# **Environmental Monitoring Report**

Semestral Report December 2020

Pakistan: Punjab Intermediate Cities Improvement Investment Program

Prepared by Punjab Intermediate Cities Improvement Investment Program, LG&CD Department, Government of the Punjab for the Asian Development Bank.

### NOTE

(i) The fiscal year (FY) of the Government of the Islamic Republic of Pakistan and its agencies ends on 30 June.

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# PUNJAB INTERMEDIATE CITIES IMPROVEMENT INVESTMENT PROGRAM (PICIIP)



Top Priority Through Email

No.LG&CD/PICHP/PMU/18-13/2017
Government of the Punjab
Local Government & Community Development
Department

Dated Lahore, the 20th February, 2021

Mr. Umar Ali Shah Project Team Lead (PICIIP) Asian Development Bank Pakistan Resident Mission

Subject:

Loan 3562-PAK: Punjab Intermediate Cities Improvement Investment

Project

Semi Annual Environmental Monitoring Report (July to Dec 2021)

Dear Mr. Umar.

Please find attached the Semi-annual Environmental Monitoring Report for Loan # 3562-PAK Punjab Intermediate Cities Improvement Investment Project for the reporting period \*July to 31 December 2020 for ADB review and approval.

Best regards,

Socrat Aman Rana Program Director

PICIIP

Cc:

- 1. Chief Engineer, PICIIP
- 2. Director M&E, PICIIP
- 3. Infrastructure Engineer CIU Sahiwal
- 4. Infrastructure Engineer CIU Sialkot
- 5. DTL EPCM Consultant (NESPAK-Artelia Joint Venture)

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#### **Abbreviations**

ADB Asian Development Bank

HSE Health Safety and Environment

EPA Environmental Protection Agency

EIA Environment Impact Assessment

EMP Environmental Management Plan

GoP Government of PunjabGOP 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

### **Conversion Factors**

1 meter = 3.28 feet

1 hectare = 2.47 acre

1 Kanal =  $505.9 \text{ m}^2$ 

### 1. INTRODUCTION

### 1.1 Preamble

 This report represents the Semi - Annual Environmental Monitoring Review (SAEMR) for Punjab Intermediate Cities Improvement Investment Program. This report is the 2<sup>nd</sup> SAEMR for the project, consisting of the following sub-projects:

### **Sahiwal Parks**

- Chamanzar Park
- Park and Playground Near Stop # 10, Farid Town; and
- 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-storey 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 Pounds (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, Force main 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 Sahiwal city. Waste Stabilization Pounds (WSP) will be constructed for the effluent treatment.

### 1.2 Headline Information

- Due to the proactive project management and strict monitoring of the EMP implementation by the Project Implementation Consultant (PIC), the overall situation with regards to implementation of environmental safeguards at the project sites has remained satisfactory with no major non-compliances reported during the current reporting period i.e. July to December 2020.
- 3. The PIC 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. Environmental monitoring plan has been strictly followed throughout the reporting period and both the independent and internal monitoring has been organized according to the plan.
- 5. On-site trainings / toolbox talks have been extensively provided to the workers by the Contractor throughout the reporting period under the PIC supervision.
- Furthermore, all works are significantly affected due to the 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.
- 7. 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

- 8. 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).
- 9. 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.
- 10. 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.
- 11. 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

- 12. PICIIP aims at transforming the selected urban areas into green, inclusive, resilient and competitive Smart cities with improved liveability 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.
- 13. The Local Government and Community Development (LG&LCD) 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.

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### 2.1.1 WATER SUPPLY & SEWERAGE SYSTEM OF SAHIWAL CITY

14. In WATSAN work of Sahiwal for Lot-1 and Lot-2, Contractors have been mobilized on site and submitted the Site Specific Environmental Management Plan (SSEMP) of each Lot to PMU that is under review, once the SSEMPs will be approved, the Contractors will start execution of project while the Lot-3 and Lot-4 works are at final stages of tendering process.

### 2.1.2 WATER SUPPLY & SEWERAGE SYSTEM OF SIALKOT CITY

- 15. In WATSAN work of Sialkot for all Lots (Lot-1 to Lot-4), Contractors have been mobilized on site and the SSEMP for each Lot is under preparation by the Contractor, once the SSEMPs will be submitted and approved, the Contractor will start execution of project.
- 16. The WWTP projects of both cities are in tendering process.

#### 2.1.3 SHAIWAL & SIALKOT PARKS

- 17. PICIIP is 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 councillors 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 this project and their respective roles are as provided below as **Table 2.1**.

**Table 2.1: Environmental Management Team** 

Organisation	Discipline/ Designation	Deployed Team	Location	Contact no	Email Id
	Environmental Consultant	Humera Qasim	Lahore	0333921919 8	humera.qasim@gmail.com
	Director M&E / Environmental Engineer	Asifa Khan	Lahore	0302849816 3	engr.asifa@hotmail.com
PMU-PICIIP	Urban Planner	Ali Shah	Lahore	0336798501 7	alishahplanner@gmail.com
	Assistant Infrastructure Engineer	Muhammad Umair	Sahiwal	0301748338 7	umair.piciip@punjab.gov.p k
	Research Analyst Environment	Jawad Shafiq	Sialkot	0322561658 8	Jawashafiq8@gmail.com
ADB	Environment Specialist	Asim Sabzwari	HQs ADB		asabzwari@adb.org
	Environment Specialist (Consultant)	Shazia Shahid	Islamabad	0346- 0281336	sshahid.consultant@adb.or g
	Resident Engineer	Rai Bilal	Lahore	0321690512 9	Rai_bilal@hotmail.com
NESPAK/EP CM	Resident Engineer	M. Tayyab	Sahiwal	0321636954 9	Tayyab194@gmail.com
	Resident Engineer	Abdullah Hussain	Sialkot	0308730077 5	Abdullahsyed5@yahoo.com

	Environmental Specialist	Anas Ahmad Khan	Lahore	0331411248 1	anaskhan444@outlook.com
Contractor	Environmental Engineer	Syed Hasnain Raza	Lahore	0306604587 5	egrsyedhasnainraza@gmail .com
	Environmental Engineer	Sharjeel Shujat	Sahiwal	0345722353 4	sharjeeshujaat@gmail.com
	Environmental Engineer	ljaz Hassan	Sialkot	0303530348 4	Khanijaz396@gmail.com

23. Supervision is being carried out by the Project Management Unit (PMU), which is comprised of Punjab local government staff, who are assisted by the PIC NESPAK Artelia JV for technical and commercial matters. The PMU, PIC and Contractor (HCS – MASTIC JV) HSE teams ensure that mitigation and management measures proposed in the IEE report are implemented.

### 2.3 Project Activities during Current Reporting Period

24. The status of the progress of the three parks in Sahiwal as of December 31<sup>st</sup>, 2020 is provided in **Tables 2.1 to 2.7** below.

Table 2.1: Farid Town Park, Sahiwal

Sr. No	NAME OF STRUCTURE	PHYSICAL PROGRESS
1	Kiosk	Finishing work is in Progress
2	Security Room	Finishing work is in Progress
3	Ticketing Room	Finishing work is in Progress
4	Gardener Room	Finishing work is in Progress
5	Toilet Block	Finishing work is in Progress
6	Gazebo-1	Plantation is in Progress
7	Gazebo-2	Plantation is in Progress
8	Planter-1	Plantation is in Progress
9	Planter-2	Plantation is in Progress
10	Planter-3	Plantation is in Progress
11	Central Planter	Plantation is in Progress
12	Lake	Tile Fixing completed
13	Jogging Track	Kerb stone completed
14	Walk Ways	Kerb Stone and Tuff tile near to completion
15	Play Area	Earth filling/Dressing
16	Boundary Wall	Painting of MS Grill completed
17	Electric poles & Lights	Installation of Electric Poles is completed.

### Table 2.2: Fateh Sher Park, Sahiwal

Table 2.3: Chaman Zar Park, Sahiwal

Sr.No	NAME OF STRUCTURE	PHYSICAL PROGRESS
1	Kiosk	Finishing work is in Progress
2	Security Room	Finishing work is in Progress
3	Ticketing Room	Finishing work is in Progress
4	Gardener Room	Finishing work is in Progress
5	Toilet Block	Finishing work is in Progress
6	Gazebo-1	Polishing work is in Progress
7	Gazebo-2	Polishing work is in Progress
8	Gazebo-3	Polishing work is in Progress
9	Gazebo-4	Polishing work is in Progress
10	Planter-1	Plantation is in Progress
11	Planter-2	Plantation is in Progress
12	Planter-3	Plantation is in Progress
13	Large Planter-A	Plantation is in Progress
14	Large Planter-B	Plantation is in Progress
15	Central Fountain	Tile work in Progress
16	Jogging Track	Kerb stone completed
17	Walk Ways	Kerb stone/Tuff Pavers 90% completed
18	Play Area	Earth filling in progress
19	Boundary Wall (Eastern side)	Plaster work completed
20	Electric poles & Lights	Installation of Electric Poles is completed.

Sr.No	NAME OF STRUCTURE	PHYSICAL PROGRESS
1	Kiosk	Roof Khaprail / Natural Stone Fixing
2	Security Room	Grinding of floor completed
3	Ticketing Room	Grinding of floor completed
4	Gardener Room	Grinding of floor completed
5	Toilet Block	Plumbing work in Progress
6	Gazebo-1	Polish work is in Progress
7	Gazebo-2	Polish work is in Progress
8	Central Gazebo	Kerb stone for Walk ways around Gazebo in Progress.
9	Jogging Track	Kerb stone in progress
10	Walk Ways	Kerb stone/Tuff Pavers in progress
11	Play Area	Earth filling in progress
12	Boundary Wall	MS grill posts completed
13	Electric poles & Lights	Installation of Electric Poles is completed.

### **Works status at Parks in Sialkot**

25. All the existing facilities such as boating lake, fountains, horticulture, walkways etc. were in a poor condition and need proper rehabilitation and repair works. Facilities such as canteen/kiosk, children play area, rehabilitation of fountain and waterfall and car parking, administrative area, and public amenities such as toilets are critical elements that was not available or being provided in these parks.

Table 2.4: Gulshan-e-Iqbal Park, Sialkot

Sr. No	Structures	Total No. To Be Completed (No./Length)	Work in Progress on (No./Length)	Physical Progress
Α	GULSHAN - E -IQBAL PARK (2	5 Acres)		
1	MUSEUM & AMPHITHEATER (9520 SFT)	1	1	<ul> <li>RCC of columns is in progress.</li> <li>Brickwork above FFL is in progress.</li> </ul>
2	TOILET BLOCK (295 SFT each)	2	2	Natural stone fixing is completed. Plumbing work is completed.
3	Prayer Deck (608 SFT)	1	1	Brick work and Planters construction is completed.
4	CAFÉ / KIOSK (252 SFT Each)	6	6	Finishing works in progress.
5	GAZEBO (175 SFT Each)	9	9	<ul> <li>RCC work in Progress - 01 No.</li> <li>Flooring in progress - 08 Nos.</li> <li>Wood work in progress 3 Nos.</li> </ul>
6	PLANTER - (400 SFT Each & 112 SFT Each)	2	1	Brick Work completed - 01 No.
7	FOUNTAIN (4900 SFT & 1600 SFT)	1	-	-
8	JOGGING TRACK	01 Job	01 Job	Kerbstone fixing is in Progress
9	GARDENER ROOM	2	2	<ul> <li>Roof Slab Completed- 02 No. &amp; Plastering Completed. Flooring 50% completed.</li> </ul>
10	CAR PARKING	1	1	WBM is laid.
15	Miscellaneous Irrigation, sprinkling system, electrification, plants, grassy & swings/slides and walkways	01 Job	-	Tube well bore hole and lowering of GRP pipes and strainer is completed.

Table 2.5: Abdul Hakeem Park, Sialkot

Sr. No	Structures	Total No. To Be	Work in Progress on (No./Length)	Physical Progress
1	Toilets Block (295 SFT Each)	1	1	Completed
2	Gazebo (348 SFT Each)	2	2	Completed

Sr. No	Structures	Total No. To Be	Work in Progress on (No./Length)	Physical Progress
3	Tube well (0.15 cusecs capacity, 01 No.)	1	1	Tube well completed.
4	Miscellaneous Irrigation, sprinkling system, electrification, plants, grassy & swings/slides and walkways	1	1	Only 04m pole lights fixing is remaining.

Table 2.6: Fort Park, Sialkot

Sr. No	Structures	Total No. To Be	Work in Progress on (No./Length)	Physical Progress
1	Toilets Block (295 SFT Each)	1	1	Finishing Work in progress
2	Gazebo (348 SFT Each)	2	2	Plantation in progress.
3	Café/Kiosk (252 SFT)	1	1	Finishing works in progress.
4	Fountain (4900 SFT)	1	1	Completed
5	Tube well (0.15 cusec capacity, 01 No.)	1	-	-
6	Miscellaneous Irrigation, sprinkling system, electrification, plants, grassy & swings/slides and walkways	1	1	<ul> <li>Plantation is in progress</li> <li>Child play equipment is remaining</li> <li>04m pole lights are remaining</li> <li>CCTV works are in progress</li> </ul>

Table 2.7: Ladies and Children Park, Sialkot

Sr. No	Structures	Total No. To Be	Work in Progress on (No./Length)	Physical Progress
1	Toilets Block (295 SFT Each)	1	1	Completed
2	Gazebo (348 SFT Each)	2	2	Completed
3	Tube well (0.15 cusec capacity, 01 No.)	1	1	Completed
4	Miscellaneous Irrigation, sprinkling system, electrification, plants, grassy & swings/slides and walkways	1	1	only 04m pole lights fixing is remaining

### **PLGA Lahore**

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

Sr #	Activity	Planned P	hysical Progres	S	Actual F	Physical Progres	SS	Activity Status
#		Start Date	Finish Date	%	Start Date	Finish Date	%	Status
1	Approval of test pile design from consultant	19/Dec/2019	19/Dec/2019	100	14/Jan/2020	14/Jan/2020	100.00	Completed
2	Test Pile casting and strength gain	19/Dec/2019	15/Jan/2020	100	23/Jan/2020	20/Feb/2020	100.00	Completed
	Load test performed on test pile	16/Jan/2020	16/Jan/2020	100	3/Mar/2020	3/Mar/2020	100.00	Completed
6	Site cleaning, grading, surveying etc.	17/Jan/2020	24/Jan/2020	100	20/Feb/2020	1/Jun/2020	100.00	Completed
7	Fabrication of mild steel reinforcement bar cage for RCC bored piles & Construction of cast in place piles	25/Jan/2020	9/Mar/2020	100	22/Apr/2020	14/Jun/2020	100.00	Completed
8	Excavation up to Bed Level	14/Feb/2020	14/Mar/2020	100	28/Jun/2020	19/Sep/2020	100.00	Completed
9	Tranportation of Surplus Material	14/Feb/2020	14/Mar/2020	100	28/Jun/2020	19/Sep/2020	100.00	Completed
1	Laying Cement concrete plain (PCC)	7/Apr/2020	6/May/2020	100	22/Jul/2020	4/Oct/2020	100.00	Completed
1 3	Placing of Shotcrete on Piles Wall	21/Feb/2020	21/Mar/2020	100	23/Jul/2020	28/Sep/2020	100.00	Completed
1 4	Steel Fabrication of Raft	20/Apr/2020	2/Jun/2020	100	10/Jul/2020	4/Oct/2020	100.00	Completed
1 5	Concreting of Raft	16/Apr/2020	30/May/2020	100	30/Jul/2020	5/Oct/2020	100.00	Completed
1 6	Excavation for fuel tank, UGWT, HVAC Plant room				10/Aug/2020	27/Aug/2020	100.00	Completed
1 7	Lean concrete, water proofing for fuel tank, UGWT, HVAC Plant room	Addit	ional Works		15/Aug/2020	10/Sep/2020	100.00	Completed
1 8	Bed preparation, steel fixing,				18/Aug/2020	26/Aug/2020	100.00	Completed

	concreting for									
	fuel tank, UGWT, HVAC									
	Plant room									
	Walls									
	concreting,									
1	water proofing				27/Δμα	2020	0/9	on/2020	100.00	Completed
9	for fuel tank,				27/Aug/	2020	9/3	ep/2020	100.00	Completed
	UGWT, HVAC									
	Plant room									
	Slab concreting									
2	for fuel tank,				27/Sep/	2020	30/5	Sep/2020	100.00	Completed
0	UGWT, Plant Room							-		-
	TOOM			BASEM	ENT-2					
	1st half Steel									
	fabrication for									
21	Basement	18/Apr/2	30/Apr/2	100	6/Sep/20	15/0		100	.00	Completed
	(retaining	020	020		20	020	0			
	walls)/lift walls/stairs									
	1st half RCC of									
	Basement ramps/									
22		18/Apr/2	30/Apr/2	100	17/Sep/2	15/0		100	.00	Completed
	/lift walls/entrance	020	020		020	020	0			
	stairs/Planters									
	2nd half Steel									
	fabrication for	0/14 /00	40/14 /0		07/0 /0	10/0				
23	Basement	2/May/20 20	13/May/2 020	100	27/Sep/2 020	18/O		100	.00	Completed
	(retaining walls)/lift	20	020		020	020	U			
	walls/stairs									
	2nd half RCC of									
	Basement ramps/	2/May/20	13/May/2		18/Oct/2	8/Nov	,/20			
24	) (	2/May/20	020	100	020	20		100	.00	Completed
	/lift walls/entrance	20	020		020	20	<b>'</b>			
	stairs/Planters									
26	1st half Steel fabrication for	18/Apr/2	30/Apr/2	100	6/Sep/20	19/Se	ep/2	100	00	Completed
20	columns	020	020	100	20	020	0	100	.00	Completed
	1ct half DCC of	18/Apr/2	30/Apr/2	400	17/Sep/2	12/0	ct/2	400		
27	columns	020	020	100	020	020		100	.00	Completed
	2nd half Steel	2/May/20	13/May/2		19/Sep/2	4/Oct	1/20			
28		20	020	100	020	20		100	.00	Completed
	columns									
29	2nd half RCC of columns	2/May/20 20	13/May/2 020	100	19/Sep/2 020	10/No 020		100	.00	Completed
	1ct half clab &	29/Apr/2	9/May/20		29/Sep/2	21/0				
30	beam shuttering	020	20	100	020	020		100	.00	Completed
0.4	2nd half slab &	11/May/2	21/May/2	400	19/Oct/2	9/Nov		400	00	Committee
31	beam shuttering	020	020	100	020	20		100	.00	Completed

	Updated Up Till December 31, 2020	Physical	lanned Progress POW	60.65		Actual Progress	31.56	
44	All activities of EMP	19/Dec/2 019	30/Apr/2 021	56.83	14/Jan/2 020	-	56.83	In Progress
43	1st half slab and beams shuttering	1/Jun/20 20	11/Jun/2 020	100	27-Nov- 20 A	-	100.00	Completed
42	2nd half RCC of columns	2/Jun/20 20	13/Jun/2 020	100	13-Nov- 20 A	-	100.00	Completed
41	2nd half Steel fabrication for columns	2/Jun/20 20	13/Jun/2 020	100	13-Nov- 20 A	28-Nov- 20 A	100.00	Completed
40	1st half RCC of columns	21/May/2 020	1/Jun/20 20	100	03-Nov- 20 A	26-Nov- 20 A	100.00	Completed
39	1st half Steel fabrication for columns	21/May/2 020	1/Jun/20 20	100	01-Nov- 20 A	19-Nov- 20 A	100.00	Completed
38	2nd half Steel fabrication for Basement (retaining walls)/lift walls/stairs/Ramp	2/Jun/20 20	13/Jun/2 020	100	16-Nov- 20 A	01-Dec- 20 A	100.00	Completed
	stairs							
37	1st half RCC of Basement ramps/ (retaining) walls /lift walls/entrance	21/May/2 020	1/Jun/20 20	100	16-Nov- 20 A	28-Nov- 20 A	100.00	Completed
36	1st half Steel fabrication for Basement (retaining walls)/lift walls/stairs/Ramp	21/May/2 020	1/Jun/20 20	100	01-Nov- 20 A	19-Nov- 20 A	100.00	Completed
	beams and slabs	020	20	BASEM	20 A <b>ENT-1</b>	20 A		<u>'</u>
35	beams and slabs 2nd half RCC of	21/May/2	1/Jun/20	100	05-Nov-	12-Nov-	100.00	Completed
34	2nd half Steel fabrication of	21/May/2 020	1/Jun/20 20	100	04-Nov- 20 A	12-Nov- 20 A	100.00	Completed
33	1st half RCC of beams and slabs	9/May/20 20	20/May/2 020	100	24/Oct/2 020	12/Nov/2 020	100.00	Completed
32	1st half Steel fabrication of beams and slabs	9/May/20 20	20/May/2 020	100	15/Oct/2 020	9/Nov/20 20	100.00	Completed

### 2.4 Description of Any Changes to Project Design

27. There was no change in the design of the construction of PLGA, Lahore. Few changes made in project design in Sahiwal parks have been already reported in

the first SAEMR. Furthermore, with regards to Sialkot park, there were no changes in their design.

