have taken all reasonable precautions to ensure validity of test results, we do not assume any liability thereof beyond the amount of the fee charged for the analysis/test
- The Party shall assume full responsibility for the ethical use of the results in the test report and we shall be held free from any and all claims, which may result from the use of such data by the clients or others
- After completion of the test, the sample (if required) will be retained for 2 weeks until negotiated otherwise through documented communication
- The contents of this report cannot be, in any manner, used for the publicity of the product or any advertisement

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29 D, Punjab University Town II, Khyber-e-Jinnah, Lahore Pakistan.

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AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)

Address: ZKB-Reliable Base Camp Marala Road Sialkot

Coordinates: 32.501343N, 74.496794E

Monitoring Point: Kashmir Road-China Chowq

Intervention Date: 20 June, 2022

Completion Date: 21 June, 2022

Analysis Parameters

S #	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO ₂)	24 hours	120 µg/ m ³	18.9 µg/m ³	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 µg/ m ³	4.0 µg/m ³	Complies
3	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/ m ³	1.5 µg/m ³	Complies
4	Oxides Of Nitrogen as (NO _x)	24 hours	120 µg/ m ³	5.5 µg/m ³	Complies
5	Ozone (O ₃)	24 hours	130 µg/ m ³	41 µg/m ³	Complies
6	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/ m ³	47 µg/m ³	Complies
7	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	28 µg/m ³	Complies
8	Carbon Monoxide (CO)	24 hours	5 mg/m ³	0.3 mg/m ³	Complies
9	Suspended particulate matter (SPM)	24 hours	500 µg/ m ³	144 µg/ m ³	Complies

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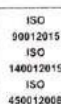
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info@welcos.com.pk

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0300-7222180, 042-35183916



NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.501343N, 74.496794E
Monitoring Point: Kashmir Road-China Chowq
Intervention Date: 20 June, 2022
Completion Date: 21 June, 2022

Sr No	Time	Noise dB	PEQS
1.	13:00	58.5	Day 65 dB
2.	14:00	60.1	
3.	15:00	57.1	
4.	16:00	61.5	
5.	17:00	59.6	
6.	18:00	58.8	
7.	19:00	56.4	
8.	20:00	60.2	
9.	21:00	55.3	
10.	22:00	57.8	
11.	23:00	53.6	Night 55 dB
12.	00:00	52.6	
13.	1:00	54.3	
14.	2:00	51.5	
15.	3:00	50.8	
16.	4:00	52.9	
17.	5:00	53.4	
18.	6:00	51.6	
19.	7:00	54.5	Day 65 dB
20.	8:00	52.8	
21.	9:00	57.7	
22.	10:00	52.2	
23.	11:00	51.1	
24.	12:00	53.6	

Signature: _____



No. 06270



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AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.501547N, 74.530417E
Monitoring Point: Prem Nagar
Intervention Date: 22 June, 2022
Completion Date: 23 June, 2022

Analysis Parameters

Sr No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/ m ³	14.8 µg/ m ³	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 µg/ m ³	3.7 µg/ m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/ m ³	21.8 µg/ m ³	Complies
4.	Oxides Of Nitrogen as (NO _x)	24 hours	120 µg/ m ³	25.4 µg/ m ³	Complies
5.	Ozone (O ₃)	24 hours	130 µg/ m ³	43 µg/ m ³	Complies
6.	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/ m ³	82 µg/ m ³	Complies
7.	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/ m ³	28 µg/ m ³	Complies
8.	Carbon Monoxide (CO)	24 hours	5 mg/ m ³	0.7 mg/ m ³	Complies
9.	Suspended particular matter (SPM)	24 hours	500 µg/ m ³	121 µg/ m ³	Complies

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NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

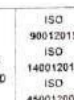
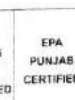
Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.501547N, 74.530417E
Monitoring Point: Prem Nagar
Intervention Date: 22 June, 2022
Completion Date: 23 June, 2022

Sr No	Time	Noise dB	PEQS
1	13:00	58.5	Day 65 dB
2	14:00	60.1	
3	15:00	57.1	
4	16:00	61.5	
5	17:00	59.6	
6	18:00	58.8	
7	19:00	56.4	
8	20:00	60.2	
9	21:00	55.3	
10	22:00	57.8	
11	23:00	53.6	Night 55 dB
12	00:00	52.6	
13	1:00	54.3	
14	2:00	51.5	
15	3:00	50.8	
16	4:00	52.9	
17	5:00	53.4	
18	6:00	51.6	
19	7:00	54.5	Day 65 dB
20	8:00	52.8	
21	9:00	57.7	
22	10:00	52.2	
23	11:00	51.1	
24	12:00	53.6	

Signature: _____



No. 06264





AMBIENT AIR QUALITY MONITORING

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.518837N, 74.495720E
Sampling Point: Double cell
Intervention Date: 24 June, 2022
Completion Date: 25 June, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1.	Sulphur Dioxide (SO ₂)	24 hours	120 µg/ m ³	19.5 µg/m ³	Complies
2.	Oxides Of Nitrogen as (NO)	24 hours	40 µg/ m ³	14.5 µg/m ³	Complies
3.	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/ m ³	16.5 µg/m ³	Complies
4.	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/ m ³	31.5 µg/m ³	Complies
5.	Ozone (O ₃)	24 hours	130 µg/ m ³	31 µg/m ³	Complies
6.	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/ m ³	75 µg/m ³	Complies
7.	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/m ³	29 µg/m ³	Complies
8.	Carbon Monoxide (CO)	24 hours	5 mg/m ³	0.5 mg/m ³	Complies
9.	Suspended particular matter (SPM)	24 hours	500 µg/ m ³	138 µg/ m ³	Complies

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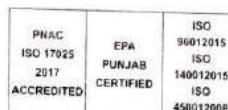
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29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk

www.welcos.com.pk

0300-7222180



NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.518837N, 74.495720E
Sampling Point: Double cell
Intervention Date: 24 June, 2022
Completion Date: 25 June, 2022

Sr No	Time	Noise dB	PEQS
1	13:00	58.5	Day 65 dB
2	14:00	60.1	
3	15:00	57.1	
4	16:00	61.5	
5	17:00	59.6	
6	18:00	58.8	
7	19:00	56.4	
8	20:00	60.2	
9	21:00	55.3	
10	22:00	57.8	
11	23:00	53.6	Night 55 dB
12	00:00	52.6	
13	1:00	54.3	
14	2:00	51.5	
15	3:00	50.8	
16	4:00	52.9	
17	5:00	53.4	
18	6:00	51.6	
19	7:00	54.5	Day 65 dB
20	8:00	52.8	
21	9:00	57.7	
22	10:00	52.2	
23	11:00	51.1	
24	12:00	53.6	

Signature: _____



No. 06258





AMBIENT AIR QUALITY TEST REPORT

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.568818N, 74.499519E
Point: Camp site
Analysis Date: 25 June, 2022
Analysis Completion Date: 26 June, 2022

Analysis Parameters

Sr. No.	Parameters	PEQS Limits		Concentration	Remarks
		Time-weighted Average	Concentration in Ambient Air (24 Hour)		
1	Sulphur Dioxide (SO ₂)	24 hours	120 µg/ m ³	24.5 µg/ m ³	Complies
2	Oxides Of Nitrogen as (NO)	24 hours	40 µg/ m ³	14.2 µg/ m ³	Complies
3	Oxides Of Nitrogen as (NO ₂)	24 hours	80 µg/ m ³	4.2 µg/ m ³	Complies
4	Oxides Of Nitrogen as (NO _x)	24 hours	80 µg/ m ³	18.5 µg/ m ³	Complies
5	Ozone (O ₃)	24 hours	130 µg/ m ³	34 µg/ m ³	Complies
6	Respirable Particulate Matter PM ₁₀	24 hours	150 µg/ m ³	68 µg/ m ³	Complies
7	Respirable Particulate Matter PM _{2.5}	24 hours	35 µg/ m ³	28 µg/ m ³	Complies
8	Carbon Monoxide (CO)	24 hours	5 mg/ m ³	0.47 mg/ m ³	Complies
9	Suspended particular matter (SPM)	24 hours	500 µg/ m ³	141 µg/ m ³	Complies

Terms and Conditions:

- Report cannot be used regarding compliance of any complaint, EPO or any other court case.
- This report should be reproduced as a whole and not in parts.
- This responsibility of the ethical use of the results reported in this report lies with the client.

Prepared By

Reviewed By

Approved By

Report End



No. 06243



Water Environment Laboratories & Consultancy Services (WELCOS)

29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk

www.welcos.com.pk

0300-7222180, 042-35183916



NOISE LEVEL MONITORING REPORT

Reference No. WELCOS/2022/AA/1222

Date: 29 June, 2022

Name of Industry/ Client: ZKB-RELAIBLE (JV)
Address: ZKB-Reliable Base Camp Marala Road Sialkot
Coordinates: 32.568818N, 74.499519E
Point: Camp site
Analysis Date: 25 June, 2022
Analysis Completion Date: 26 June, 2022

Sr No	Time	Noise dB	PEQS
1	13:00	58.5	Day 65 dB
2	14:00	60.1	
3	15:00	57.1	
4	16:00	61.5	
5	17:00	59.6	
6	18:00	58.8	
7	19:00	56.4	
8	20:00	60.2	
9	21:00	55.3	
10	22:00	57.8	
11	23:00	53.6	Night 55 dB
12	00:00	52.6	
13	1:00	54.3	
14	2:00	51.5	
15	3:00	50.8	
16	4:00	52.9	
17	5:00	53.4	
18	6:00	51.6	
19	7:00	54.5	Day 65 dB
20	8:00	52.8	
21	9:00	57.7	
22	10:00	52.2	
23	11:00	51.1	
24	12:00	53.6	

Signature: _____



No. 06241



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29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk

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DRINKING WATER SAMPLE REPORT

Reference No. WELCOS/2022/DW/1222-1

Date: 29 June, 2022

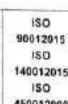
Name of Industry ZKB-RELAIBLE (JV)
Address : ZKB-Reliable Base Camp Marala Road Sialkot
Sample Identification Kashmir Road-China Chowq Latitudes 32.501343
Sample Collected/Provided WELCOS Representative Longitudes 74.496794
Date of Sample Received 20 June, 2022 Analysis Start Date 21 June, 2022
Analysis Completion Date 28 June, 2022 Grab/Composite Grab
Lab Environmental Conditions Temperature $25 \pm 5^{\circ}\text{C}$ Humidity <70 % RH

Analysis Parameters

Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
1.	pH	-	6.5-8.5	7.78	APHA 4500H ⁺ B	Complies
2.	TDS	mg/l	< 1000	412	APHA 2540 C	Complies
3.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
5.	Colour	TCU	Unobj.	Unobj.	Sensory Method	Complies
6.	Chloride	mg/l	< 250	35.9	APHA 4500 Cl-B	Complies
7.	Phenolic Compounds as phenols	mg/l	-	BDL	APHA-5530-C D USEPA 420.1	Complies
8.	Hardness	mg/l	< 500	182	APHA 2340 C	Complies
9.	Turbidity	NTU	<5 NTU	0.23	APHA 2130 B	Complies
10.	Fluoride	mg/l	≤ 1.5	0.5	APHA 4500 F D	Complies
11.	Nitrate (NO ₃)	mg/l	≤ 50	0.014	APHA 4500 NO ₃ B	Complies
12.	Nitrite (NO ₂)	mg/l	≤ 3	BDL	APHA 4500 NO ₂ B	Complies
13.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
14.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
15.	Manganese	mg/l	≤ 0.5	BDL	APHA-3113 B	Complies
16.	Zinc	mg/l	5	0.004	APHA 3111 B	Complies



No. 06257



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29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

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Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
17.	Arsenic	mg/l	≤ 0.05	0.008	APHA 3113 B	Complies
18.	Copper	mg/l	2	BDL	APHA 3113-B	Complies
19.	Lead	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
20.	Nickel	mg/l	≤ 0.02	BDL	APHA 3113-B	Complies
21.	Aluminium	mg/l	≤ 0.2	BDL	APHA 3113-B	Complies
22.	Chromium	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
23.	Mercury	mg/l	≤ 0.001	BDL	APHA 3112 B	Complies
24.	Selenium	mg/l	0.01	BDL	APHA 3114 B	Complies
25.	Antimony	mg/l	≤ 0.005	BDL	APHA 3113-B	Complies
26.	Barium	mg/l	0.7	BDL	APHA 3113 B	Complies
27.	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28.	Chlorine	mg/l	1.0	BDL	APHA 4500 Cl ⁻ B & G	Complies
29.	Total Coliform	CFU	0	0	APHA 9222 B	Complies
30.	<i>E.coli</i>	CFU	0	0	APHA 9222 D	Complies

Abbreviations:

PEQS Punjab Environmental Quality Standards **BDL** Below Detectable Limit **APHA** American Public Health Association
TNTC Too Numerous to Count **CFU** Colony Forming Unit **NTU** Nephelometric Turbidity Unit

Terms and Conditions:

- Analysis was conducted on the request of proponent for his own PEQS compliance.
- This report should be produced as a whole and not in parts.
- The sample is retained for 15 days after the issuance date of report from the laboratory.