### 2.5 Description of Any Changes to Agreed Construction Methods

28. No change in the construction methodology has taken place during the reporting period of this report with the initially developed method statements still applicable

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### 3. Environmental Safeguard Activities

### 3.1 General Description of Environmental Safeguard Activities

- 29. The key monitoring activities conducted within the reporting period are as follows:
  - Quarterly EMP compliance monitoring was carried out by the PIC 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 & PIC environment teams;
  - Trainings on HS Plan implementation for Contractor staff were organized by the HS team;
  - The PIC environment team held follow-up meetings with the Contractor for checking the compliance status of previously highlighted issues.

### 3.2 Site Audits

30. No formal audits have been conducted yet. Site inspections of the sub-projects are being performed in order to comply to the EMP requirements with the Contractor being immediately directed to resolve any non-compliances identified during the site inspections.

### 3.3 Issues Tracking (Based on Non-Conformance Notices)

31. During the reporting period, non-conformance notices were not issued. As the contractors and CIU was very vigilant on implementation of EMP and the scope of project was very limited and non-compliances were not found at sites.

### 3.4 Trends

32. As non-conformance notices were issued not issued, therefore analysis of trends is not applicable for this particular SAEMR.

### 3.5 Unanticipated Environmental Impacts or Risks

33. In order for the sub-projects to be implemented under PICIIP, there are no unanticipated environmental impacts and risks that have been identified during the

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current reporting period. Details of any such impacts have been identified during the reporting period and documented.

### 3.6 Grievance Redressal Mechanism

34. No grievance was received up till the reporting period at all project sites since each project site is located in a closed off area with no direct public exposure.

### 4. RESULTS OF ENVIRONMENTAL MONITORING

### 4.1 Overview of Monitoring Conducted during Current Period

35. In order to conduct ambient air quality and noise monitoring during the construction phase, the different Contractors engaged EPA certified third-party laboratories with the monitoring being conducted on a quarterly basis, as committed in their respective Contract Agreements, based on the EMP for each sub-project. The details are provided in **Table 4.1** below.

Table 4.1: Third-Party Lab for quarterly monitoring

	3 <sup>rd</sup> Q	uarter	4 <sup>th</sup> Quarter		
Project name	Lab Name Date of		Lab Name	Date of	
		Analysis		Analysis	
Parks, Sahiwal	ASIAN	Aug 2020	ASIAN-	Dec 2020-	
Parks, Sialkot	ASIAN	Sep 2020	ASIAN	Dec 2020	
PLGA	ESPAK	Aug 2020	ESPAK	Dec 2020	

#### 4.1.1 AIR QUALITY

- 36. Monitoring of ambient air quality parameters i.e. SO<sub>2</sub>, NOx, SOx, CO, PM<sub>2.5</sub> and PM<sub>10</sub> was conducted on a twenty-four hourly basis at the 2 public parks in Sahiwal, Gulshan-e-Iqbal park, Abdul Hakeem park and Fort park in Sialkot as well as at PLGA construction site in Lahore.
- 37. 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 **Table 4.1** below, the SO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> concentrations are being exceeded at two parks of Sahiwal with the remaining pollutant parameters lying within the applicable standards/guidelines.

- 38. The **Table 4.2** below shows that in the case of Abdul Hakeem Park and Gulshan-e-Iqbal Park in Sialkot, the concentrations of the pollutant parameters SO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> are exceeding the applicable standards/guidelines with the remaining parameters within the applicable limits. In the case of the PLGA building in Lahore, the ambient concentrations during the construction phase are shown in **Table 4.3** below. As can be observed, the PM<sub>2.5</sub> and PM<sub>10</sub> are exceeding the applicable standards/guidelines with the remaining parameters within the applicable limits.
- 39. The main reason for the exceedances of SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> in Sahiwal and Sialkot as well as exceedances of PM<sub>10</sub> and PM<sub>2.5</sub> in Lahore is overall poor air quality due to urbanization, industrialization and heavy traffic at all respective project sites. The only source of air pollution at all project sites due to construction activity is dust generation due to vehicular mobilization and emissions from the stacks of vehicles. Other than that, reason of these high values is the dry spell/no rain during the day when the environmental testing was being conducted.
- 40. There is no other source of air pollution i.e burning of waste or fuel at any site, although the ambient air parameters are within the PEQs limits by implementing the more stringent measures. In order to ensure the exceedances are brought within the applicable limits, following mitigation measures will be keenly observed by the PIC and PMU Environment Specialists.
  - sprinkling of water
  - covering the excavated material
  - Preventive measures against dust adopted for on-site mixing and unloading operations
  - Regular tuning/ maintenance of vehicles being used at sites
- 41. The detailed laboratory test results are attached as Appendices A to D.

Table 4.1: Ambient Air Quality Monitoring Results (24 hrs) of 3<sup>rd</sup> & 4<sup>th</sup> Quarter at Sahiwal Parks

Monitoring Location	Parameter	NO (ug/m³)	NO <sub>2</sub> (ug/m³)	CO (mg/m³)	SO <sub>2</sub> (ug/m³)	PM <sub>2.5</sub> (ug/m³)	PM <sub>10</sub> (ug/m³)	TSP (ug/m³)
Fareed Town		10.89	18.40	1.03	24.11	35.2	141.2	271.6
Chaman Zar		13.39	18.42	1.00	25.36	35.9	129.6	281.5
Applicable Most Strin for 24 hours of IFC	gent Standard	-	80	-	20	25	50	500
PEQS for 24 hours		•	80	-	80	35	150	500

Source: ASIAN, Dec 2020.

'Exceeding' applicable guidelines for acceptable pollutant levels 'Within' applicable guidelines for acceptable pollutant levels

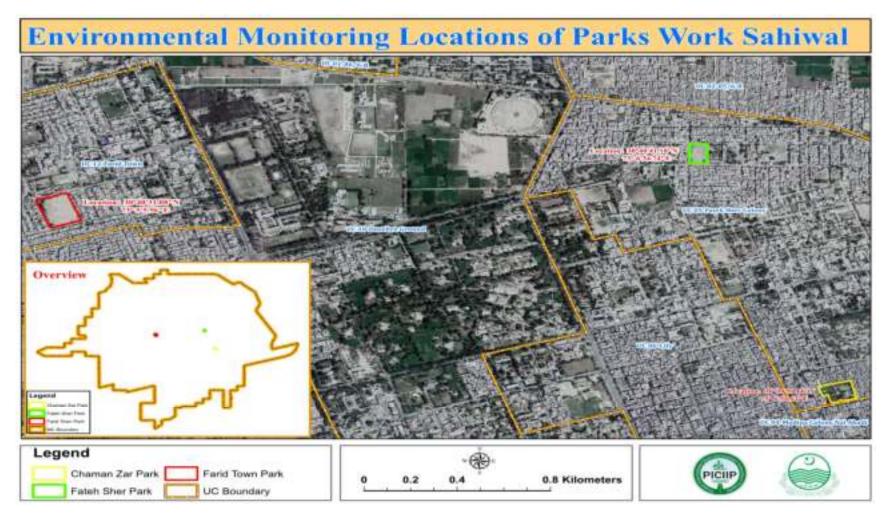


Figure 1: Sahiwal Parks Environmental Monitoring Location

Table 4.2: Ambient Air Quality Monitoring Results (24 hrs) of 3<sup>rd</sup> & 4<sup>th</sup> Quarter at Sialkot Parks

Monitoring Location	Parameter	NO (ug/m³)	NO <sub>2</sub> (ug/m³)	CO (mg/m³)	SO <sub>2</sub> (ug/m³)	PM <sub>2.5</sub> (ug/m³)	PM <sub>10</sub> (ug/m³)	TSP (ug/m³)
Gulshan-e-lqbal Park 3 <sup>rd</sup> Quarter		10.98	18.78	0.80	17.86	29	131.2	298
Abdul Hakeem Park 3 <sup>rd</sup> Quarter	Average	10.64	18.87	0.73	22.52	27.1	135.6	341
Gulshan-e-Iqbal Park 4 <sup>th</sup> Quarter		11.10	19.79	0.77	25.26	34.1	131.23	291.6
Applicable Most Strin for 24 hours of IFC	gent Standard	-	80	-	20	25	50	500
PEQS for 24 hours		-	80	-	80	35	150	500

Source: ASIAN, Sep & Dec 2020.

'Exceeding' applicable guidelines for acceptable pollutant levels 'Within' applicable guidelines for acceptable pollutant levels



Figure 2: Sialkot Parks Environmental Monitoring Location

Table 4.3: Ambient Air Quality Monitoring Results (24 hrs) at PLGA

Monitoring Location	Parameter	NO (ug/m³)	NO₂ (ug/m³)	CO (mg/m³)	SO <sub>2</sub> (ug/m³)	PM <sub>2.5</sub> (ug/m³)	PM₁₀ (ug/m³)	TSP (ug/m³)
PLGA 3 <sup>rd</sup> Quarter	Average	9.8	15.6	0.7	10.5	29	120	341
PLGA 4 <sup>th</sup> Quarter	Average	11.5	15.6	0.8	11.3	30.5	128	436
Applicable Most Strin for 24 hours of IFC	gent Standard	-	80	-	20	25	50	500
PEQS for 24 hours		-	80	-	80	35	150	500

Source: ESPAK, May 2020.



**Figure 3: PLGA Environmental Monitoring Location** 

### 4.1.2 **NOISE**

- 42. The noise monitoring was done at all 3 public parks in Sahiwal and at the public parks in Sialkot and at PLGA construction site in Lahore. There was no use of heavy machinery at site and no use of batching plant and generator at the work sites during the reporting period. Quarterly noise monitoring is also being performed at site, which reflects that noise levels being generated are within the permissible noise standards/guidelines. The ambient noise level monitoring reports from the laboratories are provided as **Appendices A** to **D**.
- 43. The results of the noise monitoring are provided in **Tables 4.4** to **4.6** below. As can be observed, the averaged noise levels for all the locations resulted in daytime noise within the applicable day time standard of 65 dB. In comparison, the nighttime noise limit is also not being exceeded with average nighttime noise levels.

Table 4.4: Noise Monitoring Results at Sahiwal Parks

Monitoring Location	Parameter	Noise Reading Results	Noise Guideline (Commercial Area)	Compliance Status for Commercial Areas	
Day Time Readings (0600 t	o 2200)	Day time			
Average at Farid Town Park	dB(A) Leq	50.06	65		
Night time Readings (2200 to	o 0600)	Night Time			
Average at Farid Town Park	dB(A) Leq	38.7	65		
Day Time Readings (0600 t	o 2200)			Day time	
Average at Chamanzar Park	dB(A) Leq	53.3	65		
Night time Readings (2200 to	o 0600)		Night Time		
Average at Chamanzar Park	dB(A) Leq	41.5	65		
Average Noise Levels (24 hour average)	dB(A) Leq	Farid Town Park 44.38	Chamanzar Park 47.4		

Source: ASIAN, Dec 2020.

Table 4.5: Noise Monitoring Results at Sialkot Park

Monitoring Location	Parameter	Noise Reading Results	Noise Guideline (Commercial Area		Compliance Status for Commercial Areas	
Day Time Readings (0600 to 22	00)		Da	ay time		
Average at Gulshan-e-lqbal 3 <sup>rd</sup> Quarter	dB(A) Leq	54.8	65			
Nighttime Readings (2200 to 06	600)			Ni	ghttime	
Average at Gulshan-e-Iqbal 3 <sup>rd</sup> Quarter	dB(A) Leq	46.3	55			
Day Time Readings (0600 to 22	00)		Day time			
Average at Abdual Hakeem Park 3 <sup>rd</sup> Quarter	dB(A) Leq	45.2	65			
Nighttime Readings (2200 to 06	00)		Nighttime			
Average at Abdual Hakeem Park 3 <sup>rd</sup> Quarter	dB(A) Leq	36.1	55			
Average Noise Levels (24 hour average) dB(A) Leq Gulshan-e-			lqbal 50.55	,	Abdual Hakeem 40.65	

Source: ASIAN, Sep, Dec 2020.

Table 4.6: Noise Monitoring Results at PLGA Lahore

Monitoring Location	Parameter	Noise Reading Results	Noise Guideline (Commercial Area)	Compliance Status for Commercial Areas		
Day Time Readings (0600 t	o 2200)		Day time			
Average at PLGA 3 <sup>rd</sup> Quarter	dB(A) Leq	53.5	65			
Night time Readings (2200 to	o 0600)		Night Time			
Average at PLGA 3 <sup>rd</sup> Quarter	dB(A) Leq	53	65			
Average Noise Levels (24 hour average)	dB(A) Leq	53	3.1			

Source: ESPAK, Aug & Dec 2020.

### 4.1.3 WATER QUALITY

- 44. It is the prime responsibility of the Contractor not to pollute the surface water due to construction activities. The Engineer also plans to ensure that no sewage/wastewater or any construction waste is disposed-off into the open space, nearby water stream which may cause adverse impact on the water quality.
- 45. In the case of drinking water analysis, the water samples were taken from Fateh Sher Park, Farid Town Park and Chaman Zar Park in Sahiwal. The results indicate

that the ground water samples were overall found to be in compliance with the PEQS. Water resources are not affected by the construction activities of the project. Quarterly drinking water and wastewater monitoring analysis is also being conducted by Contactor at Sialkot and PLGA site. All the sampled drinking water sources have been found meeting the PEQS limits. Reports are attached as an Appendix. A to D.

### 4.2 Summary of Monitoring Outcomes

- 46. During the reporting period, environmental compliance remained satisfactory as major issues were not reported. The issue of improper disposal of excavated material during the PLGA works that was reported in previous SAEMR has been resolved since the excavation work has mostly been completed while only a small part of the excavation is still remaining that will be effectively managed through implementation of the specific measures stated in the SSEMP.
- 47. All material that was excavated has been transported in tarpaulin-covered trucks for disposal to suitable location(s), pre-approved by the PMU/CIU. At these pre-selected locations, any extra material was disposed off in accordance with international best practices to ensure no significant impacts took place.

### 4.3 Material Resources Utilization

48. 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 details are given in the table below:

**Table 8: Equipment/Machinery Details** 

Description	PLGA	Sialkot	Sahiwal
		Parks	Parks
Generators	3		1
Loaders	2		0
Excavators	1		2
Jumping Compactor	1		
Concrete Vibrator	4	3	2

Water Pump	3	_	_
Crane	1	1	1
Welding Machine	4	1	1
Bar Cutting Machine	3	_	_
Bar Bending Machine	3	-	_
Tractor Trolley	2	5	1
Tractor Trailer	1	1	_
Transit Mixer	3	2	5
Auger Boring Machine	1	1	
Water Boozer	1	1	_
Concrete Batching Plant	1	-	_
Wood Cutter	4	_	
Grinder	2	_	_
Cutter Steel	2	_	_

**Table 9: Details of Materials** 

Description	Unit	PLGA	Sialkot	Sahiwal
			Parks	Parks
Cement	Bags	106150	7500	5500
Sand	Cft	202350	13000	9490
Aggregate	Cft	372800	50000	36500
Steel	Tons	1720	130	95
Bricks	Nos	_	325000	237000

### 4.4 Waste Management

### Sialkot parks

• Waste yard area (1100 Sqft) is built on park sites.

- Arrangements with Sialkot Waste Management Company/Municipal Corporation for safe disposal of domestic, construction and hazardous waste from work sites was made.
- Solid waste is being removed from park site waste yard at least once a week.
- Designated portable containers/waste bins for disposal of garbage at all work sites in the park were provided with all the waste being disposed off at the SWMC dumping site present at Wazirabad road.
- Waste material is disposed in waste yard in a safe condition, without blocking access for other users and people.
- Solid Waste burning at work and park site is prohibited.
- Training of labor on Solid waste management at site was conducted in third quarter.

### Sahiwal Parks

49. All the solid waste generated in both the construction sites is being collected into waste bins. Regarding disposal of solid waste during the reporting period, rebar end cuttings and scrap cables were delivered to the scrap yard. Continuous housekeeping and waste segregation at all work sites increases the general and construction waste. Mesh wires, timber pieces, iron bars were collected by the Contractor. All this solid waste is either sold to local vendors or delivered to the scrapyard.

#### **PLGA Lahore**

50. Contractor installed waste bins at office camp and kitchen mess area. The excavated material and all solid waste has been collected and disposed by LWMC at Lokhadair landfill site.

### 4.4.1 CURRENT PERIOD

### **Sialkot Parks**

51. The solid waste produced at all project sites was being collected into waste bins. As already discussed, construction is at minor scale and there is no workshop area, steel yard, washing yard, workshop area and batching plant area at project site. So, no bulk waste was produced from these sites. Reusable and recyclable waste is being sold to scrap collection retailers. Figure:4 and Figure:8 is showing the dumping sites and project site locations.

### **Sahiwal Parks**

52. The solid waste produced at all project sites was being collected into waste bins. As already discussed, construction is at minor scale and there is no workshop area, steel yard, washing yard, workshop area and batching plant area at project site. So, no bulk waste produced from these sites. All the waste was collected at sites through waste bins which ultimately disposed-off at designated site of municipality of Sahiwal. Figure:9 & Figure:12 is showing dumping site and project sites locations.