Prepared By

Reviewed By

Report End

Approved By



No.06256



Water Environment Laboratories & Consultancy Services (WELCOS)
29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

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DRINKING WATER SAMPLE REPORT

Reference No. WELCOS/2022/DW/1222-3

Date: 29 June, 2022

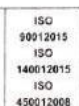
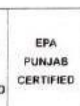
Name of Industry ZKB-RELAIBLE (JV)
Address : ZKB-Reliable Base Camp Marala Road Sialkot
Sample Identification Prem Nagar Latitudes 32.501547
Sample Collected/Provided WELCOS Representative Longitudes 74.530417
Date of Sample Received 20 June, 2022 Analysis Start Date 21 June, 2022
Analysis Completion Date 28 June, 2022 Grab/Composite Grab
Lab Environmental Conditions Temperature 25 ± 5 °C Humidity <70 % RH

Analysis Parameters

Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
1.	pH	-	6.5-8.5	7.42	APHA 4500H ⁺ B	Complies
2.	TDS	mg/l	< 1000	546	APHA 2540 C	Complies
3.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
5.	Colour	TCU	Unobj.	Unobj.	Sensory Method	Complies
6.	Chloride	mg/l	< 250	56	APHA 4500 Cl-B	Complies
7.	Phenolic Compounds as phenols	mg/l	-	BDL	APHA-5530-C & D USEPA 420.1	Complies
8.	Hardness	mg/l	< 500	176	APHA 2340 C	Complies
9.	Turbidity	NTU	<5 NTU	0.5	APHA 2130 B	Complies
10.	Fluoride	mg/l	≤ 1.5	0.48	APHA 4500 F D	Complies
11.	Nitrate (NO ₃)	mg/l	≤ 50	0.039	APHA 4500 NO ₃ -B	Complies
12.	Nitrite (NO ₂)	mg/l	≤ 3	BDL	APHA 4500 NO ₂ B	Complies
13.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B E	Complies
14.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
15.	Manganese	mg/l	≤ 0.5	BDL	APHA-3113 B	Complies
16.	Zinc	mg/l	5	0.007	APHA 3111 B	Complies



No. 06253



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29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk

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DRINKING WATER SAMPLE REPORT

Reference No. WELCOS/2022/DW/1222-5

Date: 29 June, 2022

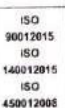
Name of Industry ZKB-RELAIBLE (JV)
Address : ZKB-Reliable Base Camp Marala Road Sialkot
Sample Identification Double cell Latitudes 32.518837
Sample Collected/Provided WELCOS Representative Longitudes 74.495720
Date of Sample Received 20 June, 2022 Analysis Start Date 21 June, 2022
Analysis Completion Date 28 June, 2022 Grab/Composite Grab
Lab Environmental Conditions Temperature $25 \pm 5^{\circ}\text{C}$ Humidity <70 % RH

Analysis Parameters

Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
1.	pH	-	6.5-8.5	7.59	APHA 4500H* B	Complies
2.	TDS	mg/l	< 1000	582	APHA 2540 C	Complies
3.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
5.	Colour	TCU	Unobj.	Unobj.	Sensory Method	Complies
6.	Chloride	mg/l	< 250	63	APHA 4500 Cl-B	Complies
7.	Phenolic Compounds as phenols	mg/l	-	BDL	APHA-5530-C & D USEPA 420.1	Complies
8.	Hardness	mg/l	< 500	185	APHA 2340 C	Complies
9.	Turbidity	NTU	<5 NTU	0.24	APHA 2130 B	Complies
10.	Fluoride	mg/l	≤ 1.5	0.7	APHA 4500 F D	Complies
11.	Nitrate (NO ₃)	mg/l	≤ 50	0.175	APHA 4500 NO ₃ -B	Complies
12.	Nitrite (NO ₂)	mg/l	≤ 3	BDL	APHA 4500 NO ₂ B	Complies
13.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
14.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
15.	Manganese	mg/l	≤ 0.5	BDL	APHA-3113 B	Complies
16.	Zinc	mg/l	5	0.059	APHA 3111 B	Complies



No. 06249



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Punjab Intermediate Cities Improvement Investment Program



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Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
17.	Arsenic	mg/l	≤ 0.05	0.03	APHA 3113 B	Complies
18.	Copper	mg/l	2	BDL	APHA 3113-B	Complies
19.	Lead	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
20.	Nickel	mg/l	≤ 0.02	BDL	APHA 3113-B	Complies
21.	Aluminium	mg/l	≤ 0.2	BDL	APHA 3113-B	Complies
22.	Chromium	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
23.	Mercury	mg/l	≤ 0.001	BDL	APHA 3112 B	Complies
24.	Selenium	mg/l	0.01	BDL	APHA 3114 B	Complies
25.	Antimony	mg/l	≤ 0.005	BDL	APHA 3113-B	Complies
26.	Barium	mg/l	0.7	BDL	APHA 3113 B	Complies
27.	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28.	Chlorine	mg/l	1.0	BDL	APHA 4500 Cl ⁻ B & G	Complies
29.	Total Coliform	CFU	0	0	APHA 9222 B	Complies
30.	<i>E. coli</i>	CFU	0	0	APHA 9222 D	Complies

Abbreviations:

PEQS Punjab Environmental Quality Standards BDL Below Detectable Limit APHA American Public Health Association
TNTC Too Numerous to Count CFU Colony Forming Unit NTU Nephelometric Turbidity Unit

Terms and Conditions:

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Prepared By

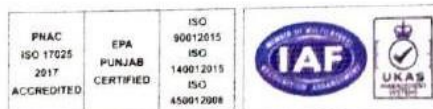
Reviewed By

Report End

Approved By



No. 06248





DRINKING WATER SAMPLE REPORT

Reference No. WELCOS/2022/DW/1222-6

Date: 29 June, 2022

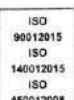
Name of Industry ZKB-RELAIBLE (JV)
Address : ZKB-Reliable Base Camp Marala Road Sialkot
Sample Identification Camp site **Latitudes** 32.568818
Sample Collected/Provided WELCOS Representative **Longitudes** 74.499519
Date of Sample Received 20 June, 2022 **Analysis Start Date** 21 June, 2022
Analysis Completion Date 28 June, 2022 **Grab/Composite** Grab
Lab Environmental Conditions **Temperature** 25 ± 5 °C **Humidity** <70 % RH

Analysis Parameters

Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
1.	pH	-	6.5-8.5	7.46	APHA 4500H* B	Complies
2.	TDS	mg/l	< 1000	361	APHA 2540 C	Complies
3.	Odor	-	Unobj.	Unobj.	Sensory Method	Complies
4.	Taste	-	Unobj.	Unobj.	Sensory Method	Complies
5.	Colour	TCU	Unobj.	Unobj.	Sensory Method	Complies
6.	Chloride	mg/l	< 250	71.6	APHA 4500 Cl-B	Complies
7.	Phenolic Compounds as phenols	mg/l	-	BDL	APHA-5530-C & D USEPA 420.1	Complies
8.	Hardness	mg/l	< 500	238	APHA 2340 C	Complies
9.	Turbidity	NTU	<5 NTU	0.7	APHA 2130 B	Complies
10.	Fluoride	mg/l	≤ 1.5	0.8	APHA 4500 F D	Complies
11.	Nitrate (NO ₃)	mg/l	≤50	0.221	APHA 4500 NO ₃ -B	Complies
12.	Nitrite (NO ₂)	mg/l	≤ 3	BDL	APHA 4500 NO ₂ B	Complies
13.	Cyanide (CN)	mg/l	≤ 0.05	BDL	APHA-4500-CN B & E	Complies
14.	Cadmium	mg/l	0.01	BDL	APHA-3113 B	Complies
15.	Manganese	mg/l	≤0.5	BDL	APHA-3113 B	Complies
16.	Zinc	mg/l	5	0.035	APHA 3111 B	Complies



No. 06247



Water Environment Laboratories & Consultancy Services (WELCOS)

29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk

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Punjab Intermediate Cities Improvement Investment Program



Sr.#	Parameters	Units	PEQS	Result	Test Method	Remarks
17.	Arsenic	mg/l	≤ 0.05	0.02	APHA 3113 B	Complies
18.	Copper	mg/l	2	BDL	APHA 3113-B	Complies
19.	Lead	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
20.	Nickel	mg/l	≤ 0.02	BDL	APHA 3113-B	Complies
21.	Aluminium	mg/l	≤ 0.2	BDL	APHA 3113-B	Complies
22.	Chromium	mg/l	≤ 0.05	BDL	APHA 3113-B	Complies
23.	Mercury	mg/l	≤ 0.001	BDL	APHA 3112 B	Complies
24.	Selenium	mg/l	0.01	BDL	APHA 3114 B	Complies
25.	Antimony	mg/l	≤ 0.005	BDL	APHA 3113-B	Complies
26.	Barium	mg/l	0.7	BDL	APHA 3113 B	Complies
27.	Boron	mg/l	0.3	BDL	APHA 3113-B	Complies
28.	Chlorine	mg/l	1.0	BDL	APHA 4500 Cl ⁻ B & G	Complies
29.	Total Coliform	CFU	0	0	APHA 9222 B	Complies
30.	E.coli	CFU	0	0	APHA 9222 D	Complies

Abbreviations:

PEQS Punjab Environmental Quality Standards BDL Below Detectable Limit APHA American Public Health Association
TNTC Too Numerous to Count CFU Colony Forming Unit NTU Nephelometric Turbidity Unit

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- This report should be produced as a whole and not in parts.
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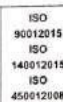
Prepared By

Reviewed By

Approved By



No. 06246



Water Environment Laboratories & Consultancy Services (WELCOS)
29 D, Punjab University Town II, Khyban-e-Jinnah, Lahore Pakistan.

info@welcos.com.pk
www.welcos.com.pk
0300-7222180, 042-35183916

Annexure E: SAHIWAL Lot-01 HSE CHECK LIST

Lot-01

The PMCSC has developed and completed the following Environmental Monitoring Checklist for assessing the effectiveness of ESMP implementation at the project sites during the reporting period.

SO P. No	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
1	PERSONAL PROTECTIVE EQUIPMENT'S	Steel Toe Shoes			√	
		Helmets		√		
		Coveralls/ Uniforms			√	
		Gloves		√		
		Jacket		√		
		Goggles			√	
		Face Shields			√	
		Ear Muffs			√	
		Face Masks		√		
		Disposable PPEs			√	
2	FIRST AID EQUIPMENT			√		
3	ROAD SAFETY & TRAFFIC MANAGEMENT	Diversion Sign Boards		√		
		Removal of Waste Material		√		
		Fencing		√		
		Movement of Heavy Equipment at Night			√	
		Speed Limits		√		
		Lightening		√		
4	WORKERS WELFARE	Drinking Water		√		
		Changing Room			√	
		Smoking Area			√	
		Insurance of Workers			√	
		First Aid Facility		√		
		Toilets Available on Site		√		
5	FIRE FIGHTING EQUIPMENT	Fire Alarm			√	Not provided
		Fire Buckets/ Fire Extinguisher		√		
		Training		√		Conducted on site.
		Fire Fighting System at Camp Office		√		
			Emergency Drills		√	Will be conducted upon provision of fire/Emergency alarm.
6	TRAINING REQUIREMENTS	Training Records		√		Tool box talk's attendance is available at site office. Attendance sheet and RFI for training of staff and labor is available.

Quarterly Environmental Monitoring Report No.1
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SO P. No .	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	N O	Remarks
		Attendance of Workers		√		Available at site office.
7	GENERAL HOUSEKEEPING			√		Available at site office.
8	SOPS FOR ACCIDENTS			√		SOP's of Govt. Of the Punjab Covid-19
9	SOPs FOR SKILLED AND UNSKILLED LABOUR	Child Labor		√		Strictly Prohibited
10	WORK AT HEIGHT	Safety Harness			√	
		Fixed Working Platform		√		
		Proper Access		√		
		Toe Boards on Platforms		√		
		Fencing Around Active Site		√		Work is under confined space.
		Training of Workers		√		Training conducted on site. Daily toolbox talk is being conducted at site.
		Weather Conditions				No work carried under extreme weather conditions.
		Signboards		√		
		Proper Supervision		√		On every daily visit, asking the site team to implement and improve the safety measures at site.
		PPEs		N/A		
		Communication		N/A		
		Proper Access i.e. ladder		N/A		
		Emergency Response Plan		√		
11	PITS & EXCAVATION	Proper Lighting		√		Work is during day time and all parks are closed for public.
		Sign Boards		√		
		Falling Objects Near Excavation		√		Excavated material is kept at least 2 feet away from trench side to avoid falling of material inside the trench.
		Noise & Dust		√		Dust is being controlled by sprinkling water while noise is under permissible limits.
12	ELECTRICS ON SITE & YARD	Use Proper Insulated Wires		√		
		Wear Suitable PPEs		√		
		Working Place Must be Dry		√		

Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program

SO P. No .	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	N o	Remarks
		Check Overhead Electric Power Lines		√		
13	LIFTING ERECTION	Area Must be Barricaded		√		
		Wind Speed & Direction		√		
		Overhead Lines		√		
		Safe Working Load		√		
		Sign Boards		√		
		Driver License		√		
		PPEs		√		
						Anti-Termite liquid, Diesel, Water Proofing Chemical etc.
14	CHEMICAL HANDLING & STORAGE	Stored in Proper Shade/ Dry Place		√		
		Store Kept Clean/ Not Use for Other Activity		√		
		Proper Ventilation		√		
		PPEs		√		
		First Aid Facility		√		
		Fire Extinguisher		√		
		Warning Signs		√		
						Only material delivery vehicles inside the confined working space.
15	HEAVY EQUIPMENT	Well Trained & Licensed Driver		√		
		Warning Light		√		
		Area Must be Barricaded		√		
		Correctly Positioned & Installed		√		
		Noise Monitoring		√		
		PPEs		√		
16	WELDING EQUIPMENT & OXYGEN CYLINDERS	Fire Extinguisher		√		
		Cylinder Stored in Enclosed Room		√		
		Warning Signs		√		
		Proper Ventilation		--		Welding is being done under open sky.
17	REPORTING OF ACCIDENT	Emergency Response Plan		√		Not applicable
18	CONSTRUCTION ACTIVITIES NEAR HIGH VOLTAGE LINES	Total no. of Incident		N/A	-	
		Incident Investigation Reports		N/A	-	
	General Observations	Satisfactory HSE Arrangements				

Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program

SO P. No .	Monitoring Parameters for Safe System of Work	Triggered Yes/No	Compliance Status		
			Yes	N o	Remarks
	Recommendations			
	Name: MUHAMMAD TAYYAB RE NESPAK SAHIWAL <div style="float: right;">Signatures: -----</div>				

Lot-2 Sahiwal

The PMCSC has developed and completed the following Environmental Monitoring Checklist for assessing the effectiveness of ESMP implementation at the project sites during the reporting period.

Sr. No.	Monitoring Parameters for Safe System of Work	Triggered Yes/No	Compliance Status		
			Yes	No	Remarks
1	PERSONAL PROTECTIVE EQUIPMENT'S				
		Steel Toe Shoes	√		Safety shoes provided to steel workshop and, RCC Factory workers for pipes manufacturing.
		Helmets	√		Issued to all Staff and Site workers
		Coveralls/ Uniforms		√	Labor utilized on the project is on daily wages. No permanent labor available. therefore, uniform cannot provide
		Gloves	√		Issued to RCC Factory and Steel Factory workers
		Visible Jacket	√		Issued to all Site Staff and workers
		Goggles	√		Issued to welders
		Face Shields	√		Issued to welders
		Ear Muffs	√		Available in stock, If noise level increased from 70 dB, the contractor will issue ear plugs to the labor
		Face Masks	√		Face Mask issued to all.
		Disposable PPE	√		Face Mask issued to all staff and workers, to protect from Covid-19
2	FIRST AID EQUIPMENT		√		Available at Site & Camp
		Diversion Sign Boards	√		Provided at L-1.9.5
		Removal of Waste Material	√		On regular basis
		Fencing	√		Project camp fencing are provided around the sphere
		Movement of Heavy Equipment at Night		√	Currently working during day time only
		Speed Limits	√		Speed signboards are provided at site & Camp
		Lightening	√		Sufficient lights are provided in workshop and Factory area in CGICOP Camp & Site area.
3	WORKERS WELFARE				
		Drinking Water	√		Mineral Drinking water is provided to all staff and workers
		Changing Room	√		Using own residential facility

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Smoking Area		√		Smoking area is available in each area
		Insurance of Workers		√		
		First Aid Facility		√		First Aid facility provided in Camp and site
		Toilets Available on Site		√		Sufficient Toilets are available in Camp for all
4	FIRE FIGHTING EQUIPMENT					
		Fire Alarm			√	Not provided
		Fire Buckets/ Fire Extinguisher		√		Fuel station, Generator room, workshop is provided with Fire Extinguishers and Fire Buckets
		Training		√		Regularly organized at site.
		Fire Fighting System at Camp Office		√		ABC Fire Extinguisher and Fire Bucket are provided
		Emergency Drills			√	Scheduled in June, 2021
5	LIGHTING ALONG THE RIGHT OF WAY			√		Sufficient lighting is arranged at site
6	TRAINING REQUIREMENT	Training Records		√		Tool box talk's attendance is available at site office. Attendance sheet for training of staff and labor is available.
		Attendance of Workers		√		Available at site office.
7	GENERAL HOUSEKEEPING			√		Daily practice to keep the site clean
8	EMERGENCY RESPONSE PLAN			√		Available at site office.
9	SOPS FOR ACCIDENTS			√		Emergency response team is established (Copy attached) and all staff is advised to contact emergency response team member in case of any accident occurs at site.
10	SOPs FOR SKILLED AND UNSKILLED LABOUR			√		SOPs- Government of Punjab Covid-19 are implemented
		Child Labour		√		Strictly Prohibited
11	WORK AT HEIGHT					
		Safety Harness		√		Provided during deep excavation
		Fixed Working Platform		√		Available at site
		Proper Access		√		Suitable ladders & access provided for working areas accordingly

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Toe Boards on Platforms		√		Scaffolding not yet started, we will install, once required
		Fencing Around Active Site		√		Fencing provided around the camp site
		Training of Workers		√		Professional in-house Trainings are scheduled on each month regularly. Records are enclosed herewith. Daily toolbox meeting is being conducted at site.
		Weather Conditions				No work is allowed under extreme weather conditions.
		Signboards		√		Signboards are provided, when and where it required
		Proper Supervision		√		Management instructed Site team to implement and improve the safety measures at site.
12	DRILLING OPERATION					
		Training			√	Drilling not yet started, we will arrange the training as required
		PPEs			√	N/A
		Communication			√	N/A
		Proper Access i.e., ladder			√	N/A
		Covering of bore holes			√	N/A
		Cordon off with steel sheets			√	N/A
		Emergency Response Plan			√	N/A
13	PITS & EXCAVATION					Excavation works started, in the 2 nd week of Mar-2021.
		Proper Lighting				N/A
		Sign Boards				N/A
		Proper Access				N/A
		Underground Facilities				N/A
		Falling Objects Near Excavation				Jersey Barrier installed near deep excavation
		Noise & Dust				Planned to be monitored by 3 rd party in May, 2021. Waiting for cost approval from client
		Excavated Material				Excavation started; material will be stacked at nearest stock pile.
14	ELECTRICS ON SITE & YARD					
		Use Proper Insulated Wires		√		implemented
		Wear Suitable PPEs		√		Provided suitable PPEs
		Working Place Must be Dry		√		Dry working area provided

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Check Overhead Electric Power Lines		√		Site Engineers and Safety Officer instructed to Check Overhead Power line prior to any excavation task.
15	LIFTING ERECTION					
		Area Must be Barricaded		√		All safety measures are brought into force in camp, whenever lifting operation started.
		Wind Speed & Direction		√		Site Engineers and Safety Officer instructed to ensure checking of wind direction
		Overhead Lines		√		Site Engineers and Safety Officer instructed to ensure checking of overhead lines
		Safe Working Load		√		Crane are certified from 3 rd party inspection
		Sign Boards		√		Signboards are provided during lifting
		Driver License		√		Drivers having valid driving license
		PPEs		√		PPEs are provided
16	CHEMICAL HANDLING & STORAGE					
		Stored in Proper Shade/ Dry Place		√		All Chemical are stored in Proper Shaded/ Dry Place
		Store Kept Clean/ Not Use for Other Activity		√		Store Kept Clean/ Not Use for Other Activity
		Proper Ventilation		√		Proper Ventilation provided
		PPEs		√		Adequate PPEs are provided
		First Aid Facility		√		First Aid Facility provided Site & Camp
		Fire Extinguisher		√		Fire Extinguisher available
		Warning Signs		√		Warning Signs installed
17	HEAVY EQUIPMENT					Only material delivery vehicles inside the confined working space.
		Well Trained & Licensed Driver		√		Well Trained & Licensed Driver deployed
		Warning Light		√		Warning Light are fixed
		Area Must be Barricaded		√		Barricaded are provided during lifting
		Correctly Positioned & Installed		√		Crane and all lifting equipment are Correctly Positioned & Installed
		Noise Monitoring		√		Noise Monitoring by 3 rd party
		PPEs		√		PPEs provided to workforce
18	WELDING EQUIPMENT & OXYGEN CYLINDERS					
		Fire Extinguisher		√		Fire Extinguisher are provided in workshops

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Cylinder Stored in Enclosed Room		√		Cylinder Stored and Enclosed in Room
		Warning Signs		√		Warning Signs posted
		Proper Ventilation				Welding is being done under open sky.
19	REPORTING OF ACCIDENT					
		Emergency Response Plan		√		Emergency Response Plan available at camp site
20	CONSTRUCTION ACTIVITIES NEAR HIGH VOLTAGE LINES					
		Total no. of Incident				NIL
		Incident Investigation Reports				NIL
	General Observations	Satisfactory HSE Arrangements				
	Recommendations					
	Name: MUHAMMAD TAYYAB Signatures: _____					
	RE NESPAK SAHIWAL					

Lot 3 sahiwal

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
1	PERSONAL PROTECTIVE EQUIPMENT'S					
		Steel Toe Shoes		√		Safety shoes provided to steel workshop and, RCC Factory workers for pipes manufacturing.
		Helmets		√		Issued to all Staff and Site workers
		Coveralls/ Uniforms			√	Labor utilized on the project is on daily wages. No permanent labor available. therefore, uniform cannot provide
		Gloves		√		Issued to RCC Factory and Steel Factory workers
		Visible Jacket		√		Issued to all Site Staff and workers
		Goggles		√		Issued to welders
		Face Shields		√		Issued to welders

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Ear Muffs		√		Available in stock, If noise level increased from 70 dB, the contractor will issue ear plugs to the labor
		Face Masks		√		Face Mask issued to all.
		Disposable PPE		√		Face Mask issued to all staff and workers, to protect from Covid-19
2	FIRST AID EQUIPMENT			√		Available at Site & Camp
		Diversion Sign Boards		√		Provided at L-1.9.5
		Removal of Waste Material		√		On regular basis
		Fencing		√		Project camp fencing are provided around the sphere
		Movement of Heavy Equipment at Night			√	Currently working during day time only
		Speed Limits		√		Speed signboards are provided at site & Camp
		Lightening		√		Sufficient lights are provided in workshop and Factory area in CGICOP Camp & Site area.
3	WORKERS WELFARE					
		Drinking Water		√		Mineral Drinking water is provided to all staff and workers
		Changing Room		√		Using own residential facility
		Smoking Area		√		Smoking area is available in each area
		Insurance of Workers		√		
		First Aid Facility		√		First Aid facility provided in Camp and site
		Toilets Available on Site		√		Sufficient Toilets are available in Camp for all
4	FIRE FIGHTING EQUIPMENT					
		Fire Alarm			√	Not provided
		Fire Buckets/ Fire Extinguisher		√		Fuel station, Generator room, workshop is provided with Fire Extinguishers and Fire Buckets
		Training		√		Regularly organized at site.
		Fire Fighting System at Camp Office		√		ABC Fire Extinguisher and Fire Bucket are provided
		Emergency Drills			√	Scheduled in June, 2021
5	LIGHTING ALONG THE RIGHT OF WAY			√		Sufficient lighting is arranged at site