### **PLGA Lahore**

53. The excavated material and all solid waste has been collected and disposed by LWMC at Lokhadair landfill site. **Figure:13 & Figure:14** is showing dumping site and project site locations.



**Figure 4: Dumping Site Location Sialkot** 



Figure 5: Distance from Abdual Hakeem Park to Dumping Site



Figure 6: Distance from Model Town Ladies Park to Dumping Site



Figure 7: Distance from Gulshan e Iqbal Park to Dumping Site

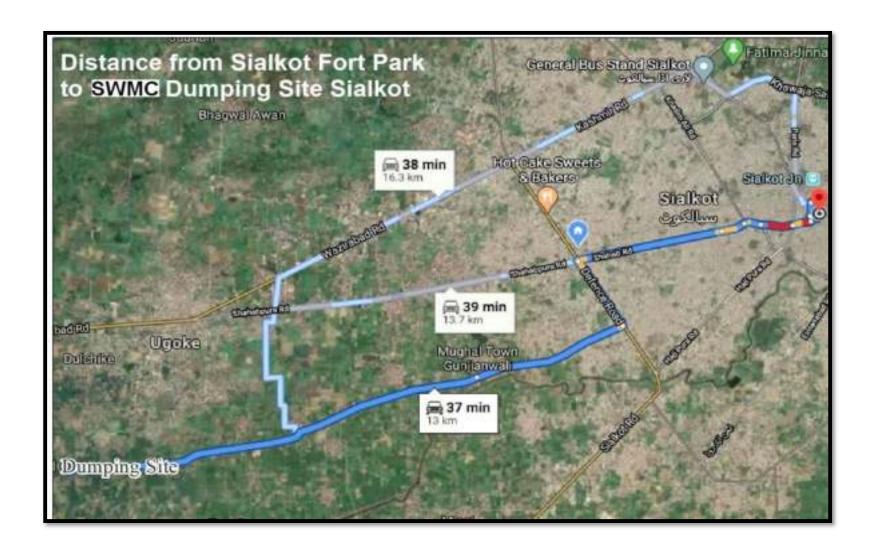




Figure 8: Distance from Fort Park to Dumping Site

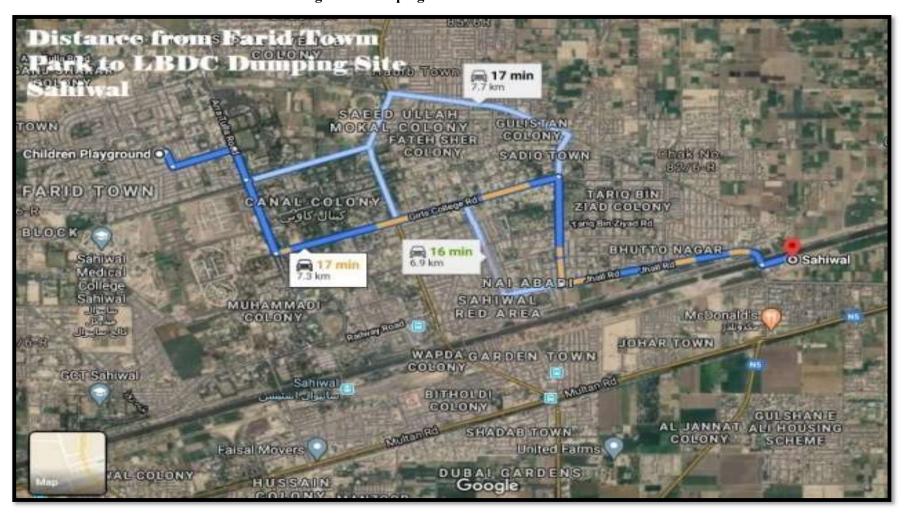


Figure 9: Dumping Site Location Sahiwal

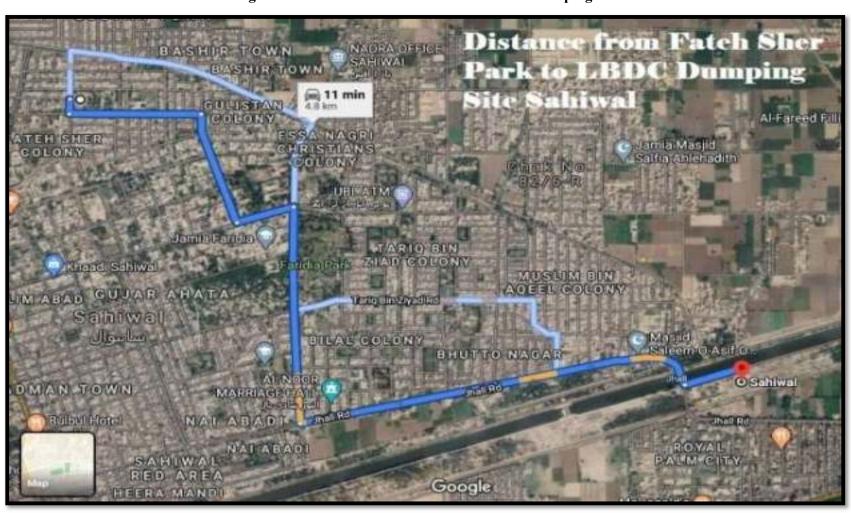


Figure 10: Distance from Farid Town Park to Dumping Site

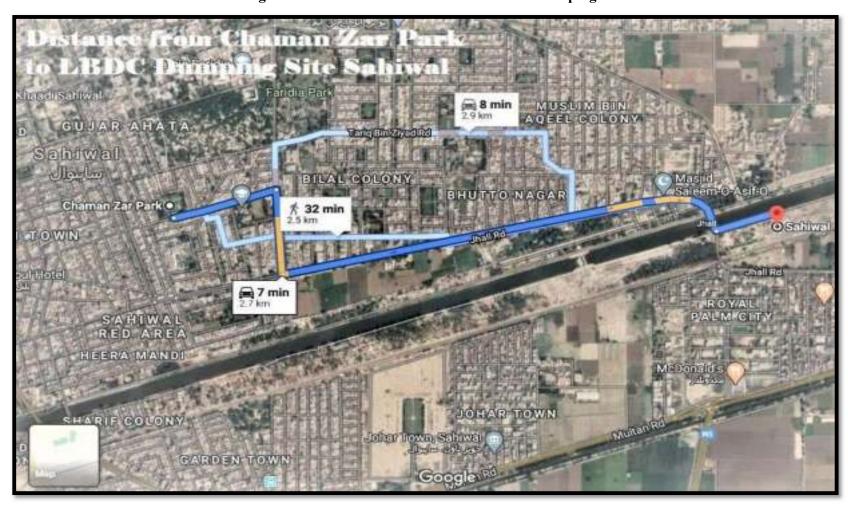


Figure 11: Distance from Fateh Sher Park to Dumping Site



Figure 12: Distance from Chaman zar Park to Dumping Site



**Figure 13: Dumping Site Location Lahore** 

Figure 14: Distance of Dumping Site from PLGA Construction Site Location Lahore

### 4.4.3 CUMULATIVE WASTE GENERATION

- 54. For all three project sites i.e. Sahiwal Parks, Sialkot Parks and PLGA Lahore, the Contractor was advised that organic waste should be disposed-off into waste pits. Construction waste should be removed immediately from site as it creates nuisance.
- 55. It was observed few times during the reporting period that the waste generated from construction was discarded outside openly and not disposed in the designated place. It was ensured that the Contractor's housekeeping staff is mobilized for the removal of solid waste.

### 4.5 Health and Safety

### 4.5.1 COMMUNITY HEALTH AND SAFETY

### **Sialkot Parks**

- 56. During reporting period, the Contractor took utmost care for community health and safety. No incidents related to the community health and safety have 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.

### Sahiwal Parks

57. During reporting period, the Contractor took utmost care for community health and safety. Within this duration of the project, no massive traffic activity has been initiated. Only material supply vehicles are being used at site for shifting of material. The project site was cordoned off, especially where machinery is involved, was barricaded and constantly monitored to ensure that local residents, particularly children stay away from construction area. No incidents related to the community health and safety have been occurred during the current reporting period.

### **PLGA Lahore**

58. No incidents related to the community health and safety have been occurred during the current reporting period.

### 4.5.2 WORKER SAFETY AND HEALTH

### **Sialkot Parks**

59. 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. No incidents related to the workers' health and safety have been occurred during the current reporting period.

### **Sahiwal Parks**

60. 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.

### **PLGA Lahore**

61. 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

### **Sialkot Parks**

62. Fire Extinguishers are inspected on regular basis and kept in good condition. "Smoking is prohibited" signs are displayed at project site. The Contractor has provided the fire extinguishers at 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.

### Sahiwal Parks

63. The fire extinguishers have been placed across the work sites with no major incident/accident or casualty reported.

### PLGA, Lahore

64. The overall working environment in the project area is considered safe as no major incident/accident or casualty has been reported.

### 4.5.5 Use of PPEs

65. As per Health Safety and Environment (HSE) Plan, the Contractor is 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 Parks, Sialkot Parks 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.

### 4.5.6 SAFETY SIGNBOARDS

66. 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 site of Sialkot Parks, Sahiwal Parks and PLGA Lahore.

### 4.6 Appropriate Staff Name and Contact Details

67. Details mentioned in Table 1.1.

### 4.6.1 INCIDENTS DURING THE REPORTING PERIOD

68. No such incident has taken place at Sahiwal parks, Sialkot Parks and PLGA Lahore.

### 4.6.2 FATALITIES

69. The overall working environment at the project areas has been safe and no incident/accident or casualty has been reported on any of the sub projects till now.

### 4.6.3 CORRECTIVE ACTIONS

70. The Overall Health Safety & Environment (HSE) implementation was satisfactory due to continuous efforts by the supervisory staff at site as the Contractor was pressed hard to follow the HSE guidelines in true letter and spirit.

### 4.6.4 COMPENSATION AND INSURANCE BENEFITS

71. Not applicable for this SAEMR period.

# 4.7 HSE Training

- 72. The Contractor conducted the HSE training for their workers and administrative staff. The trainer was well qualified and having broad knowledge of handling HSE issues during construction. The training was arranged by the Contractor for safety awareness regarding execution of works with the summary of trainings conducted provided as **Table 4.7** below. 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

Table 4.7: No. of Trainings

Sr. No	No. of HSE Onsite Trainings
Sialkot Parks	1
Sahiwal Parks	1
PLGA Lahore	2

73. The training events at Sahiwal and Sialkot Parks were delayed due to the COVID-19 situation have been conducted in this reporting period.

Note: Check List for HSE is provided as **Appendix-E**.

# 4.8 Covid-19 preventive measures

- 74. The world has experienced a new potent challenge in the shape of Corona virus disease 2019 (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 Parks, Sahiwal Parks 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.

# 5. FUNCTIONING OF THE SSEMP

### 5.1 SSEMP Review

75. The Environmental Screening and Categorization Forms (ESCF) were prepared for Upgradation of Existing Parks of Sahiwal and Sialkot cities which lie in Category C under ADB SPS 2009. So, the SSEMP was not prepared for these sub-projects.

### **PLGA**

- 76. The environmental safeguard screening and categorization was conducted for the construction of PLGA Lahore and the project was classified as **Category B**. The SSEMP has been submitted and approved by ADB. SSEMP is being implemented for required mitigation measures and their monitoring with full spirit at site.
- 77. 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:
  - **a-** The Contractor's level of sensitization and overall performance for the implementation of SSEMP and HS Plans has improved considerably throughout the reporting periods.
  - b- The Consultants continuously provided the supervision to the Contractor, for implementation of SSEMP. The Contractor keenly made efforts for the implementation of the required mitigation measures in accordance with the SSEMP.
  - **c-** The implementation of environmental monitoring plan remained satisfactory and internal monitoring has been carried out in accordance with the monitoring plan.
- 78. The SSEMP provide adequate guidance for the mitigation of environmental impacts resulting from the current construction activities. All the mitigation measures set out in the SSEMP are appropriate and no change is needed at this stage of the project.

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# 6. GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT

### 6.1 Good Practices

79. As there are no major environmental impacts on any of the parks of Sahiwal and Sialkot cities, the project falls under Category "C" in accordance with ADBs' Safeguard Policy Statement, 2009. The project has very minimal environmental impacts for which suitable mitigation measure will be sufficient to counter the impacts. The good practices are mentioned as:

### Sialkot Parks

- Noise and Vibrations are found within PEQS limits
- Air Quality has been monitored and within safe limits
- 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

### **Sahiwal Parks**

- 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

Air Quality has been monitored and within safe limits

### **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

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

### Sahiwal Parks

- All the concerned staff has been instructed to improve OHS performance levels including use of PPEs, implementation of working hours etc.
- Training sessions must be conducted more frequently
- Reporting period and quarterly environmental monitoring timeline should be followed strictly.

### **Sialkot Parks**

- Reporting period and quarterly environmental monitoring timeline should be followed strictly.
- Material transportation should be in the nighttime to avoid traffic issues
- Entrance of public within project vicinity must be prohibited and more vigilance needed.

### PLGA, Lahore

- Reporting period and quarterly environmental monitoring timeline should be followed strictly.
- The PIC 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

### **Sialkot Parks**

81. The overall Health Safety & Environment (HSE) implementation is satisfactory due to continuous efforts by the supervisory staff at site as the Contractor was pressed hard to follow the HSE guidelines in true letter and spirit. The CIU staff with Research Analyst Environment and the Supervisory Consultant visit construction sites on regular basis and provide the needed feedback to the supervisory staff at site. There is no major adverse impact on ground water quality due to minor construction activities.

### **Sahiwal Parks**

82. The Third Party External Environmental Monitoring was carried out twice during the reporting period. All the parameters tested were found to be within PEQS limits. The overall working environment at the Project Area has been safe as no major incident/accident or casualty was reported.

### **PLGA Lahore**

83. The Third Party External Environmental Monitoring was carried out once during the reporting period. All the parameters tested were found to be within PEQS limits. The impact of dust was reduced by regular water sprinkling. Uses of PPEs was satisfactory during construction. The PMU staff with Research Analyst Environment and the Supervisory Consultant visit construction site on regular basis and provide the needed feedback to the supervisory staff at site.

### 7.2 Recommendations

- 84. The following recommendation should be applied to all the subprojects i.e. Sialkot Parks, Sahiwal Parks and PLGA, Lahore
  - Contract clause regarding health safety and environment issues should be strictly followed.
  - Strict compliance of EMP at project site.
  - Use of PPEs during masonry work and working at height be enforced strictly.

- Presence of trained medical person and contractor's environmental officer should be ensuring during working hours.
- Stacking of construction materials at site should be according to EMP.

# **APPENDICES**

# Appendix A: Sahiwal Parks: Environmental Test Result Reports 3<sup>rd</sup> & 4<sup>th</sup> Quarters



# DRINKING WATER ANALYSIS REPORT

Sample Detail				
Steference No.	AES+139-HC/2020	Reporting Date	28-08-2020	1
Nature of Sample	Drinking Water	Sampling Method Reference	AEST MSQSS-814	STATISTICS.
Grah/Composite	Gelb	Sample Calliornal by/Sent By	ARS	Street Woods Company
Sampling Date	18-68-2020	Sumple Besetving Date	18-08-2020	THE REST
Analysis Completion Date	26-05-2529	Lab Temp & Hamility	25.5 °C at 55 %	
Archivet Temperature & H	ismidity at the Time of S.	emplieg	33 YC #L 57 %	THE REAL PROPERTY.
Sample III Client Detail	MS HCS-MASTIC-JV	Sampling Leastion	Furtil Toyet Park	The second second

Drinking Water Analysis Results						
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks	
Lab Analysis						
Color	5MWW.2120-C	± 15 TCU	0.0	N.A.	Optional	
Taris	5MWW 2160 C	Nen-Objectionable	Non-Objectionable	N.A.	Abplical	
Odar	5MWW 2130 H	Non-Objectionable	Non-Objectionable	N.A.	Abstinut	
Turbiday	5MWW 2136 W	4.5 NTU	0.0	NA:	1 believed	
Total Hardwess ton CVCOst	5MWW 2540 C	= 500 ing/L	. 88	+ 9.61	1 being	
Total Dissolved Solids (TDS)	SMWW 2540 C	< 1900 mg/L	174	+3.16	1 below	
phi	5MWW-4500 EC II	0.5-8.3	7.15	≠ 0.60	Darimal	
Aluminum (Al)	5MWW311118	0.0.2 mig/L	-0.001	NA.	Elprimod	
Actimony (Sky	5MWW311438	2 0.005 mg/L	~0.009	N.A.	Dignisod	
Arramic (Az)	5MWW311438	< 0.07 mg/L	0.007	N.A.	Figure	
Herium (Ba)	-5MWW311338	4.7 mg/L	H.I.	NA.	Theirmal	
Boron (II)	SMWW 3113.00	8.7 mg/t	0.21	NA.	1 below	
Cadmium (Cit)	5MWW 1113 II	0.01 tog/L	-0.006	N.A.	1.hts/mod	
Chienda (ET)	SMWW-4100 CT IS	<25t reg/L1	9.7	10.R ±	Optional	
Chromium (Cr)	SMWW HIDB	9.049 mg/L	~0.004	NA.	. Optimal	
Copper (Ca)	- SMWW TITLE	I.0 mg/L	0.0364	NA.	Optional	
Cyanida (CN)	SMWW 4500 CN: F	12pm 818.00	0.0	N.A.	Optimal	
Floridy (F)	SMWW 4100 F C	11.7 mg/L	.0.0	N.A.	Optimal	
Lorset (Pto)	5MWW 2114 B	< 0.05 mg/L	-0.001	N.A.	Options	
Manganese (Mn)	5MWW3113.8	567 mg/l	<0.013	N.A.	Optional	
Mercary (Hg)	5MWW311438	± 0.001 mg/L	-0.001	N.A.	Optional	
Nichal (Nii)	\$MWW311318	(8.00 mg/L	<0.42	N.A.	Distinct	
Nitrato (NOv.)	SMWW 4588 NOV B	< 59 mg/L	0.0	N.A.	Optimal	
Nitria (ND-1	SMWW-4500 NO:- B	5.2.0 mg/L	0.0	SUA.	Optimal	
Scienium (Se)	SMWW.3114 II	6,61 mg/L	10.65	N.A.	(Springel)	
Busideal Chlorine (Chr.	\$56WW-4500 CT/B	#3.mg1	0.0	N.A.	Christal	







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Sample Detail				
Reference No.	AES-135-DC/2600	Reporting Date	28-06-2020	A MINE
Nature of Sample	Drinking Water	Sampling Method Reference	AES/LMS/QSP-014	THE RESERVE OF THE PERSON NAMED IN
Grafe/Composite	Grob	Sample Collected by Sent By	AES	THE RESERVE
Sampling Date	18-08-2020	Sample Receiving Date	18-08-2020	THE RESERVE
Analysis Completion Date	26-08-2020	Lab Temp & Humidity	25.5 °C & 35 %	The second second
Ambient Temperature & H	amidity at the Time of Sc	rmpling	33 °C & 57 %	No. of Ballion
Sample ID Client Detail	AES-DW-84-2020 MS HCS-MASTIC-JV	Sampling Location	Forid Town Park	The State of the S

Phonolic Compounds (25 Phonols)	SMWW 5530 D	NGVS	0.0	N.A.	Optional
Zing (Zn)	SMWW 3113 B	5.0 rep/L	9.42	N.A.	Optimal
Microbiological Analysis			1020	1000	1
Total Colifornia	SMWW 9222 B	0/ 100 mL CFU	0	N.A.	Optimal
Feod California	SMWW 9222 D	6/ 100 mL CPU	0	N.A.	Optimal

### Abbreviations:

PSO(0) = Purply for increase Quality Translatio TCU = Year Color Unit

NYE + Naphiowenic Turbulty Vine

Remarks:

Harrison + Compliance with Preventille Barger Law + Loss Than Personalite Barger SAWW = Insection! Number for the experimental of Vator and Washinston

ME - Meanment Commen

Marginal + Close in Dateson Filips

CFU = Cylony florong Crist MGVS = Ito Curdibler Value Set

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# Report Disclaimer

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Approved By (QM)

Decument No. ACS/LMS/FRM-CO Date of Terrar 22 June, 2020 Revision No. (9)



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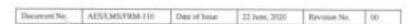






Sample Detail			-
Reference Su.	AE5-135-9C(2020)	Reporting Date	28-08-2020
Nature of Nample	Drinking Water	Sempling Method Reference	AESTANSQSP-014
Grah/Conposite	One	Sample Callerted by/Sent By	AIS
Sampling Date	18-08-2020	Sample Receiving Date	18-08-2020
Analysis Completion Date	26-08-2020	Lab Temp & Humidity	25.5 °C & 55 %
Archient Temperature & H	omities at the Time of So	empling	33.1C & 57.%
Sample ID Client Detail	AES-EIW-R5-2020 M/S HC5-MASTIC-JV	Sampling Location	Fatch Shor Park.