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
6	TRAINING REQUIREMENT	Training Records		√		Tool box talk's attendance is available at site office. Attendance sheet for training of staff and labor is available.
		Attendance of Workers		√		Available at site office.
7	GENERAL HOUSEKEEPING			√		Daily practice to keep the site clean
8	EMERGENCY RESPONSE PLAN			√		Available at site office.
9	SOPS FOR ACCIDENTS			√		Emergency response team is established (Copy attached) and all staff is advised to contact emergency response team member in case of any accident occurs at site.
10	SOPs FOR SKILLED AND UNSKILLED LABOUR			√		SOPs- Government of Punjab Covid-19 are implemented
		Child Labour		√		Strictly Prohibited
11	WORK AT HEIGHT					
		Safety Harness		√		Provided during deep excavation
		Fixed Working Platform		√		Available at site
		Proper Access		√		Suitable ladders & access provided for working areas accordingly
		Toe Boards on Platforms		√		Scaffolding not yet started, we will install, once required
		Fencing Around Active Site		√		Fencing provided around the camp site
		Training of Workers		√		Professional in-house Trainings are scheduled on each month regularly. Records are enclosed herewith. Daily toolbox meeting is being conducted at site.
		Weather Conditions				No work is allowed under extreme weather conditions.
		Signboards		√		Signboards are provided, when and where it required
		Proper Supervision		√		Management instructed Site team to implement and improve the safety measures at site.
12	DRILLING OPERATION					
		Training			√	Drilling not yet started, we will arrange the training as required
		PPEs			√	N/A

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Communication			√	N/A
		Proper Access i.e., ladder			√	N/A
		Covering of bore holes			√	N/A
		Cordon off with steel sheets			√	N/A
		Emergency Response Plan			√	N/A
13	PITS & EXCAVATION					Excavation works started, in the 2 nd week of Mar-2021.
		Proper Lighting				N/A
		Sign Boards				N/A
		Proper Access				N/A
		Underground Facilities				N/A
		Falling Objects Near Excavation				Jersey Barrier installed near deep excavation
		Noise & Dust				Planned to be monitored by 3 rd party in May, 2021. Waiting for cost approval from client
		Excavated Material				Excavation started; material will be stacked at nearest stock pile.
14	ELECTRICS ON SITE & YARD					
		Use Proper Insulated Wires		√		implemented
		Wear Suitable PPEs		√		Provided suitable PPEs
		Working Place Must be Dry		√		Dry working area provided
		Check Overhead Electric Power Lines		√		Site Engineers and Safety Officer instructed to Check Overhead Power line prior to any excavation task.
15	LIFTING ERECTION					
		Area Must be Barricaded		√		All safety measures are brought into force in camp, whenever lifting operation started.
		Wind Speed & Direction		√		Site Engineers and Safety Officer instructed to ensure checking of wind direction
		Overhead Lines		√		Site Engineers and Safety Officer instructed to ensure checking of overhead lines
		Safe Working Load		√		Crane are certified from 3 rd party inspection
		Sign Boards		√		Signboards are provided during lifting
		Driver License		√		Drivers having valid driving license
		PPEs		√		PPEs are provided

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
16	CHEMICAL HANDLING & STORAGE					
		Stored in Proper Shade/ Dry Place		√		All Chemical are stored in Proper Shaded/ Dry Place
		Store Kept Clean/ Not Use for Other Activity		√		Store Kept Clean/ Not Use for Other Activity
		Proper Ventilation		√		Proper Ventilation provided
		PPEs		√		Adequate PPEs are provided
		First Aid Facility		√		First Aid Facility provided Site & Camp
		Fire Extinguisher		√		Fire Extinguisher available
		Warning Signs		√		Warning Signs installed
17	HEAVY EQUIPMENT					Only material delivery vehicles inside the confined working space.
		Well Trained & Licensed Driver		√		Well Trained & Licensed Driver deployed
		Warning Light		√		Warning Light are fixed
		Area Must be Barricaded		√		Barricaded are provided during lifting
		Correctly Positioned & Installed		√		Crane and all lifting equipment are Correctly Positioned & Installed
		Noise Monitoring		√		Noise Monitoring by 3 rd party
		PPEs		√		PPEs provided to workforce
18	WELDING EQUIPMENT & OXYGEN CYLINDERS					
		Fire Extinguisher		√		Fire Extinguisher are provided in workshops
		Cylinder Stored in Enclosed Room		√		Cylinder Stored and Enclosed in Room
		Warning Signs		√		Warning Signs posted
		Proper Ventilation				Welding is being done under open sky.
19	REPORTING OF ACCIDENT					
		Emergency Response Plan		√		Emergency Response Plan available at camp site
20	CONSTRUCTION ACTIVITIES NEAR HIGH VOLTAGE LINES					
		Total no. of Incident				NIL
		Incident Investigation Reports				NIL
	General Observations	Satisfactory HSE Arrangements				
	Recommendations					

Sr. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status			
				Yes	No	Remarks	
	Name: MUHAMMAD TAYYAB Signatures: -----						
	RE NESPAK SAHIWAL						

Lot 4 sahiwal

Environmental Monitoring Checklist

SO P. No.	Monitoring Parameters for Safe System of Work	Triggered Yes/No	Compliance Status		
			Yes	No	Remarks
1	PERSONAL PROTECTIVE EQUIPMENT'S	Steel Toe Shoes	√		
		Helmets	√		
		Coveralls/ Uniforms		√	
		Gloves	√		
		Jacket	√		
		Goggles	√		
		Face Shields	√		
		Ear Muffs		√	
		Face Masks	√		
		Disposable PPEs		√	
			√		
2	FIRST AID EQUIPMENT		√		
3	ROAD SAFETY & TRAFFIC MANAGEMENT	Diversion Sign Boards	√		
		Removal of Waste Material	√		
		Fencing	√		
		Movement of Heavy Equipment at Night	√		
		Speed Limits	√		
		Lightening	√		
4	WORKERS WELFARE	Drinking Water	√		
		Changing Room		√	
		Smoking Area		√	
		Insurance of Workers		√	
		First Aid Facility	√		
		Toilets Available on Site	√		
5	FIRE FIGHTING EQUIPMENT	Fire Alarm		√	Not provided
		Fire Buckets/ Fire Extinguisher	√		
		Training	√		Conducted on site.

Fighting Syzter« as camp

		Emergency g\$g	✓	conducted upon pyoYlsion of gre/Emerge
				Tool box talk's attendance is available at site office.
g	TRAINING REQUIREMENTS	Training Records	✓	Afiendauce sheet and RFI for training of staff and labor is available.
		Attendance of Workers		Available at site office.
7	GENERAL HOUSEKEEPING		✓	Available at site office.
8	SOPs FOR ACCIDENTS		✓	SOP's of Govt. Of the Punjab Covid-19
9	SOPs FOR SKILLED AND UNSKILLED LABOUR	Child Labor	✓	Strictly Prohibited
		Safety Harness		
		Fixed Working Platform		
		Proper Acces5		
		To• swards on Platforms		
IO	WORK AT HEIGHT		✓	Work is undar confined
		Fencing Around Active Site	✓	Trainjng conducted

SO P. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
		Training of Workers				Daily toolbox talk is being conducted at site.
		Weather Conditions				No work under extreme weather conditions.
		Signboards		√		
		Proper Supervision		√		On every daily visit, si o implement and improve the safety res at site.
		PPEs		N/A		
		Communication		N/A		
		Proper Access i.e. ladder		N/A		
		Emergency Response Plan		√		
11	PITS 6 EXCAVATION	Proper Lighting		√		Work is during day time and all parks are public.
		Sign Boards		√		
		Falling Objects Near Excavation		√		Excavated material is kept at least 2 feet away from trench side to avoid falling of Inside the trench
		Noise & Dust		√		Dust is being

SO P. No.	Monitoring Parameters for Safe System of Work		Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
						controlled by sprinkling water while noise is under sible
12	ELECTRICS ON SITE 6 YARD	Use Proper Insulated Wires		√		
		Wear Suitable PPEL		√		
		Working Place Must be dry		√		
		Check Overhead Electric Power Lines		√		
13	LIFTING ERECTION	Area Must be Barricaded		√		
		Wind Speed & Direction		√		
		Overhead Lines		√		
		Safe Working Load		√		
		Sign Boards		√		
		Driver License		√		
		PPEs		√		
						Termite liq. d, Di Water etc.
14	CHEMICAL HANDLING STORAGE	stored in Proper Shade/ By Place		√		
		Store Kept clean Not Use for Other Activity		√		
		proper ventilation		√		
		PPEs		√		
		First Aid Facility		√		
		Fire extinguisher		√		
		Warning signs		√		



16	WELDING EQUIPMENT & OXYGEN CYLINDERS	Well Trained & Licensed	√	Welding is being done under open sky.
		Warning Light	√	
		Area Must be Baricaded	√	
		Correctly Positioned & Installed	√	
		Noise Monitoring	√	
		PPEs	√	
17	REPORTING OF- ACCIDENT	Fire Extinguisher	√	Not applicable
		Cylinder Stored in Enclosed Room	√	
		Warning Signs	√	
		Proper Ventilation	"	
18	CONSTRUCTION ACTIVITIES NWR HIGH VOLTAGE LINES	Total no. of Incident	N/A	
		Incident Investigation Reports	ht/A	
General Observations		Satisfactory HSE Arrangements		

Recommendations

Name: _____

RE NESPAK SAHIWAL

Signatures: _____

Annexure F: SIALKOT Lot-01, Lot-02, Lot-4 HSE CHECKLIST

The Project Management Construction Supervision Consultants (PMCSC) has developed and completed the following Environmental Monitoring Checklist for assessing the effectiveness of ESMP implementation at the project sites during the reporting period:

Sr. no	Description	Lot No			
		1	2	3	4
1.	Copy of the Site specific EMP is provided at the camp site/contractors office?	1	1	1	1
2.	The EMP instructions are understood?	1	1	1	1
3.	An individual is nominated for implementation of EMP?	1	1	1	1
4.	LPG cylinders are provided for cooking or heating purposes?	1	1	1	1
5.	The safety precautions as per ILO convention no.62 are being followed?	1	1	1	1
6.	Project activities are displayed at proper locations?	1	1	1	1
7.	Wood being used as a fuel?	1	1	1	1
8.	First Aid Kit is provided at camp and individual nominated for addressing emergency?	1	1	1	1
9.	Campsite is fenced to prevent trespassing?	1	1	1	1
10.	Environmental Monitoring Record is maintained?	1	1	1	1
11.	Record of Grievances Log and registered the complaints from community are maintained?	1	1	1	1
12.	Arrangement for proper storage and disposal for solid waste is planned?	1	1	1	1
13.	Septic Tank and Soak Pits are designed for treatment of effluents?	1	1	1	1
14.	Training to workers is being provided to effectively implement project specific EMP?	1	1	1	1
15.	Child labor or forced labor is prohibited?	1	1	1	1
16.	Community consultation has been carried out for project activities/concerns?	1	1	1	1
17.	No Complaint filed regarding transmission of Communicable diseases (such as STI's and HIV/AIDS).	1	1	1	1
18.	Not any person showed symptoms e.g. fever, High body temperature, coughing, difficulty in breathing, chest pain.	0	0	0	0
19.	Daily temperature is being checked?	1	1	1	1
20.	No hand shake policy is observed?	1	1	1	1
21.	Conduct awareness regarding protection from COVID?	1	1	1	1

Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program

Sr. no	Description	Lot No			
		1	2	3	4
22.	Disinfection of offices and machinery is ensured??	1	1	1	1
23.	Facemask and sanitizers are available on site for working staff?	1	1	1	1
24.	Everybody wearing facemask at the workplace?	1	1	1	1
25.	Safety signs are properly displayed?	1	1	1	1
26.	HSE plan and Emergency Response Procedures are implemented?	1	1	1	1
27.	Project site is fenced to prevent trespassing?	1	1	1	1
28.	Place Barricading around excavation; and safety procedures should be followed?	1	1	1	1
29.	Fire Alarm, Fire Buckets/ Fire Extinguisher are available on site.	1	1	1	1
30.	Emergency Drills?	1	1	1	1
31.	Not any Movement of Heavy Vehicles at night?	1	1	1	1
32.	Sign Boards are properly displayed?	1	1	1	1
33.	PPE's (e.g., Steel Toe shoes, helmets, Gloves, Jackets etc.) are available for workers?	0	0	0	0
Ambient Air Quality					
34.	Dust Generation during construction well managed and record exists??	1	1	1	1
35.	Are dust emissions being regulated through sprinkling water on the routes being used?	1	1	1	1
36.	Water sprinkling record is available?	1	1	1	1
37.	Are vehicle speeds being monitored to avoid excessive dust emissions at dust prone areas?	1	1	1	1
38.	Are vehicle properly tuned/maintained to reduce air emissions?	1	1	1	1
Noise Control					
39.	Are noise levels remained within safe limits (<75dB)?	1	1	1	1
40.	In case excessive noise levels are detected have appropriate mitigation measures been taken?	1	1	1	1
41.	Not any restriction on playing tape records and blowing pressure horns etc. is being observed?	1	1	1	1
42.	No complaints were made due to noise and vibration?	1	1	1	1
43.	Construction activities carried out in daylight to reduce the impact of noise?	1	1	1	1
Waste Generation and Handling					
44.	Arrangement for proper storage and disposal for solid waste is planned?	1	1	1	1
45.	Are the waste bins emptied regularly on the designated area?	1	1	1	1
46.	Is food waste disposed on separate places?	1	1	1	1
47.	Is any medical waste generated and handled properly?	1	1	1	1

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Sr. no	Description	Lot No			
		1	2	3	4
48.	Not any natural drainage been disturbed or altered?	0	N/A	0	0
49.	Septic Tank and Soak Pits are designed for treatment of effluents?	1	1	1	1
50.	Contractors properly dispose debris materials in barren land, preferably recycling, reuse process?	0	N/A	0	0
51.	No impact on the means of livelihood of the community regarding waste management?	1	1	1	1
	Fuel / Lubricant				
52.	Are the fuel tanks properly marked with their contents?	1	1	1	1
53.	Are the fuels and oils handled in a safe manner, ensuring no leakage or spillage?	1	1	1	1
54.	Fuel/oil storage areas are away from watercourses?	1	1	1	1
55.	No Contamination of surface or ground water by oil spillage, solid waste dumping	1	1	1	1
56.	Fuel/oil storage areas, at least 200m away from watercourses	1	1	1	1
57.	No Any spillage of liquid waste occurred?	1	1	1	1
58.	If spillage occurred, managed properly?	1	1	1	1
	Traffic Management				
59.	Traffic Signs are Properly Displayed?	1	N/A	1	1
60.	Is vehicle speed limit of 30 km/hr being followed?	1	N/A	1	1
61.	Is the movement of all project vehicles and personnel been restricted to within the work areas?	1	N/A	1	1
62.	Do all vehicles and equipment have muffles to reduce noise levels whilst working close to communities?	1	1	1	1
63.	Movement of machinery restricted to designated routes?	1	N/A	1	1
64.	Construction vehicles, machinery and equipment stated in designated places within RoW?	1	N/A	1	1
	Flora				
65.	No Tree has cut/uprooted?	1	1	1	1
66.	No trees and branches have been used as fuel wood?	1	1	1	1
	Fauna				
67.	Are the drivers careful and watchful about wild and domestic animals?	1	N/A	1	1
68.	Not any damage to animals occurred?	1	N/A	1	1
	Encroachment Historical/ Cultural / Archaeological sites				
69.	No damage to the Archaeological /Religious/Cultural or Historical sites?	1	1	1	1
70.	During construction have good management practices been adopted by avoiding disturbance to areas adjacent to work area?	1	1	1	1

Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program

Sr. no	Description	Lot No			
		1	2	3	4
71.	Have the local communities been formally notified about methods for registering complaints?	1	1	1	1
72.	Not any un-necessary interference to adjoining private agriculture land?	1	1	1	1
73.	Not any damages (if any) to private property repaired and/or compensated by the Contractor?	1	N/A	1	1
74.	Are metaled roads properly maintained?	1	N/A	1	1
75.	No any damage reported to public services like electric, water, gas, sewer or telephone lines?	-1	N/A	-1	-1
76.	Are proper hygienic facilities being provided?	1	1	1	1
77.	Are sufficient guards for security deployed?	1	1	1	1
78.	PPE are provided to the workforce?	1	1	1	1
79.	PPE are used by workforce?	0	1	0	0
80.	Potable water is available to labor?	1	1	1	1
		73	79	72	73
Recommendations:					
	<div style="display: flex; justify-content: space-between; align-items: center;"> <div>Name: _____</div> <div>Signatures: _____</div> </div>				

Annexure G: PLGA- HSE CHECKLIST



Check List for HSE Compliance

Date: 29.06.2022

Construction Manager: Muhammad Hanif Khokar

Location: Lahore

Name of Project: Punjab Local Government Academy

SOP No.	Monitoring Parameter for safe system of work		Triggered	Compliance Status		
			Yes/No	Yes	No	Remarks
1	Personal Protective Equipment					
		Safety shoes		Yes		
		Helmets		Yes		
		Safety Jacket		Yes		
		Gloves		Yes		
		Goggles		Yes		
		Ear Plugs		Yes		
		Face Mask		Yes		
2	First Aid Equipment			Yes		Available at site
3	Road safety & Traffic management					
		Diversion sign boards		N/A		Work is under confined space
		Removal of waste material		Yes		
		Fencing		Yes		
		Movement of heavy vehicles at night		N/A		
		Speed limits		N/A		
		Lighting		Yes		During Night Works
4	Workers Welfare					
		Drinking water		Yes		
		Smoking area		Yes		Smoking is prohibited on-site or inside the containers.
		First aid facility		Yes		
		Toilets available on site		Yes		8 Nos. for Labour workers.
5	Fire Fighting Equipment					
		Fire Alarm		N/A		
		Fire buckets / extinguishers		Yes		
		Training		Yes		Pictures are attached
6	Lightening along the right of way			N/A		
7	Training Requirements			Yes		Training conducted by contractor safety officer, pictures are attached
8	Attendance of workers			Yes		Available at site office.
9	General house keeping			Yes		Garbage Cans for Disposal installed at different location
10	Emergency response Plan			Yes		

Quarterly Environmental Monitoring Report No.1
Punjab Intermediate Cities Improvement Investment Program

11	Training for skilled and unskilled labour		Yes		
	Child labour		Yes		Child Labour is Prohibited.
12	Work at Height		Yes		
	Safety harness		Yes		
	Fixed working platform		Yes		
	Proper access		N/A		
	Toe boards along platforms		N/A		
	Fencing around work site		Yes		Work is under confined space.
	Training of workers		Yes		Toolbox talk is being conducted at site.
	Weather conditions		Yes		No work carried under extreme weather conditions.
	Sign boards		Yes		Pictures are attached
	Proper supervision		Yes		On every daily visits, asking the site team to implement and improve the safety measures at site.
13	Drilling Operation				Not yet started at site
	Training		Yes		
	PPEs		Yes		
	Communication		Yes		
	Proper access		Yes		
	Covering of bore holes		Yes		
	Cordon off with steel sheets		Yes		
14	Pits and excavation		N/A		
	Proper lighting		Yes		
	Sign boards		Yes		
	Proper access		Yes		
	Underground facilities		N/A		
	Falling objects near excavation		N/A		
	Noise & dust		Yes		Dust is being controlled by sprinkling water while noise is under permissible limits.
15	Electrics on site & yard				
	Use proper insulated wires		Yes		
	Use proper PPEs		Yes		
	Working place must be dry		Yes		
	Check overhead electric power lines		Yes		Shifted for smooth drilling operation.
16	Lighting erecting				Lighting erecting are installed on site.

Annexure H: Environmental Training Record

Sahiwal Lot-01, Lot-02, Lot-03 and Lot-04

ENVIRONMENT TRAINING RECORD SAHIWAL WATSAN LOT-1

Environmental Training Records Sahiwal

Lot -01

Sr. No	Date	Trainer	Number Of Participants	Tittle Of Training
1	10-05-2022	Ahtisham Asgher	5	Excavation, Lean, Brick Work, Plaster
2	10-05-2022	Ahtisham Asgher	5	Excavation, Lean, Brick Work, Plaster
3	10-05-2022	Ahtisham Asgher	5	Excavation, Lean, Brick Work, Plaster
4	10-05-2022	Ahtisham Asgher	5	Excavation, Lean, Brick Work, Plaster
5	10-05-2022	Ahtisham Asgher	5	Excavation, Pipe Laying, Sand Bedding, Backfilling
6	17-05-2022	Aqib Javed	3	Work At Height (OHR)
7	17-05-2022	Aqib Javed	3	Work At Height (OHR)
8	17-05-2022	Aqib Javed	3	Work At Height (OHR)
9	23-05-2022	Ahtisham Asgher	3	Work At Height (OHR)

10	23-05-2022	Ahtisham Asgher	3	Work At Height (OHR)
11	23-05-2022	Ahtisham Asgher	3	Work At Height (OHR)

Table 4.4 Environmental Training Lot -02&03

Sr.	Training Topic/Event	Trainer	Date Conducted	Number of Participants
1	Prevention from Heat Stroke	Maqsood Ul Hassan (Contractor – HSE Manager)	17 May, 2022	4
2	Importance of Harness Belt and usage in Trench	Maqsood Ul Hassan (Contractor – HSE Manager)	28 May, 2022	6

Table 4.5 Environmental Training Lot -04

Sr.	Training Topic/Event	Trainer	Date Conducted	Number of Participants
1	Proper lifting techniques/Lifting safety	Muhammad Wasim (Contractor – EHS Manager)	4 th May, 2022	12
2	Heavy machinery movement	Muhammad Wasim (Contractor – EHS Manager)	9 th May, 2022	13
3	Slip, trip and fall/ Housekeeping	Muhammad Wasim (Contractor – EHS Manager)	16 th May, 2022	14
4	Heat stress	Muhammad Wasim (Contractor – EHS Manager)	19 th May, 2022	10
5	Importance of PPEs	Muhammad Wasim (Contractor – EHS Manager)	23 th May, 2022	24
6	Excavation and trench safety	Muhammad Wasim (Contractor – EHS Manager)	30 th May, 2022	20

PROJECT NAME: REHABILITATION / IMPROVEMENT WATER SUPPLY SYSTEM, SAHIWAL PHASE-I LOT-1

[illegible]

HSE Manager

PROJECT NAME: REHABILITATION / IMPROVEMENT WATER SUPPLY SYSTEM, SAHIWAL PHASE-I LOT-1

[illegible]

HSE Manager

CGICOP

Training Attendance Sheet

Project

Punjab Intermediate Cities Improvement Investment Program (PIC)IP
Construction of Trunk Main Sewer Lines & Allied works Lot-02

Topic

Prevention from Heat Stroke

Date

17.05.2022

Location

SH" (Faisal Town).

Trainer
Name

Maqsood Ul Hassan

Signature

S p

Company

Name

Designation

Signature

1.

CGICOP Mazhar Farid

Labour

MAZhar

3.

4

Ghulam Mustafa

4

17/5/22

4.

4

Haqi Nawaz

4

5.

6.

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25.