Drinking Water Analysis Results					
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks
Lab Analysis			11.		
Crior	SMWW 2120 C	5 15 TCU	0.8	N.A.	Optional
Yante	SMWW-2160 C	Non-Objectionable	Non-Objectionable	N.A.	Optimal.
Drive	SMWW-2150 II	Non-Objectionable	Non-Objectionable	N.A.	Optimal
Turbidity	SMWW 2130 B	+5 NTU	0.0	N.A.	Optional
Tetal Hardwes (so CaCOs)	SMWW 2340 C	<500 mg/L	206	+ 0.61	Optimal
Total Disserved Solids (TDS)	SMWW 2540 C	< 1000 mg/L	844	+ 1.16	Optimal
při	5MWW 4500 H1B	6.5-8.5	7.43	+ 0.60	Optimal
Aluminum (Al)	SMWW 1111 B	± 0.2 mg/L	<0.001	N.A.	Optimal
Artimory (5b)	SMWW 3114 B	≤ 0.005 mg/L	<0.004	N.A.	Optimal
Arsenic (Ar)	SMWW33143E	5 0.05 mg/L	8.01	N.A.	Optional
Bartom (Ba)	SMWW 2113 II	0.7 mg/L	0.07	N.A.	Cytimal
Boron (B)	SMWW 3113 II	0.3 mg/l	<0.62	NA.	Clytinal
Cadmium (Cd)	SMWW3113.B	8.81 ssg/L	<0.006	N.A.	Optimal
Chloride (CF)	SMWW-4500 CFB	< 250 mg/L1	130	+ 0.61	Optional
Chromium (Cr)	SMWW 3113 B	≤ 0.05 mg/L	<8.094	N.A.	Optimal
Copper (Ciù	SMWW 3111 B	2.0 mg/L	< 0.164	N.A.	Chatimal
Cyanide (CN)	SMWW-4500 CN:T	< 0.05 mg/L	8.6	N.A.	Channal
Floreide (F)	5MWW 4500 F C	≤1.5 mg/L	0.0	N.A.	Ostinal
Lead (Pt)	SMWW3114B	≤ 0.05 mg/L	0.004	N.A.	Christal
Mangariese (Mrs)	SMWW3113.B	585 mg/l	0.015	N.A.	Onlimit
Morcury (Hg)	SMWW3144B	≤ 0.001 mg/L	<8.001	N.A.	Optimal
Nickel (Ni)	SMWW 3113 B	58.82 mg/L	<0.62	N.A.	Optimi
Nitrate (NDr2	53MWW 4500 NOv B	≤50 mg/L	0.0	N.A.	Optimal
Nitrite (NOr)	SMWW 4500 NOs: B	≤3.0 mg/L	0.0	N.A.	Optimul
Scientum (Sc)	SMWW3114 B	J'um 10.0	-0.01	NA.	Optimal
Residual Chlorine (Clz)	5MWW-4500 CT-B	0.5 mg/km	0.0	N.A.	Optimal





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			TO THE DATE	
Sample Detail				
Reference No.	AES-133-HC/2020	Reporting Date	28-08-2020	<b>一种</b>
Nature of Sample	Drinking Wester	Sampling Method Reference:	AES/LMS/QSP-814	200 TO 170
Grab/Composite	Grade	Sample Collected by/Sent By	ARS	ACCEPTANT
Sumpling Date	18-08-2929	Sample Receiving Date	18-08-2029	
Analysis Completion Date	26-08-2020	Lab Temp & Humidity	23.5 °C 4.55 %	Section 1
Ambiest Temperature & H	amility at the Time of S.	mosling	33 °C & 37 %	Marie Control
Sample ID Client Detail	AES-DW-85-2020 M/S HCS-MASTIC-IV	Sampling Location	Finish Shor Park	

Phenolic Compounds (as Phenolis	SMWW 5530 D	NGVS	0.0	N.A.	Optimal
Zine (Zn)	SMWW XH3 B	1.0 mg/L	0.054	N.A.	Christali
Microbiological Analysis		-			
Total Celiforns	566WW 9222 B	8/100 mt. CFU		N.A.	Continue
Food Colifferns	SMWW 9222 ti	0/100 mL CFU	0	N.A.	Optimal

### Abbreviations:

PEOS = Poupit Environment Quality ECU = True Cube Unit NEU = Nephbonetric Techniqu Line

Remarks:

(Optional = Compliance with Promouble Yango Love = Love Then Permissible Hange

NAWW - Ensuring Matheda for the one N.A. - Non Available. CPC = Critical Sensing List. NGVE = No Charlefow Value Ser.

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Sample Detail				
Reference Na.	AE5-135-HC/2020	Reporting Date	28-08-2020	SAME OF STREET
Nature of Sample	Drinking Water	Sampling Method Reference	AES/LMS/QSP-014	
Grah/Compestie	Cleab	Sample Collected by Sent By	AES	The Name of the State of the St
Sumpling Date	18-08-2029	Sample Receiving Date	18-08-2020	THE RESERVE OF THE PERSON NAMED IN
Analysis Completion Date	26-08-2020	Lab Temp-& Humidity	25.5 °C & 35 %	-
Ambient Temperature & H	umidity at the Time of S	ampling	33 YC & 57 %	VA DES
Sample ID Client Detail	AES-DW-86-2020 M/S HCS-MASTIC-JV	Sampling Location	Chantanuar Park	THE PERSON

Drinking Water Analysis Results					
Parameter	Analysis Method	PEQS	Result.	MU (CL95%)	Remarks
Lab Analysis					
Celer	SMWW-2126 C	= 13 TCU	8.0	N.A.	Optional
Tasta	SMWW 2160 C	Nen-Objectionality	Non-Obsectionable	N.A.	Optimal
Odor	5MWW-2150 B	Non-Objectionable	Non-Objectionable	N.A.	Optimal.
Turbidity	SMWW 2130 B	<3.NIU	0.8	NA.	Optional
Total Hardooss (iss CaCOv)	SMWW 2340 C	< 500 mg/L	121	+ 0.61	Detimal
Total Disselved Solids (TDS)	SMWW 2546 C	< 1960 mg/L	745	+ 1.16	Chetinsal
pili	5MWW 4500 H° B	6.5-8.5	7.68	+ 0.60	Optimal
Alterinam (Al):	SMWW 3111 B	182 mg/L	~0.001	N.A.	Optimal
Attimony (5h)	SMWW 3114 B	≤ 0.005 mg/L	< 0.005	N.A.	Ostimal
Arsenic (As)	SMWW 3114 B	5-9.95 mg/L	10.0	N.A.	Optional
Burken (Bai	SMWW 2113.B	0.7 mg/L	0.06	N.A.	Optional
Boson (B)	SMWW 3113 II	9.3 mg/L	0.03	N.A.	Optimal
Cidmian (Cd)	SMWW3113.B	8.01 mg/L	10.066	NA.	Option
Chloride (CT)	SMWW 4560 CT B	< 220 mg/L1	113	± 0.61	Optimal
Chromium (Cr)	SMWW 3113 B	≤0.05 mg/L	8.006	N.A.	Optimal
Copper (Cu)	SMWW 3111 B	2.0 mg/L	0.165	N.A.	Optimal
Cyaride (CN1)	SMWW 4500 CN: F	± 0.05 mg/L	0.0	N.A.	Ciptional
Flooride (F)	SMWW 4500 F-C	≤1.5 mgl.	0.0	N.A.	Optimal
Lead (Phi	SMWW311411	S-0.05 mg/L	<0.001	N.A.	Optimal
Manganese (Mn)	- SMWW.1113 B	5 0.5 mg/T	0.035	N.A.	Christal .
Mercury (Hg)	SMWW 3314 B	≤0.004 mg/L	<0.001	N.A.	Ostinial
Nickel (Ni)	SMWW 3113 B	Shitt mail.	8.63	N.A.	Christal
Nimate (NOv)	5MWW 4500 NOv B	≤ 50 mg/L	0.0	N.A.	Optimal
Nitrite (NOs)	SMWW 4500 NO; B	≤3.0 mg/L	0.0	N.A.	Optimal
Schminn (Sc)	SMWW 3314 B	0.01 mg/L	10.0>	N.A.	Optimal
Residual Civiorine (Cla)	5MWW 4500 CT B	0.1 me4.	0.0	N.A.	Optimal







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Sample Detail	THE RESERVE			-
Reference No.	AES-135-HC/2028	Reporting Date	28-08-2020	Name and Address of
Nature of Sample	Drinking Water	Sampling Method Reference	AESTMSQSP-014	and all the
Grab/Composite	Grah	Sample Collected by Sent By	AES	
Sampling Date	18-06-2020	Sample Receiving Date	18-08-2020	1
Analysis Completion Date	26-08-2020	Lab Temp & Illumidity	25.5 °C & 55 %	M. Aller
Ambiest Temperature & H	amidity at the Tires of S	impling	33 °C & 57 %	C) 055
Somple ID Client Detail	AES-DW-86-2020 M/S HCS-MASTIC-JV	Sampling Lucation	Chemonicar Park	THE RESERVE

Plemdic Compounds (as Plemds)	SNOWW 5530 D	NGVS	0.0	N.A.	Optimal
Zime (Ifm)	5MWW 2113 B	5.0 mg/L	0.050	NA:	Optional
Microbiological Analysis					1
Total Californs	SMWW 9222 II	0/100 mL CFU	0	St.A.	Optional
Fecal Coliforns	SMWW 9222 D	0/100 mL CFU	9	NA.	Optional

#### Abbreviations:

PEQS - People Toront TCC - Tree Color Colo

NTO - Nephtimetric Fashility (see

Optional + Compliance with Personalite Rouge Law + Law Dian Personalite Range

RMWW - Standard Mechady for the communition of Water and Waterwest (UW - Colony Enemy Unit WE) - Colony Enemy Unit WE) - Management Uncomings (MCVS - No Goodeline Value Sal.

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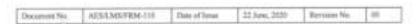




Sample Detail		THE STATE OF THE S		
Reference No.	AES-103-HC/2020	Reporting Date	28-08-2020	three land
Nature of Sample	Wante Witter	Sampling Method Reference	AES/LMS/QSP4014	1
Grab/Composite	Orah	Sample Culticated by Nent By	AES	A CONTRACTOR
Sampling Date	18-86-2020	Sample Receiving Date	18-08-2029	
Analysis Completion Date	26-06-2020	Lab Temp & Humidity	25.5 °C A.55 %	1,12,1
Ambient Temperature & II	umidity at the Time of S	empling	33 °C # 57 %	NAME OF
Sample ID	AES-WW-92/2020	Sampling Location	Fand Town Park	1

8	Wastewater Analysis Results				
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks
Lab Analysis			110000	ATT ATTEMPT	
phi	SMWW 4500 H: B:	0-9	7.13	+ 0.60	Optimal
Bischemical Oxygen Demand (BOD <sub>1</sub> )	SMWW 5210-B	80 mg/L	-3	N.A.	Optimal
Chemical Oxygen Demand (COD)	554WW 5220 B	150 mg/L	15	N.A.	Optimal
Total Suspended Solida (TSS)	SMWW 2540 D	200 mg/L	170	N.A.	Optimal
Total Dissolved Solids (TDS)	SMWW 2540 C	3500 mg/L	206	±.1.10	Optimul
Phenolic Compounds (as Phenols)	SMWW 5530 D	figm 1.0	6.0	N.A.	Optional
Grease and Oil	USEPA 1664 B	10 mg/L	0.0	N.A.	Optimal
Chloride (CT)	SMWW 4500 CI- B	1000 mg/L	8.7	± 0.61	Optimal
Fluoride (F)	5MWW 4500 F- C	10 mp/L	0.0	N.A.	Optimal
Cyanide (CN)	SMWW-4500 CN- F	1.0 mg/L	0.0	N.A.	Optimal
An-ionic Detergents (as MBAs)	SMWW-5540-C	20.0 mg/L	0.0	N.A.	Optimal
Sulfate (SO <sub>1</sub> <sup>1</sup> )	SMWW 4500 SO <sub>3</sub> C	600 mg/L	35	N.A.	Optimal
Sulfide (S <sup>1</sup> 3)	5MWW 4500 5 F	1.0 mg/L	0.0	N.A.	Optimal.
Azomonia (NH <sub>1</sub> )	5MWW 4500-NH <sub>1</sub> D	40 mp/L	0.0	N.A.	Optimal
Codmium (Cd)	SMWW 3113 B	0.1 mg/L	0.006	N.A.	Optimal
Chromium (Cr)	SMWW 3113 B	1.0 mg/L	0.109	N.A.	Optimal
Copper (Cu)	SMWW 3112-B	1.0 mg/L	0.165	N.A.	Optimal
Lend (Pb)	SMWW 3113 B	0.5 mg/L	0.005	N.A.	Optimal
Mercury (Hg)	SMWW 3112 B	0.01 mg/L	0.001	N.A.	Optomal
Selenium (Se)	SMWW 3114 B	0.5 mg/L	<0.01	N.A.	Optimal
Nickel (Ni)	5MWW 3113 B	1.0 mg/L	0.014	N.A.	Optimal
Silver (Ag)	SMWW 3113 B	J.0 mg/L	0.080	N.A.	Optimal
Total Toxic Metals	Calculated Value	2.0 mg/L	0.725	N.A.	Optimul
Zinc (Zn)	SMWW3111B	5.0 mg/L	0.124	N.A.	Optimal
Arsenic (As)	SMWW 3114 B	1.0 mg/L	0.08	N.A.	Optimal
Burium (Ba)	SMWW 2113 B	1.5 mg/L	0.136	N.A.	Optional
Iron (Fe)	SMWW 3113 B		2.38	N.A.	Optimal







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Sample Detail	A THURSDAY	No. of Concession, Name of Street, or other party of the last of t		
Reference No.	AE5-135-BC/2020	Reporting Date	28-06-2029	mrs A
Nature of Sample	Waste Water	Sampling Method Reference	AES/LMS/QSP-014	A Committee of the Comm
Grah/Composite	Cloth	Sample Callected by/Sent By	AES	- A TO S
Sampling Date	18-08-2020	Sample Receiving Date	18-08-2029	No. of Parts
Analysis Completion Date	26-08-2020	Lab Temp & Humidity	25.5 °C & 55 %	102
Ambient Temperature & H	areidity at the Tires of S.	ampling	33 °C & 57 %	100
Sample ID Client Detail	AES-WW-92/2020 M/S HCS-MASTIC-IV	Sampling Location	Fand Town Park	and the same of

Manganese (Mn)	5MWW 3111 B	1.5 mg/L	0.019	N.A.	Optimal
Burgo (B)	SMWW 3113 B	6.0 mg/L	0.119	N.A.	Optimal
Residual Chlorine (Cls)	5MWW 4500 CI- B	1.0 mg/L	0.0	N.A.	Optimal

### Abbreviations:

PEQS - Purple for resource Quality Streets do. USEPA - United States Environment Promotion Agency

NAWW - Standard Methods for the ourse N.A. - Not /residely

HC+Massesser Duran

Remarks: Figure 1 = Compliance with Personalite Burge Lam = Lore Thus Personalite Burge

High - Daniels From Permiselds Tongo

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Reviewed By (TM)

Approved By (QM)

AESCMS/FRM-110 22 have 2120 Regulation No. Document No. Date of linear



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Sample Detail				The same of the sa
Reference No.	AES-135-HC/2020	Suporting Date	28-06-2020	Section 1
Nature of Sample	Waste Water	Sampling Method Reference	ADSILMS/QSP-014	The same
Grah/Composity	Graft:	Sumple Collected by/Sent By	AES	
Sampling Date	18-08-2020	Sample Receiving Date	18-06-2620	
Austysis Completion Date	26-06-2020	Lab Tomp & Hamidity	25.5 °C & 55 %	9
Ambient Temperature & H	amidity at the Time of S	ampling	33 °C & 57 %	A Company of the Comp
Sample III Client Detail	AES-WW-93/2820 M/S HCS-MASTIC-ZV	Sampling Lucation	Fash Sher Park	Maria Carlotte April

	Wastewater Analysis Results				
Parameter	Analysis Method	PEQS	Result	ME (CL95%)	Remarks
Lab-Analysis	LOT HOR CHANGE MEDI	<u> </u>			I SHIP
pH	SMWW 4500 H1 B	6.9	7,52	± 0.60	Optimal
Biochemical Oxygen Demand (BODs)	SMWW 5210-B	Jan 08	-3	N.A.	Optimul
Chemical Oxygen Demand (COD)	SMWW 5220 B	150 mg/L	33	N.A.	Optimal
Total Suspended Solids (TSS)	SMWW 2540 D	200 mg/L	165	N.A.	Optimal
Tetal Dissolved Solids (TDS)	SMWW 2540 C	3500 mg/L	218	± 1.16	Optimal
Phenolic Compounds (as Phenols)	SMWW 5530 D	0.1 mg/L	0.0	NA:	Optimal
Grouse and Oil	USEPA 1664 B	10 mg/L	0.0	N.A.	Optimal
Chloride (CT)	5MWW 4500 CI- B	1000 mg/L	9.7	± 0.61	Optimal
Fluoride (F1)	SMWW 4500 F- C	10 mg/L	0.0	N.A.	Optimal
Cyanide (CN)	SMWW 4500 CN- F	1.0 mg/L	0.0	N.A.	Optimal
An-ionic Detergents (as MBAs)	SMWW 5540-C	20.0 mg/L	0.0	N.A.	Optimal
Sulfate (SO <sub>2</sub> <sup>2</sup> )	SMWW 4500 SOV C	600 mg/L	31.6	N.A.	Optimal
Sulfide (S <sup>2</sup> )	5MWW 4500 S 7 F	1.0 mg/L	0.0	N.A.	Optimal
Ammonia (NHs)	SMWW 4500-NH <sub>2</sub> D	40 mg/L	0.0	N.A.	Optimal
Cadmium (Cd)	SMWW 3113 B	0.1 mg/L	0.006	NA:	Optimal
Circmium (Cr)	5MWW 3113 B	1.0 mg/L	0.121	N.A.	Optimal
Copper (Cu)	SMWW 3113 B	1.0 mg/L	<0.164	N.A.	Optimal
Lend (Ph)	SMWW 3113 B	0.5 mg/L	<0.005	N.A.	Optimal
Mercury (Hg)	SMWW 3112 B	0:01 mg/L	0.001	N.A.	Optimal
Selenium (Se)	SMWW 3114 B	0.5 mg/L	0.01	N.A.	Optimid
Nickel (Ni)	SMWW 3113 B	1,0 mg/L	0.053	N.A.	Ogeimal
Silver (Ag)	SMWW-3113 B	1.0 mg/L	0.081	N.A.	Optimul
Total Toxic Metals	Calculated Value	2.0 mg/L	0.756	N.A.	Optimal
Zinc (Zn)	5MWW 3111 B	5.0 mg/L	0.199	N.A.	Optional
Arsenic (As)	5MWW 3114 B	1.0 mg/L	0.07	N.A.	Optional
Barium (Ba)	SMWW 3113 B	1.5 mg/L	0.132	N.A.	Optimul
Iron (Fe)	SMWW 3113 B	-\$:0 mg/L	2.1	N.A.	Optimial







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Sample Detail				Winds of the last
Reference No.	AES-135-HC 2020	Reporting Date	25-08-2020	294
Nature of Sample	Waste Water	Sampling Method Reference	AES/LMS/QSP-014	1
Grab/Composite	Gndr	Sample Collected by/Sent By	AES	
Sampling Date	18-08-2020	Sample Receiving Date	18-08-2020	
Analysis Completion Date	26-08-2020	Lab Temp & Humidity	25.5 °C & 55 %	
Ambient Temperature & H	amidity at the Time of Sc	ompling	33 °C & 57 %	
Sample 10 Client Detail	AES-WW-93/2020 M/S HCS-MASTIC-IV	Sampling Location	Faith Shor Park	The second secon

Manganese (Mn)	SMWW 3111 B	1.5 mg/L	810.0	N.A.	Optimal
Borun (IV)	SMWW.3113.B	6.0 mg/L	0.113	N.A.	Optimal
Residual Chlorine (Cls)	SMWW 4500 CI- B	1.0 mg/L	0.0	N.A.	Optimal

### Abbreviations:

PEDS - Purple Excessions Quality Standards UNEPA - Count Days Excessions Processes Agency

SNWW = Standard Methods for the proteometr N.A. = Not Available es of Water and Watermann MR: = Management Management

Remarks:  $\begin{array}{l} \text{Equational} = \text{Compliques with Personality Range} \\ \text{Com} = \text{Large Then Personalitie Range} \end{array}$ 

High + Expensis from Fermionists Forego

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Sample Detail				17
Haference No.	AES-135-HC(2020)	Reporting Date	28-08-2020	17 AT
Notare of Nample	Waste Water	Sampling Method Reference	AES/LMS/QSP-014	Service Control
Grah/Composite	Cloah	Sample Collected by:Sent By	AES	
Sampling Date	18-08-2020	Sample Receiving Date	18-06-2020	U.S. SANS
Analysis Completion Date	26-08-2020	Lab Temp & Humidity	25.5 °C & 55 %	
Ambient Temperature & H	umidity at the Time of Si	impling	33 °C & 57 %	STORY OF STREET
Numple ID Client Detail	AES-WW-94/2020 M/S HCS-MASTIC-/V	Sampling Location	Chatnetrar Park	-1

	Wastewater Analysis Results			- Euro	
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks
Lub Analysis	-1	4-2-20	00000000		I VALUE
pH	SMWW.4500 H1 B	6.9	7.83	+ 9.60	Optimal
Biochemical Oxygen Demand (BODs)	SMWW 5210-B	80 mg/L	<5	NA.	Optimal
Cliemical Oxygen Demand (COD)	SMWW 5220 B	120 mg/L	<5	N.A.	Optimal
Total Suspended Solida (TSS)	SMWW 2540 D	200 mg/L	- 8	N.A.	Optimal
Tetal Dissolved Solids (TDS)	SMWW 2540 C	3500 mg/L	548	± 1.16	Optimal
Phenolic Compounds (as Phenols)	SMWW 5530 D	0.1 mg/L	0.0	N.A.	Optimal
Grease and Oil	USEPA 1664 B	10 mg/L	0,0	N.A.	Optimal
Chloride (CF)	SMWW 4500 CI- B	1000 mg/L	79.6	±0.61	Optimal
Fluoride (F)	SMWW 4500 F- C	10 mg/L	0.0	N.A.	Optimal
Cvanide (CN)	SMWW 4500 CN- F	1.0 mg/L	0.0	N.A.	Optimal
An-ionic Detergents (as MBAs)	SMWW 5540-C	20.0 mg/L	0.0	N.A.	Optimal
Sulfate (SO <sub>4</sub> <sup>1</sup> )	SMWW 4508 SO <sub>4</sub> <sup>1</sup> C	600 mg/L	46	N.A.	Optimal
Sulfide (S <sup>2</sup> )	SMWW 4500 S <sup>2</sup> F	1:0 mg/L	0.0	N.A.	Optimal
Ammonia (NH <sub>3</sub> )	SMWW 4500-NH <sub>1</sub> D	40 mg/L	0.0	N.A.	Optimal
Cadmium (Cd)	SMWW 3113 B	J'am 1.0	0.007	N.A.	Optimal
Chromium (Cr)	SMWW 3113 B	1.0 mg/L	0.09	NA.	Optimul
Copper (Cu)	SMWW 3113 B	1.0 mg/L	<0.164	N.A.	Optimal
Lead (Ph)	SMWW 3113 B	0.5 mg/L	0.005	N.A.	Optimal
Mercary (Hg)	SMWW 3112 B	0.01 mg/L	<0.001	N.A.	Optimal
Selenium (Se)	SMWW 3114 B	0.5 mg/L	0.01	N.A.	Optimal
Nickel (Ni)	SMWW 3113 B	1.0 mg/L	0.051	N.A.	Optimal
Silver (Ag)	SMWW 3113 B	1.0 mg/L	0.078	N.A.	Ogtimal
Total Toxic Metals	Calculated Value	-2.0 mg/L	0.66%	N.A.	Optimal
Zinc (Zn)	SMWW 3111 B	5.0 mg/L	0.012	N.A.	Optimal
Arsenic (As)	SMWW 3114 B	1.0 mg/L	0.05	N.A.	Optimal
Barium (Ba)	SMWW 3113 B	1.5 mg/L	0.122	N.A.	Optional
Iron (Fe)	SMWW3113.B	3.0 mg/L	2.01	SLA.	Optimal







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Sample Detail				
Reference No.	AES-135-HC/2020	Reporting Date	28-08-2020	SECTION AND PARTY.
Nature of Sample	Waste Water	Sampling Method Reference	AUS/LMS/QSP-014	Div.
Grah/Composite	Orah	Sample Cultivated by Sent By	AES	- A Committee
Sampling Date	18-08-2020	Sample Receiving Date	18-06-2920	DE STATE
Analysis Completion Date	26-08-2020	Lab Temp-& Humidity	25.3 °C #.55 %	
Ambient Temperature & H	amidity at the Time of S	empling	33 °C & 97 %	Section 5
Sample ID Clinet Detail	AES-WW-94/2020 M/S HCS-MASTIC-TV	Sampling Location	Chamanor Park	\

Manganese (Min)	SMWW 2111 B	1.5 mg/L	0.016	N.A.	Optimal
Bonn (B)	SMWW 3113 B	6.0 mg/L	0.09	N.A.	Optimal
Residual Chlorine (Cl-)	SMWW 4500 CI- B	1.0 mg/L	0.0	N.A.	Optimal

### Abbreviations:

Remarks:

PECPS - Prayab Danissment Quality Steedards USEPA - United Steam Destination Protection Agency

NEC - Management Countries

No. 4, 4 Test Avadelitis

Nangani - Class to Exemps Tiday

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# Ambient Air Monitoring Report

Monitoring Details				
Reference Number	AES-233-10C/2020			
Sampling Point	Farid Town Park -Sahiwal			
Date of Monitoring	09-Dec-2020 to 10-Dec-2020			
Sampling Coordinate	30°40°33.5° N 73°05'05.6° E			

Sr. No.	Time	co	NO (ng/m²)	NO <sub>1</sub> (refm <sup>2</sup> )	NO.	50:
1000	10:00	(mg/m²) 0.96	9.96	19.03	28.96	34.91
2	11:00	0.97	10.00	19.03	28.99	24.93
-	12:00	0.97	30.02	18.46	28.44	24.96
4	13:00	1.04	10.82	17.65	28.44	25.78
- 2	14:00	1.07	10.85	18.46	29.28	25.76
0	15:00	1.09	11.19	18.84	29.99	26.26
		1.06	10.60	17.82	28.38	26.18
	16:00				28.86	23.84
	17:00	1.06	10.69	18.21		
2	18:00	1.05	10.58	18.99	29.53	21.69
10	19:00	1,02	9.79	18.64	28.59	25.15
11	20:00	1.00	11.26	18.42	29.64	23.89
12	21:00	1.02	11.09	17,65	29.30	23.84
13	22:00	1.02	11.72	19:07	30.75	26.21
14	25:00	1.02	11.91	17.73	29.61	23.52
35	00:00	1.02	11.69	18.84	30.48	23.58
16	01:00	0.99	11.90	15,69	30.54	24.27
1.7	82:00	0.99	11.69	17.96	29.61	24.61
18	0.5:00	1.02	11.38	18.64	30.18	22.31
19	04:00	1.05	10.60	17.96	28.52	21.61
20	05:00	1.04	10.19	17.75	27.91	23.26
21	06:00	1.02	10.61	18,97	29.55	22.00
22	67:00	0.99	10.23	17.96	28.15	26.21
23	06:00	1.02	11.26	18.88	30,10	20.12
24	09:00	1.15	10.82	17.63	26.42	22.78
A	erage cutration	1.63	10.89	18.40	29.29	24.11

Lead Field Ogracious

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Green Forts II. Lahore - Pykistan Phases: +90 42 31450916-15,

Islamahad Office: Office No. 204. 2nd Floor, Al-Safa; Office No. 1, Forth Floor, Synds No. Heights, Sector F11/1 Markat











# Ambient Air Monitoring Report

Monitoring Details	
Reference Number	AI(8-233-HC/2020
Sampling Point	Farid Town Park -Sahiwal
Date of Monitoring	09-Dec-2020 to 10-Dec-2020
Sampling Coordinate	30°48'33.5° N 73°05'05.6° E

Parameters .	Units	Monitoring Duration	LDL	Average Obtained Concentration	PEQS
Nitrugen Dioxide (NO <sub>1</sub> )	pgm?	24Hours	1,00	18.40	80.0
Nitroges Oxide (NO)	ager	20 hurs	1.00	10.09	40.0
NO <sub>1</sub>	agin?	24l lours	1.00	29.29	120.0
Sulphur Dioxide (SO <sub>2</sub> )	pg'm'	24Hours	1.00	24.11	120.0
Carbon Monoside (CO)	mp'm'	34Non	10.01	1.03	05.0
Particulate Matter (PM:s)	HE/H <sup>2</sup>	24Hoen	1.00	141.2	150
Particulate Matter (PM <sub>2.5</sub> )	npm1	24Hours	1,00	35.2	35
Total Particulate Matter (TSP)	jigin'	24Hours	1.00	271.6	100

LBG- Louis Departed Laws

PEQS+ Purple Environmental Quality Translates.

agrae" - Maria Green per Mictor Cube



Head Office:

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Office No. 204, 2nd Floor, Al-Safa Office No. 1, Furth Floor, Syech Tower, Heights, Sector F11/1 Markac Manubud - Pakimen

Opposite Custom House, University Road, Pestuavar - Inklatian











## Ambient Nose Monitoring Report

Monitoring Details	
Reference Number	AES-233-HC/2020
Sampling Point	Finid Town Park -Sublivial
Date of Monitoring	99-Dec-2020 to 10-Dec-2020
Sampling Coordinate	30°40'33.5" N 73°05'95.0" E

Sr. No.	Time	Noise dB(A)		PEQS
1	16:00	52		
2	11:00	52		
3 4 5 6 7 8	12:00	53.		
4	13:00	54		
5	14:00	55		
6	15:00	6.1		
7	16:00	53	Day Time	65
8	17:00	51		
9	18:00	50		
10	19:00	40		
11	20:00	47		
12	21:00	47 49		
13	22:00	45		
14	23:00	46		
15	00:00	42		
16	01:00	40		
17	02:00	34:	Night Time	55
18:	.03:00	37	Signe same	1,400
19	04:00	35		
29	05:00	15		
21	06:00	36		
22	07:00	40		
23	08:00	43	Day Time	65
24	109:00	47		

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Read Office:

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Micro No. 1, Forth Floor, Syndy Yours Synolite Custom House. Inventity Road Fechasian - Pallistan













Monitoring Details		
Reference Number	AES-233-HC/2020	
Sampling Point	Chamatzar Park -Subiwal	
Date of Monitoring	(1-Dec-2020 in 12-Dec-2020	
Sampling Coordinate	30°39'57.1° N 73°06'49.3° E	

Se.	Time	CO (mg/m²)	NO (eg/m²)	NO <sub>1</sub> (reg/m²)	NO. (m/m²)	SO <sub>1</sub> (seg/m <sup>2</sup> )
1	10:00	0.99	12.09	18.84	30.93	25.62
2	T1:00	1.00	12.18	17.88	30.06	25.78
3	12:00	1.01	12.20	13.90	30.10	25.81
4	13:00	1.03	12.97	18.00	30.96	25.84
8	14:00	6.97	12.83	18.03	30.87	25.94
	1.9.00	0.96	53.18	18.82	32.00	25.97
+	16:00	0.97	13,14	18.19	31.33	25.60
	17:00	1.02	13.33	18.32	31.65	25.78
	1.92 (04)	1.03	13,14	18.82	31.96	24.35
10	19:00	1.03	12,90	17.42	30.41	25.92
XX.	20.00	1.00	12.97	17.56	30.52	25.04
12	21:00	0.99	13,62	18.82	32.44	25.94
13	22:00	0.96	14.10	18.00	32.09	25.07
14	23:00	0.97	14,04	18.80	32.84	24.51
15	00:00	1.02	15,09	18.82	33.91	25.62
16	04:00	1.03	14.69	18.63	33.32	24.32
17	02:00	1.03	13.37	18.84	32.21	24.51
18	03:00	1.03	13.35	18.80	32.15	24.32
17	04:00	1:00	13.14	18.76	31.90	24.27
28	05:00	0.96	13.60	18.82	32.42	24.56
25	06:00	0.96	13.69	18.44	32.13	26.58
22	07:00	1.00	14.08	18.46	32.53	26.50
2.3	08.00	1.01	13.88	18.30	32.19	25.62
24	09:00	1.02	13.79	15.30	32.59	26.05
A	verage entration	1.00	13.39	19.42	31.81	25.36

Lead Field Operations

App 7 of 1

Mand Office: Saurrant, C.S., Bellum Blick, Green Force S. Lafeine: Heliotze Plannet: +92-42-35459914-15. telamakad Office: Office No. 204, Just Floor, Air Sufa Hospins, Sector FTT/1 Marker Hospital - Pakiston

Pechanian Office: Office No. 1, Forth Fillion, Synds Tower, Opanish Custom Hause, University Road, Pediawan Fallinian















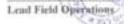
Monitoring Details	
Reference Number	AES-233-HC/2020
Sampling Point	Chamanzur Park -Subiwal
Date of Monitoring	11-Dec-2020 in 12-Dec-2020
Sampling Coordinate	30°30'37.1° N 73°06'49.5° E

Parameters	Units	Monitoring Duration	LDL	Average Obtained Concentration	PEQS
Sitrogen Dioxide (NO <sub>1</sub> )	hillin,	24Hours	1.00	19.42	\$11.0
Nitrogra Oxide (NO)	$\mathrm{HE}\mathrm{JM}_{\mathrm{p}}$	24theurs	1.00	13.39	40.0
NO.	$\mu g/m^*$	34Hours	1.00	31.81	128.8
Sulphur Dioxide (SO <sub>1</sub> )	$\mu g/m^2$	24Hours	1.00	29.36	120,0
Carline Menoside (CO)	ing/m <sup>4</sup>	24Hours	0.01	1.00	65.0
Particulate Matter (PM10)	$\mu g/m^{\gamma}$	24thours	1.00	129.6	1390)
Particulate Matter (PM <sub>1.0</sub> )	$pg/m^2$	240 lowers	1.00	35.9	35
Total Particulate Matter (TSP)	jugin)	24Hnirs	1.00	281.5	5(6)

EBLy Lone Depoise Lore

PEQN- Purply Free commental Quality Translation

paginal in Administration (Driver part Market Civile)





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Office No. 254, 2nd Floor, Al-Safe Inceptor, Sector ETUT Marked Internation - Pakisters

Peshawar Office: Office No. 1, Forth Floor, Symto Towns, Opposite Custom House. University Road Prohase: - Falcition.













Monitoring Details	
Reference Number	AES-233-00C/2020
Sampling Point	Chamanzur Park -Sahiwal
Date of Monitoring	11-Dec-2020 to 12-Dec-2020
Sampling Coordinate	30°39'37,1° N'73°09'44,5° E

Sr. No.	Time	Noise dB(A)		PEQS
- 1	10:00	51		
2	11:00	47		
2 3 4 5 6	12:00			
4	15:00	53 48 47 52		
5	14:00	47		
6	15:00	52		
7	16:00		Day Time	65
8 9 10	1.7:00	60 58 35 49 45		
9	18:00	55		
10	19:00	49		
11	20:00	45		
12	21:00	44		
13	22:00	39		
14	23:00	37		
15	00:00	36		
16	01:00	40		
17	02:00	37	Night Time	
19	03:00	41.	Getflur rinne	55
19	64:00	++		
20	05:00	47		
21	06:00	50		
22	07:00	62		
2.3	08:00	57	Day Time	65
24	09:00	55		

Lead Field Operations

Office No. 204, 2nd Floor, Air Safa Heights, Sector FT171 Markee Hillersthad: - Faktatee (Weensity Road), Pechaniar - Faktatee





Baument, C.S., Pelson Block, Green Forts R.Lahore - Felicition Phones +52 42 3143(614-13).