17.5.22

Training attendance sheets for the above-mentioned trainings attached below:

HSE TBT RECORD		SUBJECT/ACTIVITY		DATE/TIME	
		SUBJECT/ACTIVITY		DATE/TIME	
PROJECT: REHABILITATION/IMPROVEMENT OF SEWAGE SYSTEM IN SOUTH ZONE, SHIVNA, LOT 4					
Topic: Proper lifting techniques and lifting safety Date: 04/05/2022					
SR. NO.	NAME OF WORKER / STAFF	Task	Location	DOB	SIGNATURE
1	M. Arif				
2	M. Arif				
3	M. Arif				
4	M. Arif				
5	M. Arif				
6	M. Arif				
7	M. Arif				
8	M. Arif				
9	M. Arif				
10	M. Arif				
11	M. Arif				
12	M. Arif				
HSE OFFICER: _____ HSE MANAGER: _____					


HSE TBT RECORD		SUBJECT/ACTIVITY		DATE/TIME	
		SUBJECT/ACTIVITY		DATE/TIME	
PROJECT: REHABILITATION/IMPROVEMENT OF SEWAGE SYSTEM IN SOUTH ZONE, SHIVNA, LOT 4					
Topic: Heavy Machinery Movement Date: 09/05/22					
SR. NO.	NAME OF WORKER / STAFF	Task	Location	DOB	SIGNATURE
1	M. Arif				
2	M. Arif				
3	M. Arif				
4	M. Arif				
5	M. Arif				
6	M. Arif				
7	M. Arif				
8	M. Arif				
9	M. Arif				
10	M. Arif				
11	M. Arif				
12	M. Arif				
HSE OFFICER: _____ HSE MANAGER: _____					

HSE TBT RECORD		SUBJECT/ACTIVITY		DATE/TIME	
		SUBJECT/ACTIVITY		DATE/TIME	
PROJECT: REHABILITATION/IMPROVEMENT OF SEWAGE SYSTEM IN SOUTH ZONE, SHIVNA, LOT 4					
Topic: Slip, trip fall/Housekeeping Date: 16/5/22					
SR. NO.	NAME OF WORKER / STAFF	Task	Location	DOB	SIGNATURE
1	M. Arif				
2	M. Arif				
3	M. Arif				
4	M. Arif				
5	M. Arif				
6	M. Arif				
7	M. Arif				
8	M. Arif				
9	M. Arif				
10	M. Arif				
11	M. Arif				
12	M. Arif				
HSE OFFICER: _____ HSE MANAGER: _____					


HSE TBT RECORD		SUBJECT/ACTIVITY		DATE/TIME	
		SUBJECT/ACTIVITY		DATE/TIME	
PROJECT: REHABILITATION/IMPROVEMENT OF SEWAGE SYSTEM IN SOUTH ZONE, SHIVNA, LOT 4					
Topic: Head Stache Date: 19/5/22					
SR. NO.	NAME OF WORKER / STAFF	Task	Location	DOB	SIGNATURE
1	M. Arif				
2	M. Arif				
3	M. Arif				
4	M. Arif				
5	M. Arif				
6	M. Arif				
7	M. Arif				
8	M. Arif				
9	M. Arif				
10	M. Arif				
HSE OFFICER: _____ HSE MANAGER: _____					

HSE TBT RECORD				QUALITY RECORDS FORMS	
Reliable				Doc Level: III	Doc Version: 1
				Doc No: ZKB-IMS-13	w.e.f 1st Mar 2016
Project Title: REHABILITATION/IMPROVEMENT OF SEWERAGE SYSTEM IN SOUTH ZONE, SAHRAWAL LOT 4					
Topic: Importance of PPE's Date: 23/05/22					
SR. NO.	NAME OF WORKER / STAFF	Trade	Location	ZKB SUB-CONTRACTOR	SIGNATURE
1	Alhmdita				
2	Jamir Ali				
3	Imran				
4	Waseem				
5	Shoaib				
6	Tariq				
7	Abbas				
8	Adnan Khan				
9	Shezar Khan				
10	Ali Amro				
11	Jasvir Singh				
12	M. Tahir				
13	Haseeb				
14	Shahid Akbar				
15	Hassan Akram				
16	Khadija Hussain				
17	Kashid Khan				
18	Rashid Ali				
19	Munir Mirza				
20	M. Imran				
21	Shahid				
22	M. Yaqub				
23	M. Riaz				
24	Ameer Hussain				
HSE OFFICER _____ HSE MANAGER _____					

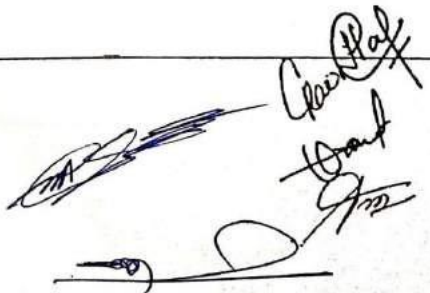
HSE TBT RECORD				QUALITY RECORDS FORMS	
Reliable				Doc Level: III	Doc Version: 1
				Doc No: ZKB-IMS-13	w.e.f 1st Mar 2016
Project Title: REHABILITATION/IMPROVEMENT OF SEWERAGE SYSTEM IN SOUTH ZONE, SAHRAWAL LOT 4					
Topic: Excavation and trench safety Date: 30/5/22					
SR. NO.	NAME OF WORKER / STAFF	Trade	Location	ZKB SUB-CONTRACTOR	SIGNATURE
1	Shafiq				
2	Shahid				
3	Nadeem				
4	Khalid				
5	Saleem Ali				
6	Asad				
7	Fahim				
8	M. Ameen				
9	M. Hassan				
10	Azeem				
11	Abdul basit				
12	Fahim				
13	Saleem Khan				
14	Shahbaz				
15	Khalid				
16	Muhammad				
17	Shahid				
18	M. Raza				
19	M. Yaqub				
20	Aman				
HSE OFFICER _____ HSE MANAGER _____					



PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIP)



INCIDENT INVESTIGATION REPORT										
Classification of Accident: <input type="checkbox"/> Shoot Fall Down <input type="checkbox"/> Collision <input checked="" type="checkbox"/> Collapse <input type="checkbox"/> Being hit <input type="checkbox"/> Being Caught <input type="checkbox"/> Explosion <input type="checkbox"/> Cut Scratch <input type="checkbox"/> Contact with hot/cold substance <input type="checkbox"/> Traffic accident <input type="checkbox"/> Reaction <input type="checkbox"/> False Move <input type="checkbox"/> Step over sharp object <input type="checkbox"/> Electric shock <input type="checkbox"/> Contact with toxic substance <input type="checkbox"/> Others					Ref.# LG&CD/PICIP/ENV & HSE COMPLIANCE/2022					
					Reporting Date		02-06-2022			
					Work Site Name		18" L 1.9.5			
					Name the person in charge		Muhammad Hasnain (Sub Contractor Foreman)			
1	Exposed Person's & Details of Treatment	Company Name	Name and designation of victim person	Period of time at the position	Type of Accident	Injured Part of the Body	Period of medical treatment	Name and designation of reporting person		
		CGICOP	Tahir Abbas (Mason)	120 Days	Fatality	N/A	N/A	Maqsood Ul Hassan		
			Adeel Khan (Excavator Helper)	180 Days	Stuck in trench	Suffocated	first aid and carrying out oxygen therapy			
			M. Zafar (Plumber Helper)	58 Days	Stuck in trench	Suffocated				
		When ?		29-05-2022						
		Where?		Lot 2 (18" L 1.9.5)						
		At which Time?		10:45 a.m						







PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM(PICIIP)



2	Accident Detail	<p>On Saturday, 28-05-2022, during excavation of trench for laying 18" dia sewerage line, contractor damaged water supply line of Municipal corporation due to which trench was flooded with water. As per request of Contractor, Municipal Corporation repaired the water supply line on the same day. But on very next day, Sunday, 29-05-2022 at 10:00 am(Accident Date) water supply line was again damaged and trench was again flooded with water. Without intimation to EPCM consultant, contractor on his own tries to fix it. During repair work with no safety measures (including PPE, proper de watering, emergency management plan) 01 Labor (Mr. Tahir Abbas) jumped into muddy trench to fix water supply line and in a while trench slide over the working labor. Meanwhile 02 laborers try to safe buried worker but due to muddy trench they also got stuck in trench and trench also slides over them. As contractor was working without any emergency management plan, they had no rescue plan, therefore Rescue 1122 was immediately called. These Workers were pulled out of fallen earthen mass by joint efforts of all those who were present at site. Two workers survived while the 3rd worker (Mr. Tahir Abbas s/o Gulam Hussain) died due to suffocation at spot. The other two were badly injured and later fully recovered by providing first aid and carrying out oxygen therapy with a defoamer. Those who were present at site make out all efforts to save the precious human life, but all in vain. (Pictorial evidence is attached as Annex-A).</p> <p>Rescue 1122 shifted the deceased laborer to District Headquarter Teaching Hospital, Sahiwal where he was declared as Dead. (Hospital Death Certificate is attached as Annex-B)</p> <p>Furthermore, Sajid Hussain (family member of Deceased laborer (Brother) given his written statement that it is an accidental death and he don't want to pursue any legal proceedings against anyone. After submission of written statement of local police handover the dead body to him. (Police Investigation report is attached as Annex-C)</p> <p>It is also very important to narrate that Contractor workers at that day were working at that site without having an intimation to the Consultant and resultantly consultant was not supervising this activity. Contractor at his own was working on holiday during weekend.</p>
3	Witness of the accident	<ol style="list-style-type: none"> 1. Muzaffar (Surveyor) 2. Maqsood Ul Hassan (HSE Manager) 3. Arsalan (Surveyor) 4. Irfan Mukhtar (Surveyor) 5. Muhammad Hasnain (Sub Contractor Foreman) 6. Hikmat Ullah (Excavator Operator)

[Handwritten signatures and initials]

	PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIP) 
<p>4</p> <p>Immediate Causes</p>	<ul style="list-style-type: none"> ➤ All existing utility services (underground utilities) were not identified before. Resultantly, water supply line was damaged while digging (Major reason of Incident). ➤ Shuttering was not used during excavation. (Major reason of trench sliding due to which workers buried in trench) ➤ Excavated material was not removed from the site. ➤ Proper de watering was not done, as a result, the soil get moisture. ➤ Absence of <ul style="list-style-type: none"> • Emergency management plan • Health and Safety Officer • Accident prevention officer (APO) • Ambulance
<p>5</p> <p>Proposed Preventive Measures</p>	<p>Keeping in view of the above it is recommended that following non compliance should be strictly followed:</p> <ul style="list-style-type: none"> • Excavated material should be removed from the site at priority basis and appropriate angle of slopes should be maintained. • Proper de watering should be done specially in the upcoming season of moon soon. • Contractor should consult with EPCM Consultant and use shuttering during excavation. • Identification of Underground utilities by EPCM consultant should be done at priority basis and same should be submitted to contractor before execution of civil works. • Ensure Emergency management plan at each site. • Appoint of HSE officer at priority basis. • Appropriate PPE should be provided to workers such as hard hats, safety shoes, respirators, high visibility vests and etc. • HSE trainings should be provided to APOs and laborers. • Dedicated Ambulance for each LOT should be ensured. • Hard barrication should be done at site instead of Plastic tapes and green fencing.

[Handwritten signatures and initials]



PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM(PICIP)



6	Payment of Compensation	<p>Contractor is bound to pay compensation payment to the family of deceased Laborer under the Contract Agreement. In this regard, Reconciliation Agreement has been signed between Contractor (CGICOP) and the family, in which it is obligatory to pay Rs.500,000/- to the family of deceased Laborer. (Copy of the Reconciliation agreement is attached as Annex-D)</p> <p>Moreover, PMU ensured that the payment to be paid to the family of deceased Laborer in best possible time. In this regard, letter has also been sent to Contractor for early compliance. (Annex-E).</p> <p>In this regard, on dated 30/06/2022, Contractor has paid the compensation payment of Rs. 500,000/- to the family of deceased laborer as per Reconciliation Agreement signed between Contractor (CGICOP) and the family. (Record of receiving payment is attached as Annex-F)</p>
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Research Analyst (Environment)
CIU, Sahiwal