Sample Detail				
Belermor So.	AES-233-HC(2020)	Reporting Date	21-12-2020	200
Nature of Sample	Drinking Water	Sampling Method Reference	ADVIANQUEUIA	DESCRIPTION OF THE PERSON NAMED IN
Grah/Composite	Grah	Sample Collected by Sent By:	AES	The Part of the
Sampling Date	(9)-12-2020	Sample Receiving Date	10-12-2020	III CONTINE
Analysis Completion Date	18-12-3020	Lab Temp & Hamidity	25.5 °C & 55.5s	100000
Ambient Temperature & H	ussidity at the Time of	Champling	2610 (6.61%)	A SECOND
Nample ID Client Dytail	AES-DW-154-2626 M/S HCS-MASTIC-	Sampling Lucation IV	Farid Town Park.	

Drinking Water Analysis Results							
Parameter	Analysis Method	PEQS	Result	MU. (CL95%)	Remarks		
Lab Analysis							
Color*	5MWW 2120 C	218 FCU	9.0	N.A.	Opinal		
Tanté <sup>4</sup>	SMWW 2166 C	Non-Objectionship	Non-Observable	N.A.	Optional		
Chiter*	SM(WW 2156 B	Non-Objectionable	Non-Objectionable	N.A.	Optimal		
Turbiday*	SMWW 213030	4.5 NTU	0.0	N.A.	Oytinul		
Total Hardness (se CaCOs) **	SMWW 25#FC	<.500 mg/L	94	14.0 ±	Option		
Total Dissolved South (TDS)**	SMWW 2548 C	~:1000 mg/L	192	= 1.16	Optimal		
lills+	SMWW-4980 H* B	6.5-6.5	7.20	0.00	Optimal		
Alumnum (Al)	SMWW3111.0	± 8.2 mg/L	10.005	N.A.	Oysina		
Antimate (Sh)	SMWW 3114.B	≤ 8.005 mg/L	+0,005	NA.	Optimal		
Arramic (A10	SMWW.SIMB	1 81.65 mg/L	9,906	N.A.	Optimal		
Barton (Bai	SMWW HILLS	6.7 mg/L	0.021	N.A.	Optimal		
Boson (B)	SMWW3(13.0)	0.2 mg/l	0.029	N.A.	Optional		
Cadminer (Cit)	SNEWW 3113 B	titlings.	+0.00%	NA.	Option		
Charide (CT) **	SMWW 4500 CT B	+ 259 mp1.	9.2	±0.61	Optimal		
Classium (Cr)	\$MWW3113.B	≤Rith mg/L	10,001	N.A.	Option		
Ciaper (Ce)	SSEWW 3111.8	28 mg/L	0.0164	N.A.	Optimal		
Cyanida (CNY)*	SMWW-4500-CSCT	Sittle mg/L	0.0	NA.	Optional		
Placetale (9'3"	SMWW 4500 F C	£1.5 mp%.	0.0	N.A.	Optimal		
Lead (Ph)	5MWW3114.8	5.0.01 mg/L	+0.005	NA.	Opional		
Manganese (Mrs	SMWW3113 II	53.5 mg/l	<0.015	NA.	Optimal		
Mineury (Hg)	SMWW31111 B	<0.001 mg/L	-0.001	NA.	Opposed		
Nickel (Ni)	SWWW.3113.B	18.02 mg/L	-0.02	NA.	Optimal		
Nitrate (NOs) *	SWWW 4500 NOV B	±30 mg/L	0.0	NA.	(bemul		
Nimite (NO): 5*	SMWW 4500 NOS- 18	110 mg/L	0.0	NA.	Openial		
Schmiss (Sci	5MWW 3114 B	0.07 mg/L	-0.01	N.A.	- diproval		
Hevidual Chloring (Cl.) *	554WW-4500 CT B	0.5 mg/5	0.0	NA.	Optimal		



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Sample Detail				
Reference No.	AES-233-HC/2929	Reporting Date	21-12-21(0)	The state of the s
Nature of Sample	Drinking Water	Sampling Method Reference	AENEMBORPHIA	In RESIDENCE ADDRESS.
GradeComposite	Grah	Sample Collected by Sent By	AES	THE RESERVE
Nampling Date	(91-12-2020)	Sample Receiving Date	10-12-2020	THE R. P. LEWIS CO., LANSING
Analysis Completion Date	.16-12-2020	Lab Temp & Humidity	255 YC & 55 %	A STATE OF THE PARTY OF THE PAR
Ambient Temperature & H	unsidity at the Time of	of Nampling	20°C & 61 %	· 作用 · · · · · · · · · · · · · · · · · ·
Sample ID Class Datail	AES-DW-151-2028 MS-1605-MASSTRO	Sampling Location	Farid Town Park	The second second

Drinking Water Analysis Results								
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks			
Phonelic Comprends (as Phonelic) *	5MWW 5530 E	503/5	8.0	NA.	Options			
Zina (Zin)	SMWW JIJJ II	5.0 mg/L	0.054	30%	Optimal			
Microbiological Analysis								
Total Coliforno*	SMWW 9222 B	87 HR od. CPU	- 0	NA.	Optional			
Fixal Colliforms *	5MWW 9222 D	87 100 mL CFU	0	NA.	Options			

<sup>&</sup>quot;Parameters are approved their Purial Environment Protection Agency.

#### Abbreviations:

PEQS - Purple for increase Orable Standards. VCD = Total Cities Cities.

NOT a Suplement Turkship Con-

Remarks: Complete with Permissible Keeps Law + Low That Permissible Regio SAWWW - Standard Minimis for the or on of Warst and Warstweet (DV = Callety Streng Delt.

ME - Management Constraints Warmen - Chief to Extreme Edge WENT - No Condition Value Not

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<sup>\*\*</sup>Parameters are accredited from Pakintan National Accreditation Crossall.







Sample Detail	NAME OF STREET			Name of the Owner, where the Parket
Methyonic No.	A89-253-HC:2020	Reporting Date	21-12-2001	
Nature of Nample	Disking Water	Sampling Method Reference	AUSTIMSQNP-014	W.
Geshi Composite	Cirolis	Sample Collected by Sent Ry	AES	
Sampling Bare	09-12-2929	Sample Berriving Date	10-13-2031	
Analysis Completion Bute	19-12-2029	Lab Temp & Hamidity	25.5 °C & 55%	
Andrient Temperature & fl	lumidity at the Time i	d Sumpling	260,814.20	10th 2
Sample III Client Besull	AUS-DW-155-2020 MIS-HCS-MASTIC-	Nampling Location IV	Faich Shot Park	

Drinking Water Analysis Results								
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarko			
Lab Analysis	-36/32/0			WOLLAND A.				
Critic <sup>4</sup>	SMWW2120 C	= 15.3CX	0.0	N.A.	Option			
Tisk*	SMWW2166.0	New Objectionable	Non-Objectionable	NA.	Opinion			
Olor	SMWW 2170 B	Non-Objectionable	New Objectionable	N.A.	6 bylocol			
Tiehido*	SMWW 2130 B	<350U	0.6	N.A.	Optime			
Total Hardworr (in CiCOs) **	SMWW 2340 C	< 900 mg/L	188	a:0.6E	Ominul			
Total Dissolved Solids (TDS)**	SMWW 2580 C	< 1000 mg/L	326	= 1.16	Option			
pip+	SMWW 4500 IF B	6.5-8.5	3.48	± 0.60	Opposit			
Alaminum (Al)	\$50WW3111.8	stillings.	-0.007	N.A.	Optimal			
Astinony (No	SMWW311438	<0.000 mg/L	-0.009	NA.	Desirol			
Arienic (Aid	SMWW-3114 B	5 8 01 mg/L	0.009	N.A.	Openul			
Haram (Ha)	SMWW31128	6.7 mg/L	9.621	N.A.	(Ignisial)			
Biome (B)	SMWW 3113-B	R3 mg1	0.021	N.A.	Optimal			
Cudmium (Cd)	SMWW3H3B	0.01 reg1.	-0.006	N.A.	Option			
Chloride (C1) **	SMWW 4500 CFTS	<250 mg/L	122	18.0 =	Option			
Chronium (Cri-	SMWW 3113.B	: 000 mg/L	-0.086	24,4	Optimal			
Cieper(Cir)	5MWW3111.0	2.0 erg/L	0.0164	NA.	Optimal			
Cyanida (CN) (*	SMWW 4500 CNT	Ligo BUE2	5.6	NA.	Options			
Fluoride (F)*	SMWW 4500 F C	≤1,5 ing/L	4.6	34.8.	Openud			
Look (Pho	SMWW3TH/B	1305 ept.	-0.005	35.3.	Optional			
Mangarusy (Mrs)	5MWW3113.B	.≤9.5 mgT	-0.007	N.A.	Options			
Moyery (Hg)	SMWW311438	SHIPTINGS.	<0.001	31.8.	(Ipinul			
Nidal (Nii	SMWW3112.B	:Fam 1930;	-842	NA.	Opend			
Nitrate (NO/3*	SMWW 4380 363v III	5.00 mg/L	0.0	NJ.	Optional			
Name (NOV) *	SMWW-4590-360y-38	=3.8 mg/L	0.0	36.36	Optimal.			
Sclesion (Sci	SMWW 3114.0	fill reft.	-10.01	30.6	Optional			
Besided Chierine (Clair	SMWW-4500 CY B	0.5 mg/s.	6.0	NA.	Option			



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Sample Detail	1 - 400			
Bafereres No.	AES-233-HC/2928	Reporting Date	21-12-2020	STATE OF THE PARTY
Nature of Nample	Drinking Water	Sampling Method Reference	AUSTAINQUEURI	WE.
CardyComposite	Ursh	Sample Collected by Sent By	Al'S	E Buc
Sampling Date	09-12-2020	Sample Receiving Date	19-12-2929	The same of the sa
Awalysis Completion Date:	18-12-2020	Latt Temp & Humidity	25.5 °C & 35.54	To the latest and the
Ambient Temperature & D	untility at the Time	d Nampling	26°C & 61.%	CONTRACTOR OF THE PARTY OF
Nample 10 Client Detail	ALS-DW-151-2009 MIS-DES-MASTIC-	Sampling Location	Earth Shor Park	

Drinking Water Analysis Results								
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks			
Phonolic Congruents (m. Phonolis *	5MRW 5536 D	SGVS	8.0	N.A.	Optimal			
Einci (50)	SMWW-3113.II	3.0 mg/L	0.092	NA:	Chalme			
Microbiological Analysis								
Total Collinson*	SMWW HZZZ III	BY 100 to L. CTU	0	- NA	Option			
Freal Coliforns *	5MWW 9222 D	@ 100 ml_CFU		2.4	- Optical			

<sup>\*</sup>Parameters are approved from Paulah Environment Probation Agency-

#### Abbreviationa

PRQS - Page 1 (accessed (bull) 163 - Tree I der Lain 161 - September 1 (all-dig 1 ad

Remerlor

Historia + Congligate with Personality Range Law + Law Than Personality Range

SMWW - Decided Sint N.A. - Not Foolidie

MF v Klassonovi Co. Marginal + Close to Comple Differ REPR. - National State for

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<sup>\*\*</sup>Parameters are accredited from Polician National Accreditation Council.





Sample Detail		NAME OF STREET		
Reference No.	959-533-98C3836	Reporting Date	21-12-2020	
Nature of Sample	Drieting Water	Sampling Method Balancies	AUVEMB/QSF-014	
Grad/Composite	Graft	Sample Collected by Sent By	AIS	B. Committee
Sampling Date	69-12-2020	Sample Receiving Date	19-12-2029	STATE OF THE PARTY.
Analysis Completion Date	19-12-2929	Lab Timp & Hamidity	25.5 °C & 55 %	STATE OF THE PARTY OF
Ambient Temperature & B	broidly at the Time is	d Sampling	20°C & 61.%	18 mm
Sample ID Client Detail		Nampling Location	Clamatur Park	

Drinking Water Analysis Results							
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks		
Lab Analysis	9			Activida in the second			
Color*	5MWW.2120-C	83030U	0:0	- NA.	Optimal		
Tant*	SMWW2866	Non-Organizable	Non-Objectionable	-NA	Optimal		
(ldor*	SNIWW 2150 B	Non-Organization	New-Observable	N.A.	Optimal		
Turbidity*	SMWW.2130.B	<3 NIU	0.0	N.A.	Opinul		
Total Hardren (ur CaCOs) **	5MWW 2340.0	= 100 mg/L	148	10.0 =	Optional		
Total Dissolved Solids (TDS2**	SMWW 2540 C	< 1000 mg/L	- 4%	0.1.16	Optimal		
16304	SMWW-8500 H: B	6,5-8,5	7.66	± 0.00	Openal		
Aluminum (Al)	5MWW3111.B	±9.2 mg/L	-0.005	NA.	Dyridual		
Autimory (Sh)	SMWW3H4B	53005 ing/L	-0.005	NA.	OyGest		
Americ (As)	5MWW311418	≤ 0.05 mg L	3.996	N.A.	Optional		
Bariso (ha)	SMWW31118	0.7 mg/L	8.021	NA.	Deimil		
Doven (B)	SMWW3113.0	(C) mg/l	9.025	- N.A.	Optimal		
Cadmine (Cil)	SMWW31138	9.01 mg/L	-0.006	N.A.	Optimal		
Obinda (C1) **	SMWW-4800-CF III	# 250 eg L	112	+ 0.63	Llytjest		
Clarentien (Cr)	SMWW3113.0	≤0.85 mg/L	-0.004	N.A.	Optional		
Copper(Co)	SMWW3111B	2.0 mg/L	0.0164	N.A.	Optional		
Cyanide (CN)*	5MWW-4100 CW F	≤ 0.05 mg/L	6.0	N.A.	Optical		
Placeide (F) <sup>a</sup>	SMWW 4500 F C	≤1.5 mg/L	4.0	NA.	Optional		
Lead (Ph)	SMWW3114B	± 0.05 mg/L	10.003	N.A.	Optical		
Manganose (Miti	SMWW3113.B	≤0.5 mgT	+B.605	N.A.	Optional		
Minury (Flg)	SMWW-3114-B	statilest.	-0.101	N.A.	Elytimal		
Nichel (Nik	SMWW.3113.8	±0.02 mg/L	-0.03	N.A.	Options		
Name (NO) *	55fWW-8580 NOV-8	≤50 mg/L	0.0	N.A.	Option		
Nimio (Nille)*	SMWW 4500 NO; B.	13.0 mg/L	6.0	N.A.	Optional		
Schnism (Sc)	SMWW 3114 B	0.01 mg/L	-0.01	N.A.	Optional		
Funidad Ottorius (Cl.)*	SMWW 4500 CE B	0.5 mg/L	0.0	N.A.	Upbrul		

Decision No. A2315.M65904-111, One of Sent 22 Sent, 2023. Revision No. 10.

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Sample Detail				
Heference No.	A65-233-00C2928	Reporting Date	21-12-2020	
Sainte of Sample	Drinking Water	Sampling Method Behruner	AES/EMB/QSP-014	0
Grab/Composite	Orah	Sample Callested by Sent By-	AES.	
Sampling Date	89-12-2020	Sample Receiving Date	10-12-2020	STATE OF THE PARTY
Analysis Completion Date	18-12-2020	Lab Temp & Humidity	25.5 °C 8/35 %	THE RESERVE
Ambient Temperature & H	amidity at the Time of	f Sampling	26°C & 61.76	100 mm
Sample ID Client Detail	AES-DW-136-2020 MS-HCS-MXSTIC-		Chaminop Park	

Drinking Water Analysis Results								
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks			
Phonella Compostali (in Phonella *	5MWW 5530 D	500%	9.0	NA.	Optional			
Zinc (201)	5MWW3113.8	5.6 mg/L	0.051	36.A.	Options			
Microbiological Analysis								
Total Colliness*	SMWW 9222.81	0/100 nd, CTU		NA.	Optional			
Foral Critismo *	SMWW 9222 D	0/100 mt. CFU		N.A.	- Uptimal			

\*Parameters are approved from Purply Emissionance Protection Agency

#### Abbreviations:

PEON - Paul Sieves N. K. - Jose Cidor Core

SVIII v Napidomenio, Taritalia Unio

Remarks:

Long - Long Stance with Personal National Longo

et of Water and Waters and CFU + College Samung Unit NGVN - You Contailing Valles Set SMWW = Separated Shallouts for the or N. N. = Son Symbolic MC = Schumenmer Uncompany

High - Daniel State Francisco States

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Dispensive Castern stern.









<sup>\*\*</sup>Parameters are provedited from Publisher National Asymphistics Council.





Sample Detail	A STATE OF THE PARTY OF THE PAR			
Reference No.	A89-237-00/2020	Reporting Date	21-12-2808	Direction of the
Nature of Sample	Warst Water	Sampling Method Reference	AESEMBIQSP-014	March 1
GodeComposite	Grah	Sumple Collected by/Seet By:	AUS	ST. LANSON
Sampling Date	89-12-2020	Sample Receiving Data	10-12-2028	40.00
Analysis Completion Date	19:13-3039	Lab Temp & Homidity	25.5°C & 55%	(6) L. (2) (3)
Ambient Temperature & H	emplify at the Time of	Sampling	20°C & 41%	and the second
Stample 10 Client Detail	AES-WW-LT7/2020 MS HCS-MASTIC-F	Nampling Location	Field Town Park	

	Wastewater Analy	sis Results	3	2000	
Parameter	Analysis Method	PEQS	Result	(CL95%)	Remarks
Lab Analysis					
pite	SMWW-4500 H1 II	6-9	7.18	± 0.60	Optional
Biochemical Oxygen Demand (BOOs) *	SMWW-5210-B	80 reg/L	1.	NA.	Oprimal
Chamical Oxygen Donard (COD)*	SMWW 3220 B	150 mg/L	17	N.A.	Optional
Total Noopended Solida (TNS)*	SMWW-2540:D	200 mg/L	162	N.A.	Optional
Total Dissolved Solids (TDS)**	SMWW-2340 C	3500 mg/L	218	4.1.16	Optimal
Physiolic Compounds (as Phonols) *	8MWW-5530 D	0.J.mg/L	-0.0	N.A.	Optimal
Greate and OR*	USEPA 1664 B	10 reg/L	0.0	50A.	Ogumul
Chlorida (CT)**	SMWW-4500-CI-B	1000 mg/f.	9.2	A 0:61	Operat
Fluoride (F')*	SMWW-4500 F+ C	10 mg/L	0.0	36.6.	Optimal
Cyanide (CN)*	3MWW 4500 CN-F	1.0 mg/L	0.0	N.A.	Optional
An-ionic Determents (as MBAs) *	SMWW-5540-C	20.0 mg/L	0.0	N.A.	Optimal
Sullaw (SO <sub>5</sub> <sup>1</sup> ) *	SMWW 4500 5042 C	600 mg/L	38	N.A.	Optional
Suiffde (5°) *	5MWW 4300 5° F	1.0 mg/L	0.0	76.6.	. Optimal
Ammonia (NHs) *	55/fWW 4500-NH; D	40 mg/L	0.0	NA.	Optimal
Cadmium (Cil)	8MWW3113 B	.Paper.LO	8.005	N.A.	Optimal
Chromium (Cr)	SMWW 3113 B	1.0 mg/L	0.08	N.A.	Ogtimal
Cupper (Cit)	SMWW3313-B	L0 mg/L	0.766	N.A.	Optimal
Leist (Ph)	SMWW-3113-B	0.5 mg/L	8.006	N.A.	Optimul
Marcary (Hg)	SMWW3012-B	0.81 mg/L	0.001	18.A.	Optimal
Selesium (Sc)	SMWW 3114 B	0.5 mg/L	<0.01	NA.	Opticial
Nickel (Ni)	SMWW3313/B	1.0 mg/L	0.02	8.5	Options
Silver (Ag)	SMWW3113.B:	1;0 seg/t.	0.09	N.A.	Optimal
Total Toxic Metals	Calculated Value	2.0 mg/L	0.515	N.A.	Optional
Zinc (Zn)	SMWW.3111/B	3.0 mg/L	.0.049	76.6	Optious
Americ (Ac)	SMWW.3114.B:	Pass 0,1	0.87	NA.	Ogtimal
Barium (Da)	SMWW 3113 B	_1.5 mg/L	9.037	NA.	Optimal

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Sample Detail				
Helerener No.	AES-233-HC3926	Reporting Date	21-13-2036	W. 196
Nature of Sample	Want Water	Sampling Method Reference	ADVIMI/QRP4HT	Market Co.
Grahi/Composite	Grah	Sample Collected by Sent By	AUX	480
Sampling Date	09-12-2029	Sumple Hassiving Date	(0)-12-2020	CONTRACT OF
Analysis Completion Date	19-12-2020	Lab Temp & Humidity	25.5°C @ 55%	Charles House
Ambient Temperature & H	amidity at the Time of	Sampling.	20°C 45.61%	- F- W. C. C.
Sample 101		Sampling Location	Farid Tirest Perk	-
		Sampling Location		Sec.