Assistant Resident Engineer
EPCM Consultant, NESPAK

Assistant Director (Environment)
PMU-PICIP

Infrastructure Engineer
CIU Sahiwal

Resident Engineer
EPCM Consultant, NESPAK

Deputy Director (Safeguards)
PMU-PICIP

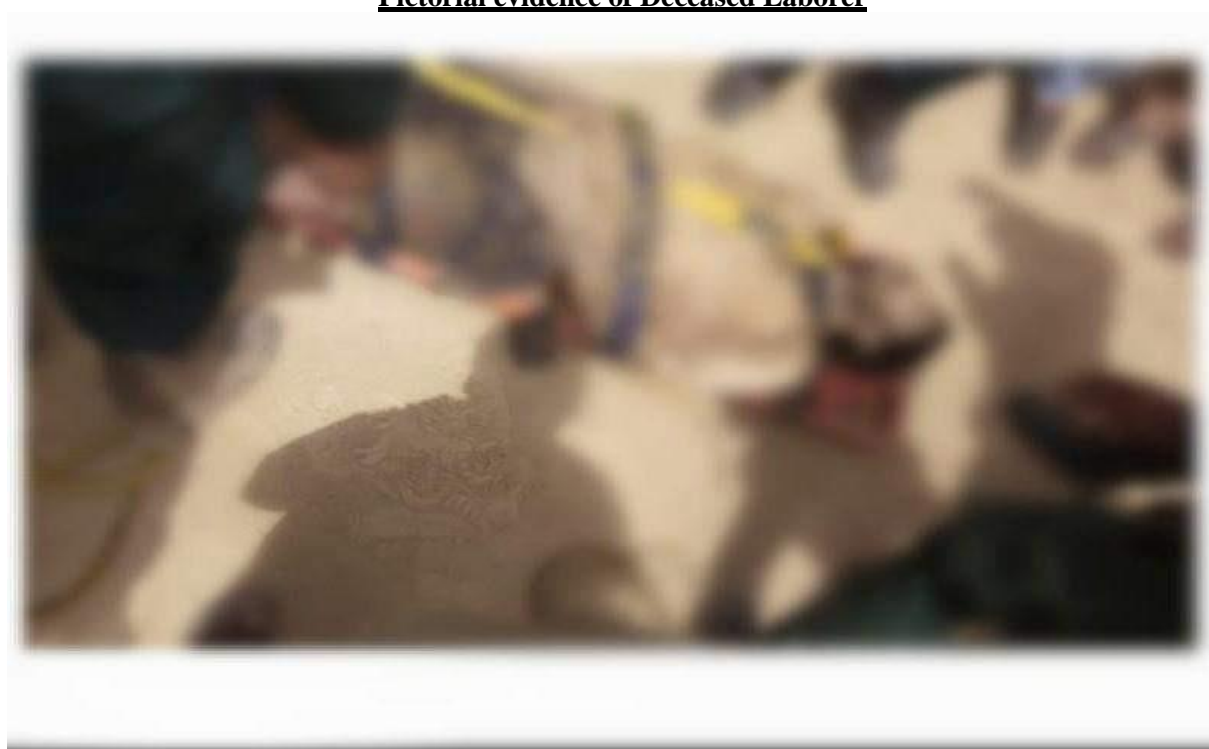
ANNEX-A

Pictorial Evidence of the Accident





Pictorial evidence of Deceased Laborer



Evidence of Injured Persons recovered after Accident





M. Zafar
(Plumber Helper)



Adeel Khan
(Excavator Helper)

ANNEX-B

 **DEATH CERTIFICATE** 

D.H.Q TEACHING HOSPITAL SAHIWAL

Name of Ward: COD Unit: Emergency

Reg. #: 79/393 Date: 29-5-22

Patient's Name: Tahir Abbas W/O, D/O, S/O: Ghulam Hussain

Address: District Jhang

NIC #: NA Mr. Sajjad Hussain (Brother)

Date of Admission: 29-5-22 Cell#: 0333-1365456


Date/Time of Death: 29-5-22 at 1:45 pm.

Cause of Death: Received Expired.

Dr. Aika Ishiaq
Woman Medical Officer
Sahiwal T.H. Sahiwal

Signature
Sr. / MO / CMO

پولیس اسٹیشن ریکارڈ مینجمنٹ سسٹم



شعبہ	پولیس اسٹیشن	آؤ رپورٹ نمبر / رجسٹر سلسلہ وار نمبر	نام اطلاع	تاریخ و وقت
سایہوال	سٹی سایہوال	2 / 9	مشتاق احمد ASI	29-05-2022 14:30

نوعیت و اطلاع اندراج رپورٹ متعلقہ انتظامیہ مرگ. 03331365456-3320405204393.

خلاصہ رپورٹ

وقت 2/30 بجیدن درج حیکہ اس وقت من ASI معہ ہمراہی ملازمان بعد از فراغت گشت و پڑتال جرائم علاقہ تھانہ سے واپس حاضر آیا ہوں
یہ مقام ریلوے روڈ سایہوال میں بیان ازان سجاد حسین ولد غلام حسین قوم سائل سکھ چاہ میرے والد تحصیل احمد پور سیال ضلع جٹک بھر 30
سال بیان کیا کہ میرا بھائی طاہر عباس ولد غلام حسین مزدوری کرنے چار ماہ سے سایہوال کھدائی پیپ سیدرتج پر کام کر رہا تھا آج مورخہ
29.5.22 بوقت 10/- بجیدن ریلوے روڈ کھدائی کر رہے تھے اچانک مٹی کا توڑے کرنے سے میرا بھائی اچانک مٹی کے نیچے آ گیا مٹی سے
نکالتے نکالتے دم توڑ گیا اور فوت ہو گیا ہے میرے بھائی کی موت قضائے الہی سے ہوئی ہے میں کوئی کاروائی نہ کروانا چاہتا ہوں اور پوسٹ
مارم بھی نہ کروانا چاہتے ہیں اللہ کی رضا ماننا ہوں بیان سن کر درست تسلیم کرتا ہوں جس پر میں دستخط اردو اور نشان انگوٹھا ثبت کرتا ہوں
میرے ساتھ گواہان 1۔ مہتاب ولد خالد اسماعیل قوم راجپوت سکھ مظفر آباد آزاد کشمیر انجنیر 2۔ ظہیر احمد ولد صفدر علی قوم راجپوت سکھ
مظفر آباد آزاد کشمیر ورکر 3۔ فہیم عباس ولد غلام عباس قوم اعوان سکھ موضع جانی وین ضلع جٹک حقیقی چچی وغیرہ کے بیان کے مطابقت
رپورٹ متعلق کاروائی 174 خ ف کروانے کی رپورٹ درج روزنامچہ کی گئی میں آئندہ کا روانہ ہوتا ہوں بقلم ASI

2922456

ANNEX-D



Letter No: EPCM-CGICOP-SA/Lot-02-474

Date: June 10, 2022

To
The Engineer DTL/PM,
NESPAK Office,
Lahore
Rehabilitation/Improvement of Sewerage System in North Zone Sahiwal (PHASE-1) (LOT-2)

Subject: RECONCILIATION AGREEMENT WITH DECEASED FAMILY

Reference: Letter No. EPCM-CGICOP-SA-LOT-2-465 dated May 30, 2022

Dear Sir,

1) This is with reference to accident happened on 29 May, 2022 at Line 1.9.5 diameter 18" site where sad tragedy of one casualty occurred. The detailed fatality report was submitted to your office vide letter under reference. The Contractor has made reconciliation agreement with the lawful heir of the deceased person which is hereby submitted to your good office.

2) As per reconciliation agreement deceased family will have no other issue pertaining to the subject cause. The Employer is covered against any claim which could have arisen due to this case hence The Contractor has fulfilled its contractual obligation under sub-clause 18.4 "Insurance of Contractor's Personnel" of The Contract.

Assuring you of our best professional services and cooperation.

Faithfully yours

Shi Xiaolin 
Authorized Representative /Senior Project Manager (LOT-02)
CGICOP



CC:
✓ Resident Engineer, NESPAK Office, Sahiwal
✓ Office copy

Islamabad Branch Office: House#31, Street 25, F8/2, Islamabad.
Phone No.: 03176837879 Email: cgicoppak@163.com
CGICOP Sahiwal Site Office: Main Camp/RCC Pipe Factory Near Basti Baha Farid, Arranullah Road, Sahiwal, Punjab.
Phone: 0317-6837879 Email: cgicop_sahiwal@163.com

Reconciliation Agreement

Party A: CHINA GANSU INTERNATIONAL ECONOMIC AND TECHNICAL COOPERATION CO., LTD SAHIWAL
OFFICE, addressed in : Main Camp/RCC Pipe Factory Near Basti Baba Farid, Arratullah Road, Sahiwal,
Punjab, Pakistan (hereinafter referred to as CGICO).

And

Party B: Name: Sajad Hussain . CNIC: 33204-0520439-3
Address: GPO Muder Gabana Tanga , who is the lawful heir of the
worker of Tahir Abbas S/O Ghulam Hussain .

Tahir Abbas S/O Ghulam Hussain died of an accident in the project where Party A was working.

NOW, for and in consideration of the mutual covenants and agreements contained in this Agreement,
the receipt and sufficiency of which are hereby acknowledged, it is agreed by and between the Parties
hereto as follows:

1. The cause of Tahir's death was an accident, and there was no other issue at site;
2. Party A compensates Tahir's family with one-off payment of 500,000 PKR;
3. On behalf of all members of Tahir's family, Party B agreed to reach a mediation agreement, and
families and relatives of Tahir will have no other issue with Party A's personnel for any reason.
4. Party B shall not involve third party of the responsibility on Party A for the death of Tahir Abbas;
5. This agreement is confidential between two parties, and Party B shall not disclose it to a third party.

IN WITNESS WHEREOF, This agreement will take effect after it is signed.

Parties:

CGICO

史海林 Shi Hailin

Party B

Witness-1

Name: Khalid Ismail

CNIC No: 82203-2767911-9

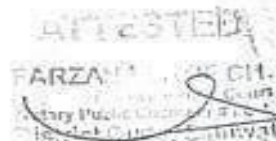
Signature: [Signature]

Witness-1

Name: Wajid Hussain S/O Nabeel Baloch

CNIC No: 394020353097-7

Signature: [Signature]



扫描全能王 创建

ANNEX-E



PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIIP)



No. LG&CD/PICIIP/ENV & HSE COMPLIANCE/2022
Government of the Punjab
Local Government & Community Development
Department

Dated Lahore, the 20th June, 2022

To,

Shi Xiaolin,
Authorized Representative,
CGICOP,
Sahiwal.

Subject: PAYMENT OF COMPENSATION TO TAHIR ABBAS' (DECEASED) FAMILY.

1. Please reference an earlier Letter No. EPCM-CGICOP-SA/Lot-2-474 sent to NESPAK/the Engineer in connection to the subject matter above.
2. It is brought to your attention once again, after repeated telephonic calls and in-person meetings with the CIU Sahiwal team, that compensation is still due to the family of the deceased Mr. Abbas. The incident took place on 29-05-2022 and compensation payment has yet to be made. Such a delay is unconscionable and all efforts should be made to clear the due payment without any further postponement.
3. The payment of PKR 500,000 is obligatory upon you under the Reconciliation Agreement dated 07-06-22 signed between CGICOP and family of the deceased. In addition, under Clauses 6 (Health & Safety obligations) and 18 (wherein Contractor is insuring party) of the Contract payment of compensation is mandatory upon you. As insurance has been secured by you as insuring party against accident, injury or death to a third party, such a claim shall come into effect in the given circumstance. It is reiterated that as per Contract, HSE compliance and any resultant accident is the responsibility and contractual obligation of the Contractor.
4. Looking forward to your timely co-operation in this regard.


Law/Compliance Officer
PMU PICIIP

CC:

1. Deputy Program Director, PMU PICIIP.
2. Chief Engineer, PMU PICIIP.
3. Deputy Commissioner, Sahiwal.
4. Deputy Team Leader, EPCM/NESPAK.
5. Infrastructure CIU, Sahiwal.
6. Deputy Director, (Safeguard).
7. PA to PD, PMU PICIIP.

ANNEX-F

Evidence of Compensation Payment made to Family of Deceased Laborer

Compensation Payment Receipt

_____ ID card No _____ acknowledge receipt of payment of the
compensation on 30/8/22.
سیاد حسین
5 لاکھ روپے مل گئے
سیاد حسین

Received signature: _____
Name _____

Witnessed by signature: _____
Name M. Shahid (R)



2022.06.30 17:18

تاریخ: 30/6/2022 - حلف ناسہ

میں سستی سجاد حسین ولد خالد حسین شناختی کارڈ نمبر 3320405204393
گواہان کی موجودگی میں پشاور پولیس اسٹیشن انسپکٹر انچارج کے سامنے
5 لاکھ روپے جائیداد (AKB) سے بابت سرگرم طاہر حسین کی وفات کے بعد
وصول ہونے والے ہیں۔

منجانب سجاد حسین

دستخط: سجاد حسین



Che

اقرا سٹیٹریٹ ڈائریکٹر

R.A- Environmental
Safeguard.
Civ. SWL.

تمیز انجینئر
Assistant Director
Safeguard. Piciip
Civ. SWL

گواہان:

① سید عزیز گل نیاز احمد
Piciip Civ SWL-DR

② فیاض عثمان ولد اللہ بخش
Piciip Civ SWL CO
90-6-22

Corrective Action Plan (CAP)

Sr. No.	Issue	Comments / Observations	Action Required	Target Date	Implementation Responsibility	Supervision Responsibility	Status
1	Land sliding	Working without shuttering/shoring	Provision of shuttering and shoring	Continuous efforts needed	Contractor's Health & Safety Team	Supervision Health & Safety/Environmental Specialist	Now the issue have been resolved, Penalty letters issued to them by the contractor for strict implementation of SSEMP's.
2	Excavated Material on edge of trench	Excavated material on the edge of the trench	Ensure to shift the excavated soil at designated area.	Continuous efforts needed	Contractor's Environment/Safety Team	Environmental specialist	Mostly Implemented

3	Damage of water utility	Moist soil	In case of any leakage and damage of water line immediately work will be stopped and only repairing will be done, work will be start after the approval of HSE manager.	Continuous efforts needed	Contractor's Environment/Safety Team	Environmental specialist	Mostly Implemented
4	Design of excavation	Excavation will be in slope	Excavation will be in slope to avoid land sliding	Continuous efforts needed	Contractor's Environment/Safety Team	Environmental specialist	Partially Implemented
5	Trainings sessions	Frequency of trainings is required to be increased.	Arrangement of training sessions for HSE staff, Contractor's Management staff and key members of site staff for awareness of HSE Importance at worksite.	Everyday	OHS Manager and Health and Safety Team	Environmental specialist	Mostly Implemented

HSE TRAININGS SESSIONS
(Provided to Laborer before starting any risky works)



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ANNEXURE J
ENVIRONMENTAL TRAINING RECORD & PHOTOGRAPHS

Environmental Training Sessions at Sailkot

Sr.	Training Topic/Event	Trainer	Date Conducted	Number of Participants
1	Tool Box Talk & Emergency Response	Umer Umair (Contractor – EHS Manager)	4th Jan, 2022	11
2	Safe working procedures	Umer Umair (Contractor – EHS Manager)	16 th Jan, 2022	08
3	General Safety Rules And importance of PPEs	Umer Umair (Contractor – EHS Manager)	25 th Jan, 2022	15
4	Deep Excavation	Umer Umair (Contractor – EHS Manager)	02 rd Feb, 2022	09
5	Emergency Response	Umer Umair (Contractor – EHS Manager)	19 th Feb, 2022	12
6	Work at Height	Umer Umair (Contractor – EHS Manager)	24 th Feb, 2022	06
7	Use of PPEs	Umer Umair (Contractor – EHS Manager)	03 rd Mar, 2022	12
8	Working in Deep trench	Siddque Shahid (Contractor – EHS Manager)	06 th Mar, 2022	09
9	Carrying load	Umer Umair (Contractor – EHS Manager)	12 th Mar, 2022	13
10	Use of PPEs	Siddque Shahid (Contractor – EHS Manager)	16 th Mar, 2022	15
11	Tool Box Talk & Emergency Response	Umer Umair (Contractor – EHS Manager)	25 th Mar, 2022	11
8	Working in Deep trench	Siddque Shahid (Contractor – EHS Manager)	04 th Apr, 2022	10
9	Carrying load	Umer Umair (Contractor – EHS Manager)	18 th Apr, 2022	16
10	Use of PPEs	Siddque Shahid (Contractor – EHS Manager)	02 nd May, 2022	08
11	Tool Box Talk & Emergency Response	Umer Umair (Contractor – EHS Manager)	15 th May, 2022	11

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12	Safe working procedures	Umer Umair (Contractor – EHS Manager)	27 th May, 2022	15
13	General Safety Rules And importance of PPEs	Siddique Shahid (Contractor – EHS Manager)	03 rd Jun, 2022	15
14	Work at Height	Umer Umair (Contractor – EHS Manager)	15 th Jun, 2022	08
15	Deep Excavation	Siddique Shahid (Contractor – EHS Manager)	22 nd Jun, 2022	12
16	Working in Deep trench	Siddique Shahid (Contractor – EHS Manager)	26 th Jun, 2022	10

PROJECT PHOTOGRAPHS

Lot 1 ,2, 3 and 4 WASTAN Sahiwal



Soil Excavation



Sand binding



Brick work of Manhole



Jointing of Pipe

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Restoration Work at lot 1



Steel fixing



water sprinkling



Bowl Concrete Pouring T#7 Ghalla Mandi

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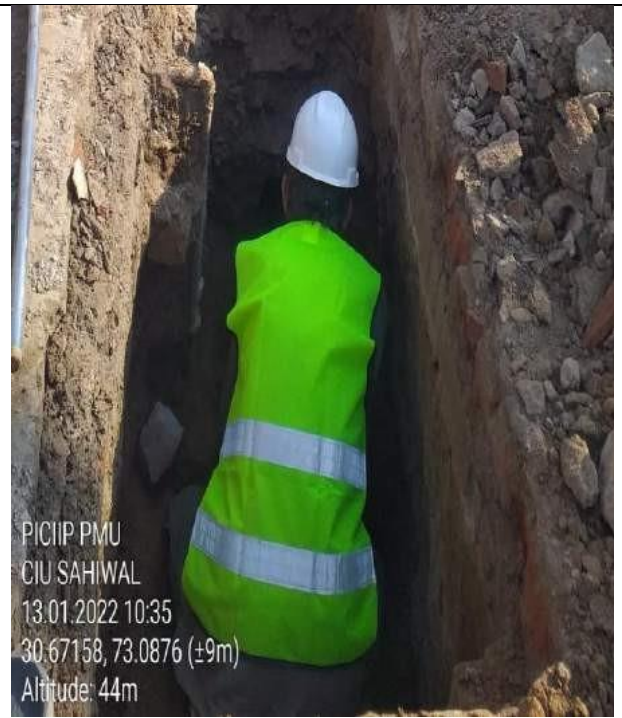
Backfilling of Trench



Trench measurement



Manhole working



water supply pipe line lying

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Sewarage pipe lying at pakpattan road



Safety measures at conduit point



ZKB work at Pakpattan Road



CURING OF RCC PIPES



HAULAGE OF RCC PIPES



Caution Signboards are displayed at L-1 Project area in June, 2021

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**Training session of Tool Box Talks & Training on various topics throughout the month on 36”
and 54”**

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Monthly Inspection of RCC Pipe Factory conducted in June, 2022

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HSE arrangement are displayed at Project area in June, 2022

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Inspection team collecting samples and conducting various tests.



Chief minister Inspection team visiting proposed site of disposal station



Back filling in progress

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Safety Arrangements at Lot 4



**SIALKOT PROJECTS PICS:
Completed Parks Sialkot**



Gazebo, Abdul Hakeem Park



Walkways and Toilet Block at AH Park



Toilet Block, Ladies & Children Park



Child play Equipments, Ladies & Children Park

Gulhaan e Iqbal Park



Fixing of Thermopole at Roof of Amphitheatre

Tough tile fixing at Lake

Lot-01, Lot-02. Lot-03 & Lot-04 WATSAN Sialkot



Laying of Sewer



Manhole Construction in Progress



Asphalt Laying

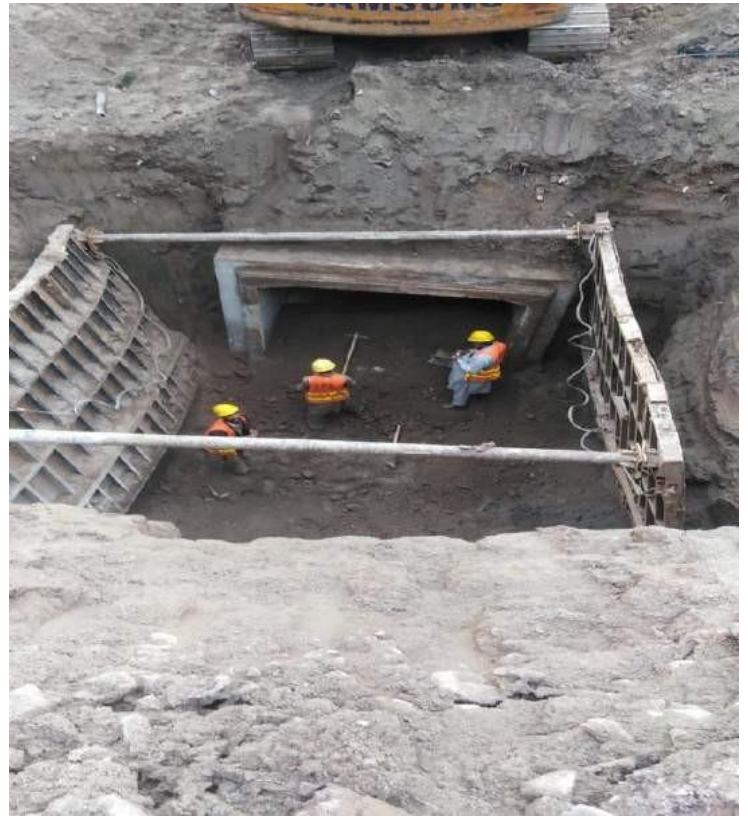


Backfilling at Manhole

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Conduit Laying



Conduit Laying



Conduit Lifting



Land Compaction at Marala Road

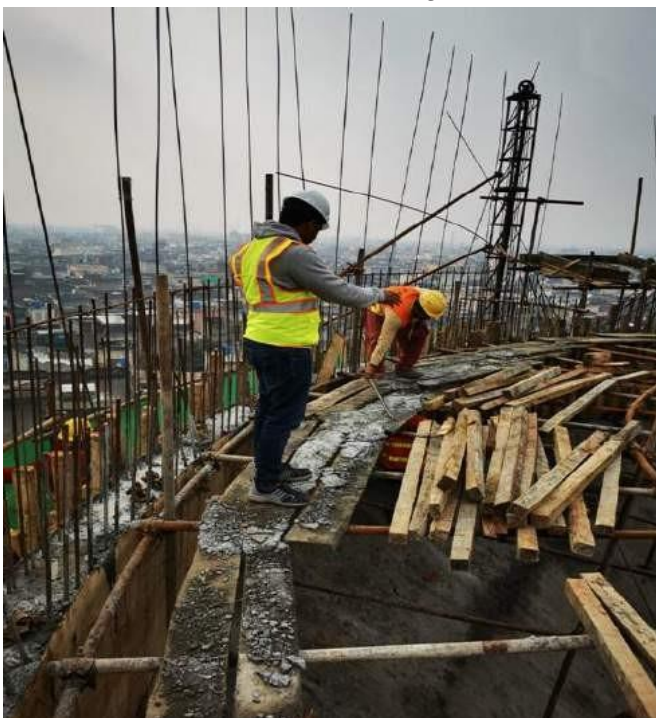
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Forcemain Jointing



Forcemain Laying



OHR Roof Concreting



Laying of Water Supply Pipe

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Workers Training at ZKB Camp



Site Barrication



Safety Signs and Barriers at Lot-1



Water Sprinkling



Safety Signs and Barriers and hard Barricade

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Briefing to the Mission at OHR Construction Site Capital Road, Sialkot



OHR Construction Site Visit at Capital Road Sialkot



Visual Inspection at Thrust Boring Site



Interview with Site Safeguard Team at Thrust Boring Site

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Camp site of WATSAN Sialkot visit by ADB Safeguard Team



Sewer Pipe Yard Inspection at Camp Site

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Quarterly Environmental Monitoring at Subproject Sites

PLGA Photographs



Project Progress jan 15 , 2022



Project Progress Dated Feb 19, 2022



Project Tile Progress Feb 22 , 2022

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Project Progress Dated March 07, 2022



Project ceiling Progress March 14 , 2022



Figure: 6 Marble work Progress Dated March 23, 2022



Figure: 7 Project MEP work Progress March 27 , 2022



Figure 9: Sprinkling of water for dust suppression



Figure 11: Figure B: Use of tarpulins for proper material storage



Use of barricade and signboard at site entrance



Use of PPEs at Marble work



Use of PPEs at HVAC ducting work



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Barrication on site



Barricaded protective sheet at leading edge on site



PPEs Sanitizer Face mask avao;ab;e pn site entrance



Use of PPEs by supervision staff ducting work on site



Barricade and proper housekeeping on site



Use of PPEs on site for marble work



protected air ducting covered and barricaded