5 75 1	Wastewater Analysis Results					
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks	
linn (Fe)	53/WW 3113 B	8.0 mg/L	2.01	N.A.	Optimal	
Manganese (Mn)	SMWW 3111 B	1.3 ng/L	0.016	N.A.	Optimal	
Borot (B)	5MWW3113 B	6.0 mg/L	0.03	N.A.	Optimal	
Residual Chlorine (Cl.) *	524/WW-4500 CI- B	1.0 mg/L	0.0	NA.	Cprimal :	

<sup>\*</sup>Parameters are approved from Purple Environment Protection Agency

#### Abbreviations:

PERS - Polisis Environment (Parlin; Franchish ENRES - Contact States Environment Polisistics Agency

Remarks: Francis Constant with Permission Engir Earl - Lon Day Pursiado Yang SMOOTH + Description of the N.A. white Available

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<sup>\*\*</sup>Parameters are acceptional flow Published National Assemblation Council.





Sample Detail	Maria and and			
Reference No.	AES-230-19072626	Reporting Date	21-43-3020	OR THE PERSON NAMED IN
Nature of Sample	Windy Water	Sampling Method Reference	AES/LMS/QSP4II4	ALC:
GrafeComposite	Linit	Sample Collected by/Sent the	AES	The same of the sa
Sampling Date	69-12-2029	Sample Bucciving Date	19-17-2929	100000000000000000000000000000000000000
Analysis Completion Date	19-12-2020	Lab Temp & Humidity	25.5°C & 55%	AND DESCRIPTIONS
Author Temperature & H	assisting at the Time of	Nompling	2010/01/01/05	Control of the last
Sample (D Client Detail	MINIWW-HINDSON	Sampling Location	Eurob Shor Park	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

	Wastewater Analy	astewater Analysis Results			2000
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks
Lab Analysis					
Mile.	SMWW 4500 H° B	6-9	7.56	1.0.66	Optimal
Biochemical Oxygen Demand (BODs) *	SMWW-3210-B	B0.mg/L	-11	NA.	Optimal
Chemical Oxygen Demand (COO)*	5MWW 5220 B	150 mg/L	22	N.A.	Optional
Total Suspended Solids (TSS)*	SMWW 2540 D	200 mg/L	172	S.A.	Options
Tittal Dientherd Solids (TDN)**	SMWW 2540 C	3500 mg/L	1066	+ 1.16	Optimal.
Phonolic Compounds (as Phonols) *	SMWW 5330 D	.f.gm 1.0	0.0	NA.	Chitianal.
Grope and Oil*	USEPA 1664 B	10 mg/L	0.0	N.A.	Optional
Chloride (CT)**	5MWW 4500 CI- 8	1999 mg/L	18.	± 9.61	Optional
Flaorida (E')*	SMWW 4500 F- C	10 mg/L	0.0	N.A.	Optional
Cyanide (CN )*	5MWW-4500 CN- F	1.0 mg/L	0.0	SA.	Christal
An-ionic Determents (as MRAs) *	SNEWW 5540-C	28.0 mg/L	0.0	NA.	Chaineal.
Sulfate (SOs/1) #	SMWW-4300-30x-1C	400 mg/L	.46	NA	Optimal
Sulfide (S <sup>1</sup> ) *	SMWW 4500 5 ° F	1.0 mg/L	0.0	N.A.	- Optional
Ammonia OGEst *	SMWW 4500-NH, D	40 mg/L	0.0	N.A.	Optimid
Cadmium (Cd)	SMWW-3113-18	.Fgm 1.0	-0.006	N.A.	Christian
Chromium (Cr)	- SMWW 3113 B	1.0 mg/L	0.09	NA.	Chatterial.
Copper (Ca)	5MWW 3113 B	1.0 mg/L	0.165	N.A.	Optimal
Lead (Ph)	5MWW 3113 B	11.5 mg/L	0.006	NA.	Chitomail
Mercury (Hg)	SN/WW 3112 B	0.01 mp.1:	0.001	N.A.	Optimid
Sclenium (Sc)	SMWW-3114 B	0.5 mg/L	10.00	N.A.	Ciprismal.
Nickel (Ni)	SMWW 3113 B	Lges 0.1	0.026	NA.	Chatinesi:
Silver (Ag)	5MWW3113.B	1.0 mg/L	0.06	N.A.	Optimal.
Total Yoxic Metals	Culculated Value	2.0 mg/L	0.354	NA.:	Optimal
Zine (Zn)	5MWW.3111.B	5.0 mg/L	0.055	NA:	Optimal
Arsenic (As)	SMWW.3114.B	1.0 mg/1.	0.09	N.A.	Chytimal
Norium (Ru)	-SMWW3113-B	Limpl	0.038	N.A.	Optimal



Diseases No. AGNA MINERALIST, Date of Stone 27 June, 2020, November No. 00

Green Forts II, Lahore - Polistan Phones: +RS 42 35450914-15.

Internatived Office:

Heights, Sector F15/1 Marker Morrebad - Pakisten

Prohawar Office: Office No. 204, 2nd Floor, At Safa Office No. 1, Forth Floor, Syeds Tower,









Sample Detail				
Heference So.	AES-213-HC/2020	Reporting Date	21-12-2120	ALC: NO PERSONS
Nature of Sample	Waste Water	Sampling Method Reference	ADMINISTRATION .	As .
Grade/Composite	Goth	Sample Collected by/Sort By	AES	
Sampling Date	(9)-12-2029	Sample Receiving Date	10-12-2929	The state of the s
Analysis Completion Date	18-12-2020	Lab Temp & Humidity	25.5°C & 25%	STATE OF THE PARTY OF
Andrient Temperature & H	untility at the Time of	Nampling	2010/0.02%	Charles Brown
Nample 10 Client Betail	AES-WW-159/2020 MS-00/S-AEAS-DC-2	Nampling Location	Eurob Stee Park	

NO. 25	Wastewater Analys	sis Results		Vacable -	
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks
Iron (Fg)	5MWW 3113 B	1.0 mg/L	2.24	N.A.	Optional
Manganere (Mn)	SMWW 3111.B	1.5 mg/L	0.019	N.A.	Optimal
Boron (B)	SMWW 3113 B	5.0 mg/L	0.042	N.A.	Optimal
Residual Chlorine (Cl.) *	SMWW 4500 CI- B	1.0 mg/L	0.0	N.A.	Optional

<sup>\*</sup>Patamotors are appeared from Purph Taxoronnest Protection Agency.

#### Abbreviation:

PEON + Passit Favorence (Indits Stredarb XSEPA - Cotal State Conference Properties Sys

N. L. - Nat Position

Remarks:

Figure - Compliant with Permittle Bergs East - Lots Dan Permittells Bergs

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#### Report Disclaimes

Amilyzed By

- Shic report shall not be reproduced in perspective. The prevaled seaths soften only to the energic prevaled is flacted

Approved By (QM)

(TM)

Reviewed By

End of Report-

Ensurant No. ACSEMBERSH 101 Date of losse 22 June, 2021, Revision No. 60.

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Islamshed Office:

Islamatian - Palityton

Peshawar Office:

Office No. 204, 2nd Floor, Al-Safa Office No. 1, Furth Floor, Syeth Yours, Heights, Sector F11/1 Marker Opposite Custom House, Opposite Custom Hissies, University Road Perhanas - Palistan





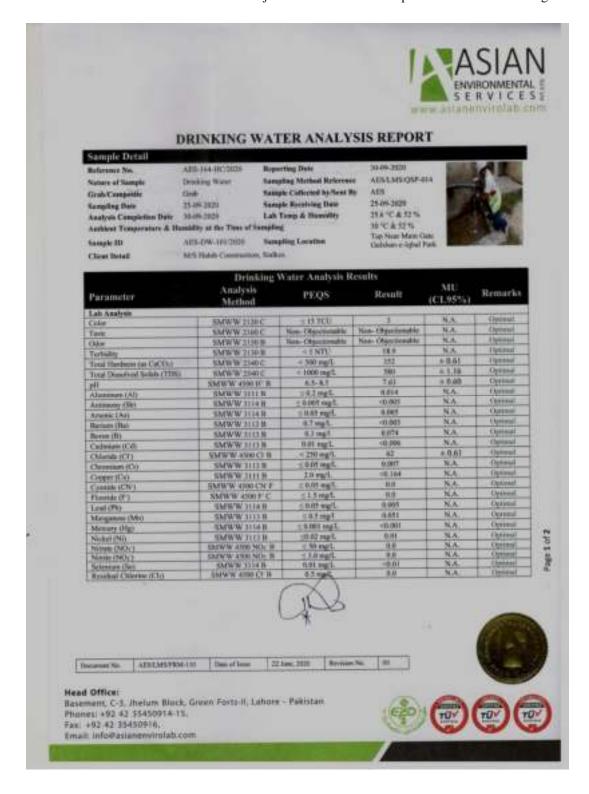




<sup>\*\*</sup>Parameters are accredited from Pakistan National Accreditation Council.

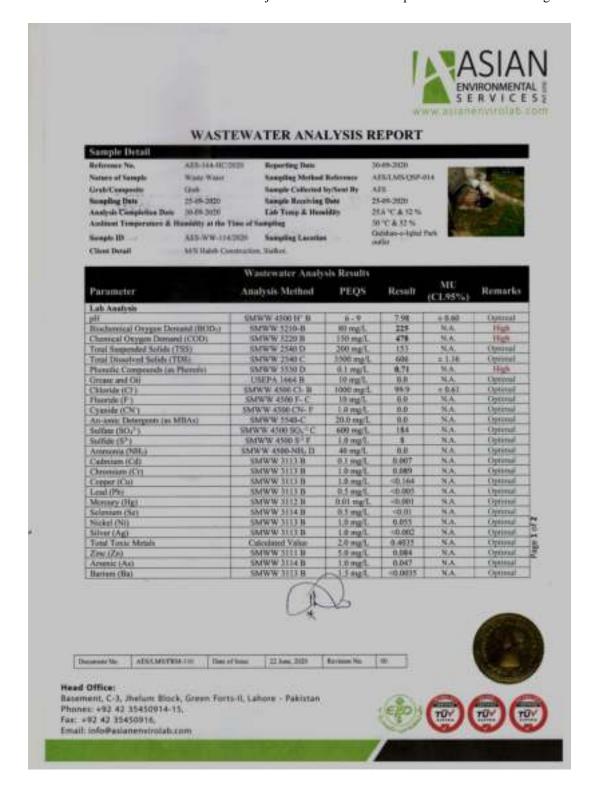
### Appendix B: Sialkot Parks:- Environmental Test Result Reports 3<sup>rd</sup> & 4<sup>th</sup> Quarters





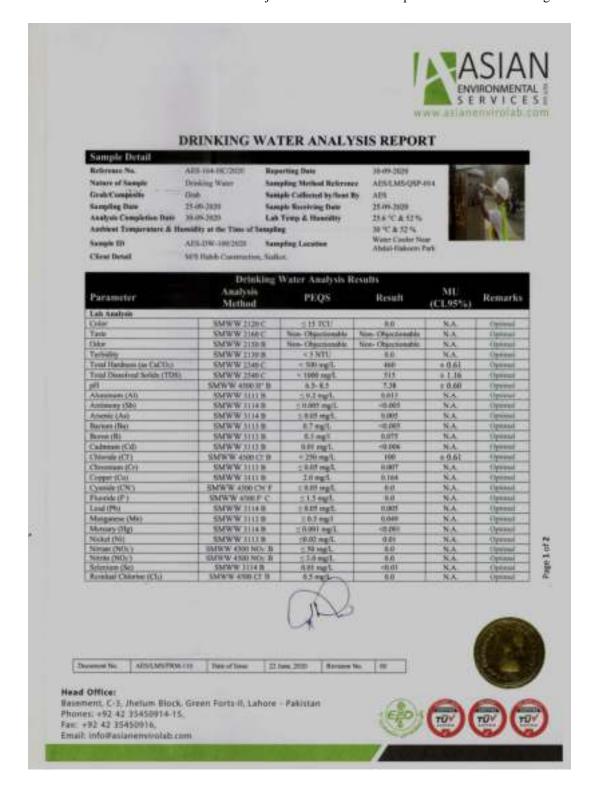
















Monitoring Details		
Reference Number	AES-252-10C/2020	
Sampling Point	Gulshan-E-lqfsal Park-Suilkot	
Date of Monitoring	31-Dec-2020 to 01-Jan-2021	
Sampling Coordinates	32"28'30.7" N 74"33'04.7" E	

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14 03.30 0.78 11.46 19.93 31.34 26.58 15 04.30 0.77 11.19 19.97 31.11 26.56 16 95.30 0.78 10.61 19.93 30.50 25.15 17 06.30 0.77 11.23 19.32 30.50 26.21 18 07.30 0.77 11.29 19.91 31.06 26.58 19 08.30 0.77 11.26 19.93 31.15 24.51 28 09.30 0.77 11.30 19.32 30.58 24.58 21 10.30 0.72 11.38 19.53 30.87 24.69 22 11.30 0.73 11.48 19.53 30.16 26.32 23 12.30 0.73 11.44 19.32 30.71 25.78 24 13.30 0.73 11.44 19.32 30.71 25.78 24 13.30 0.73 11.44 19.32 30.71 25.78 25 Average 0.77 11.10 19.79 18.89 25.26	1.2	01:30	0.78	10.69	19.79	30.45	24.91
15 04:30 0.77 11.19 19.97 31.11 26.56 16 05:30 0.78 10.61 19.95 30.50 25.15 17 06:30 0.77 11.23 19.32 30.50 26.21 18 07:30 0.77 11.19 19.91 31.06 26.58 19 08:30 0.77 11.36 19.93 31.15 24.51 28 09:30 0.77 11.36 19.93 31.15 24.51 29 09:30 0.77 11.38 19.52 30.58 24.58 21 10:30 0.72 11.38 19.53 30.87 24.69 22 11:30 0.73 10.67 19.53 30.16 26.32 23 12:30 0.73 11.44 19.32 30.71 25.78 24 13:30 0.73 11.44 19.32 30.71 25.78 24 13:30 0.73 11.44 19.32 30.71 25.78 25 Average 0.77 11.10 19.79 18.89 25.56	13	02:30	0.78	10.67	19.91	30.54	26.21
16         95/30         9.78         10.61         19.93         30.50         25.15           17         06/30         0.77         11.23         19.32         30.50         36.21           18         07/30         0.77         11.23         19.91         31.06         26.58           19         08/30         0.77         11.26         19.93         31.15         24.51           20         09/30         0.77         11.30         19.32         30.58         24.58           21         10/30         0.72         11.38         19.53         30.87         24.69           22         11/30         0.73         10.67         19.53         30.16         26.32           23         12/30         0.73         11.44         19.32         30.71         25.78           24         13/30         0.73         11.38         20.02         31.36         26.50           Average         0.77         11.10         18.29         18.89         25.26	14	03.30	0.78	11.46	19.93	31.34	26.58
17 06-30 0.77 11.23 19.32 30.50 26.21 18 07.30 0.77 11.19 19.91 31.06 26.58 19 08.30 0.77 11.26 19.93 31.15 24.51 29 09.30 0.77 11.30 19.32 30.58 24.58 21 10.30 0.72 11.38 19.53 30.87 24.69 22 11.70 0.73 10.67 19.53 30.16 26.32 23 12.30 0.73 11.44 19.32 30.71 25.78 24 13.30 0.73 11.44 19.32 30.71 25.78 24 13.30 0.73 11.44 19.32 30.71 25.78 25 Average 0.77 11.10 19.79 18.89 25.26	15	04:30	0.77	11.19	19.97	21.11	26.56
18 07:30 0.77 11.19 19.91 32.06 26.58 19 08:30 0.77 11.26 19.93 31.15 24.51 28 09:30 0.77 11.30 19.32 30.58 24.58 21 10:30 0.72 11.38 19.53 30.87 24.69 22 11:30 0.73 11.44 19.32 30.71 25.78 24 13:30 0.73 11.44 19.32 30.71 25.78 24 13:30 0.73 11.44 19.32 30.71 25.78 25 Average 0.77 11.10 19.79 18.89 25.26	16	95:30	0.78	10.61	19.93	30.50	25.15
19 08:30 0,77 11:26 19:93 31:15 24:51 20 09:30 0,77 11:30 19:32 30:58 24:58 21 10:30 0,72 11:38 19:53 30:87 24:69 22 11:30 0,73 10:67 19:53 30:16 26:32 23 12:30 0,73 11:44 19:32 30:71 25:78 24 13:30 0,73 11:44 19:32 30:71 25:78 24 13:30 0,73 11:38 20:02 31:36 26:50  Average 0,77 11:10 19:29 18:89 25:36	17	06:30	0.77	11.23	19.32	30.50	26.21
28 09:30 0.77 11:30 19:32 30:58 24:58 21 10:30 0.72 11:38 19:53 30:87 24:69 22 11:30 0.73 10:67 19:53 30:16 26:32 23 12:30 0.73 11:44 19:32 30:71 25:78 24 13:30 0.73 11:48 20:02 31:36 26:50  Average 0.77 11:10 19:29 18:89 25:36	1.8	07:30	0.77	11.19	19.91	31.06	26.58
21 10:30 0.72 11.38 19.53 30.87 24.69 22 11:30 0.73 10.67 19.53 30.16 26.32 23 12:30 0.73 11.44 19.32 30.71 25.78 24 13:30 0.73 11.38 20.02 31.36 26.50 Average 0.77 11.10 19.29 18.89 25.26	19	08:30	0.77	11.26	19.93	31.15	24.51
22 11:30 0.73 10:67 19:53 30:16 26:32 23 12:30 0.73 11:44 19:32 30:71 25:78 24 13:30 0.73 11:34 20:02 31:36 26:50 Average 0.77 11:10 19:79 18:89 25:26	20	09:30	0.77	11.30	19.32	30.58	24.58
23 12:30 0.73 11:44 19:32 30:71 25:78 24 13:30 0.73 11:38 20:02 31:36 26:50 Average 0.77 11:10 19:39 18:89 25:26	21	10:30	0.72	11.38	19.53	30.87	24.69
24 13:30 0.73 11:38 20:02 31:36 26:50 Average 0.77 11:10 19:29 38:89 25:36		11:30	0.73	10.67	19.53	30.16	26.32
Average 0.77 11.10 19.79 10.89 25.26	2.3	12:30		11.44	19.32	30.71	25.78
Average 0.77 11.10 19.79 10.89 25.26	24	13:30	0.73	11.38	20.02	31.36	26.50
				11.10	19.79	30,89	25.26

Lead Field Operations

#120f5

2.5	March and Lane	or Disco	
Moni	DOM:	g Det	tails

Reference Number AES-252-HC/2020

Sampling Point Gulshan-E-Isphal Park-Stafkot

Date of Monitoring 31-Dec-2020 to 01-Jan-2021

Sampling Coordinates 32\*28\*30.7\* N 74\*33\*04.7\* E

Parameters	Units	Monitoring Duration	LDL	Average Obtained. Concentration	PEQS
Nitrogen Dioxide (NO <sub>1</sub> )	$\mu g/m^4$	24Hours	1.00	19.79	100,0
Nitrogen Oxide (NO)	$ngm^{\prime}$	24Hours	1.00	11.10	40,0
NO.	$\mu p m^{i}$	24Hours	1.06	30.09	120.0
Sulphur Dioxide (SO <sub>2</sub> )	$\mu g/m^3$	24Hours	1.06	25.26	120.0
Carbon Menoside (CO)	$mg/m^{\circ}$	24Hours	0.01	9.77	09.0
Particulate Matter (PMn)	$\mu g/m^4$	24Hours	1.00	131.23	150
Particulate Matter (PM:s)	ug/m²	34Hours	1.00	34.1	35
Total Suspended Particulate Matter (TSP)	$\mu g/m^{3}$	24Hours	1.00	291.6	300

120.-Lower Detection Literal

PDQN- Pagab Davis maximal Quality Neederl

pagine<sup>6</sup> - Micro-Gines per Meter Cultus

Sucrant's

**Lead Field Operations** 

### Noise Level Monitoring Report

Monitoring Details		
Reference Number	AES-252-HC/2020	
Sampling Point	Gulshan-E-Iqhal Park-Stalkot	
Date of Manitoring	31-Dec-2020 to 01-Jun-2021	
Sampling Coordinates	32*28*36.7* N 74*33*04.7* E	

Sr. No.	Time	Noise dB(A)		PEQS
1.	14:30	55		
2 3 4 5 6 7 8	15:30	52		
3	16:30	63		
4	17:30	50		
5	18:30	54	Day Time	66
6	19:30	59	total time	65
7	20:30	47		
8	21:30	50		
9	22:30	42		
10	23:30	40		
11	00:30	37		
12	01:30	39		
13	02:30	36		
14	03:30	39	Minter Times	-
15	04.30	38	Night Time	55
16	05:30	40		
16	06:30	37		
18	07:30	44		
19	08:30	49		
20	09:30	52		
21	10:30	59	Design Trans	
22	11:30	61	Duy Time	6.5
2.3	12:30	58		
24	13:30	52		

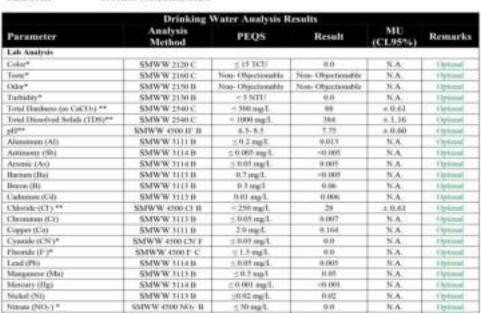
Lead Field Operations

Sample Detail			
Referency No.	AES-252-EKC/2020	Reporting Date	115-011-2021
Nature of Sample	Drawing Water	Sampling Method Reference	Alts LMNQ8P-014
Gesh/Composite	Chieb	Sample Collected by Sent By	AER
Sampling Date	31-12-3929	Sample Receiving Date	01-01-2021
Analysis Completion Date	05-01-2021	Lab Tomp & Humidity	25°C & 56%
Ambient Temperature	A Homosty at the Time	of Swapling	21°C & 69%
Sample ID Client Detail	AES-1997-01-2021 MTS Slabib Construct		Water Creeke

SMWW-4500 NO; B

8MWW 3114 B

SMWW 4500 CT IB



 $\lesssim 3.0 \, \mathrm{mg/s}$ 

0.01 mg/L

6.5 mg/L

gr 1 of 2

NA.

0.0

0.0

Horamont No. AES-LMS/FBM-110, Date of Breat 22 hour, 2024, Revision No. 10.

Niete (NO<sub>1</sub>) \*

Seletions (Se)

Residual Chlorine (Cl.) \*

Sample Detail	TO SERVICE CONTROL OF	100000000000000000000000000000000000000	PRODUCTION OF	NAME OF TAXABLE PARTY.
Beference No.	AE9-252-EK: 2000	Reporting Date	65-01-2021	HIRL P. CO.
Nature of Sample	Drawing Water	Sampling Method Reference	AEST MS/QSP-014	Lineracy
Grab/Composite	Girah	Sample Collected by Sent By	AIIS	District Control of the Control of t
Sampling Date	31-12-2020	Sumple Receiving Date	01-01-2021	PT STREET, STR
Analysis Completion. Date	115-01-2021	Lab Tonp & Hamility	25°C & 56.%	
Antivent Temperature	& Humidity at the Time	of Sompling	21°C & 62%	10/1906
Sample ID Client Detail	AES-DW-01-2021 MS Shirth Contract	Sampling Location	Water Corder	TORREST TO STATE

	Drinking	Water Analysis Re	esults		
Parameter	Analysis Method	PEQS	Result	MU (CL95%)	Remarks
Planetic Compounds (se Planete) *	880WW 5536 D	NOVS	0.05	N.A.	Optional
Ziw (Zii)	8MWW311370	5.0 mg/L:	0.059	N.A.	- Ohitimal
Microbiological Analysis					
Total Colliforme*	8MWW 9222 B	@ 100 ml, CFU		N.A.	Objection
Facal Cultineon *	SMWW 9222 D	@ 100 ml, CPU		31-A-	4. hprimus

"Dataseten an approved from Porçal Environment Protection Agency

\*\*Parameters are accordinal from Pokistan National Accordington Cremit.

#### Althreviations:

Althrey-Latiners:

PROM = Proposition from second (Sadde Sandard).

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#### Report Dischaimer

- The consuming persons of the completely will be deposed off when IT days offer the insumer that of separation the billionism content of produced in part position.

  This append shall not be reproduced in part position.

  The provided tenths relate units to enable provided systematic on a form.

  Values reflect the insuming security decision for mage of report study deposits on a form.

Analyzed By	Reviewed By	Approved By
	(TM)	(QM)
	Find of Reports	

Designated Sty. AES/CLMSCEROL 110, Date of Frenc 22 June, 2009, Bartiston No. 60:

Sample Detail				
Reference No.	AES-252-HC/2020	Reporting Date	05-01-2021	A STATE OF THE PARTY OF THE PAR
Nature of Sample	Winte Water	Sampling Method Reference	AES/LMS/QSP-014	The second second
Grab/Composite	Gmb	Sample Collected by/Sent By	AES	THE RESIDENCE OF THE PARTY OF T
Sampling Date	31-12-2020	Sample Receiving Date	01-01-2021	All lines and the second
Analysis Completion Date	05-01-2021	Lab Temp & Hamidity	25°C & 56%	
Ambient Temperature &	Hunodity at the Time	of Sampling	21°C & 65%	Design to Applicate
Sample ID	AES-WW-02/2021	Sampling Location	WW from Duan in Park	
Client Detail	M/S Habib Construct	ion, Siafkot		

Barium (Ba)	SMWW 3113 B	1.5 mg/L	<0.0035	N.A.	Optimal
Iron (Fe)	SMWW 3113 B	8.0 mg/L	0.99	N.A.	Optimal
Manganese (Mn)	SMWW 3111 B	1.5 mg/L	0.037	N.A.	Optional
Boron (B)	SMWW 3113 B	6.0 mg/L	0.02	N.A.	Optimat
Residual Chlorine (Cl <sub>3</sub> ) *	SMWW 4500 CI- B	1.0 mg/L	0.0	N.A.	Optimil

<sup>\*</sup>Parameters are approved from Punjab Environment Protection Agency

Abbreviations:

PEQS = Projeti Environment Quality Standards CSEPA = United States Environment Protection Agency

Remarkst Low - Low Then Permissible Range

Marginial + Charles Sutrems Edge

SMWW - Standard Methods for the examination of Water and Waterwater N.A. - Nex Available MU - Measurement Uncertainty

High + Exclude trees Presentable Berge

#### Report Disclaimer

- The provided could not be required of the sample (i) will be disposed off after 07 days offer the insures their of separation for inhumancy action otherwise instructed (X redition Apply).

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Analyzed By	Reviewed By	Approved By	
	(TM) (QM		
	End of Report		

Document No. AES/LMS/FRM-110, Date of June 22 June, 2020, Revision No. 00:

<sup>\*\*</sup>Parameters are accredited from Pakistan National Accreditation Council. Conclusion: All the parameters are in compliance with Punjab Environmental Quality Standards (PEQS)

### Appendix D: PLGA:- Environmental Test Result Reports 3<sup>rd</sup> & 4<sup>th</sup> Quarters





PAK EPA & PUNJAB EPD CERTIFIED

### CHEMICAL ANALYSIS TEST REPORT (AMBIENT AIR)

Belgroma Humber: Home of Indiums/Clients ESPAK/238/20/AA/1482/00008 Highligh Countries there Sanylows

Date: 35/08/2020



L. Sample Analyzed By:

Waleet fürses Reld Office

2. Name of Chief Analysi with Smil: Mahamanad Artan ( ) ( )

3. Signature of Incharge of the Environmental Laboratory

Date: 25/05/2020

End of Report

Page 7 of 2

Hund Office:

Office No. 731, Book 2, Sensor, D-1, Shah Jilen Roed,

Township, Laterer, Pakestan. Tet +92 42 3515 4012-16 Fax: +92 42 3515 4017 Ernell introllerant.com pt Web were expektion of

Information Office: Office No. 20, Flatvnet Gentre, 1-6 Marker, Islamphed, Pskisten. Tel: +92 ST 4976 351 Email to Directic comple









## Environmental Services Pakistan

PAK EPA & PUNJAB EPD CERTIFIED

#### NOISE MONITORING REPORT

TSP/04/228/20/9/1433/00194 Bellevice Number:

35/08/3000

Hobits Construction Services. Name of Industry/Olent:

25-A, Hock G-E, Carel Bank Road Hear Doctors Houghal, Johan Yowi, Lahare.

Telephone No.: manuré of Samples

Address:

Notes

33/09/2000

Graft / Composite: Continuous - 6 Hours

Date of Sample Collection: Sample Collected/Sent By

Walend Fancing, Field Officer, SSPAK

Date of Completion of Analysis: 23/08/2020

Method/Tiguipment Used:

Sound Level Maner

s.We	Musuumenee Paker	Limit Vidues (FEQS)	Weight Layet In: xWQN) Long	Banaria
1	Eavi Smootley Wall - Day Time	10.05(4)	15 dR(A)	90/37/en (Jimére
2	West Enumbery Wall-Hight Time	25 (85)46	13.49(4)	BERTAN LIMITE
	South Strundery Well-Wight Time	25 4000	53 49040	Mother Commis-
4	North Recodury Wall - Day Time	es mony	12 (804)	WWW.SIMBL

HEDGS: Provide Environmental Clustine Sharebacks for Notice in Commercial Area, 2016 Day Time Hours (6:00 am to 10:00 proj hight Time Hours (10:00 pro 6:00 am)

Uncertainty of Measurement (Linkly state will be provided an request, if applicable.

#### thater

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- The values represent sample conditions when mentioning/testing was carried out.
- The report data is not intended to be used legally by the client,

Waterd Farours I. Sarepla Analyzed By:

Funt Officer

2. Name of Chief Analyst with Seel: Mahammad Arlan (

3. Signature of liveharge of the Environmental Caboratory.

tioneral bitto 35/04/2020

End of Report

Poge 1 of 1

Head Office: Office No. 705, Block 2, Bartis: D. 1, Blust Alani Road. Township, Lahone, Pokutan. Tut. +92 42 3515 4010 16 Fav. +92 42 3015 4017 Rmolf intrigroups, com pir Water were separa com pir

Islamabed Office: Office No. 30, Rehmat Centre, Fill Marker, Internation, Paldeton Sec. +92 51 4938 351 Email: istr@espok.com.pii.









# Environmental Services Pakistan

PAR EPA & PUNJAB EPD CERTIFIED

#### CHEMICAL ANALYSIS TEST REPORT (WASTE WATER)

Heference Number:

Address Telephone No.: ESPAX/228/20/WW/1451/00253

Name of Industry / Client:

Hallife Construction Services

31/06/7000

35-A, Block G-1, Canal Bank Road, New Clockers Hospital, Johan Yewn, Lahore.

Camp Site Final Discharge Watte Watter at Purple Local Government Academy Johar Town, Labore

Hature of Sample: Date Sample Received:

23/08/2020

Grab / Composite: Grab

Date of Sample Collection:

22/04/2020

Sample Collected / Sent By:

Walend Feroog, Field Officer, ESPAK

Date of Compliction of Avalysis: 31/09/2020

. No	Parameters	(PFIQS)	Consentration	Mathed / Equipment Used	Benefit
Ł	privative (H*)	0.0	11	SMWW-ISODE'S	William Principles Limits
1	Chienical Degree Demand (COR)	150 mg/L	138 mg/L	SWWW \$220 D	Willian Presentated Limits
3	Yotal Disolved Solids (1950)	3500 mg/s	676 mg/L	SMNW 2540 C	Within Presurbed Smits
	Chloride (as CF)	3000 right.	23 196%	SWWW 450007 -8	Within Proceeded Limits
1	Cadreiove (Cd)	0.1 mg/L	Jugn 200.0	U.S. 694-200.7	Within Prescribed Limits
6	Chromium (Trivalent and Housekent)	7gm 0.t	BIIIS orgit.	SLS. \$74-300.7	Within Prescribed Livels.
1	Copper (Cu)	3.0 mg/l.	8.054 mg/S.	M.S. 896-200.7	Within Prescribed Limits
	tron (fin)	Admg/L	81775 mg/L	U3L8PA-200.7	WORlde Pressultived Units
,	lead (N)	65 mg/L	0.006 mg/t.	U.S. 879-300.7	Within Prescribed Units
3.0	Monganese (Mn):	1.5 mg/L	0.100 mg/s.	U.S. 1996-300.7	Within Prescribed Limits
11.	Memory (Ng)	0.00 mg/s.	80	U.S. EPA-200.7	Written Prescribed Cents
32	Selenium (Se)	0.5 mg0.	340	165,576-200.7	Within Prescribed Limits:
33	No. (N)	1.0 mg/L	0.000 sigh.	U.S. 87W-20027	WYDW Prescribed Units
16	Silver (Ag)	1.0 mg/L	7/gm 500.0	U.S. 174-200.7	Within Prescribed Limits
15	Zinc (Dr)	SEMAN	0.085 mg/L	U.S. EPA-200.7	Within Prescribed Limits
26	Arterit (Ad)	1.0 mg/L	NO:	U.S. EPW-200.7	Within Prescribed Limits
1.7	Sarius (Sa)	3.5 mg/s	0.000 eg/s.	U.S. 894-200,7	Within Prescribed Limits
18	Surper (81)	6.0 mg/l.	0.047 ma/s.	U.S.I/A-200.7	Within Prescribed Limits
15	Total Texic Metals	10 mg/L	X296 mg/L	Calculated Valve	Within Prescribed Limits
20	Biochemical Oxygen Demand (800L) at 30 °C	Mirrari.	SS mg/s	5MWW 5210'8	Within Prescribed Limits
n	Total Sequencer Selen (1950)	200 mg/l.	Name and	988WW 2540 D	Within Prescribed Limits
22	Grows and Oil	10 mg/L	15 rati	V3-194 0864 B	Wilden Proceedant Circles
25	Therefor (as P1)	th mark.	1.11 mg/L	U.S. EPA 8254	Within Prescribed Limits
24	Cyaredo (as CN1)	1.0 mg/L	0.50 mg/L	SWWW-4500 CW-1	Within Proceimed Limits
25	An-ionic detergrets (se MBAS)	ittmpt.	1.65 mpi.	SMWW SS40 C	Within Prescribed Circles
36	Sulfane (SO <sub>4</sub> P1	000 mg/L	48 mg/L	3MWW-1000-30 <sub>4</sub> F C	William Prescribed Limits

Office No. 731, Block-2, Sector O-1, Bheh Jilani Rhasi. Townobin, Lahoes, Pylanian. Tel: +02-42-3515-4012-16 Fax: +02-42-3EIII 4017 Email: info@espek.com pt Web; www.espek.com pt.

telemethed Office: Office No. 20, Referred Centre, 1-8 Marker, blammfact, Pakisten, Tel: +92 51 4808 351 Emalt integration core ps







## Environmental Services Pakistan

PAK EPA & PUNJAB EPD CERTIFIED

#### CHEMICAL ANALYSIS TEST REPORT (WASTE WATER)

Baferenna Humber: Name of trobatry / (Clare) ESPAIC/328/20/WW/3431/00033

Habib Construction Services

31/08/2005

3,84	Parameters	(Init Values (PRQS)	Concentration	Method / Equipment Used	Semarks
ar:	149ar(0*)	1.0 mg/L	10	366WW4505-57-F	Within Prescribed Simila
28	America (NHJ)	4Direct.	36,73 mg/L	3MWW-4000-964-72	Within Prescribed Limits
79	Chiterise (CI)	3.0 mg/s.	140	SMWW-8500-CF8	Within Prescribed Media
30	Phenolic Compounds (as Phanol)	01 mg/c	Jun 613	SWWW SIDE	Within Prescribed Limits
81	Terpesture	MONS	27.85	Thermoratter	

PEQS: Furgish Environmental Guidity Handards for Munkiput & Liquid Industrial Officerity, 2016.

SMMW: Standard Methods for the Commission of Water and Westerland Edition, American Public Health Association, American Weter Works Association, Water George, west federation USA (2007)

USEPA: Unload States. Environmental Protection Agency

MGNS: No Guideline Value Set

ND: Not Detected.

- Laboratory tests and measurements were carried out at 25 e.2 % and 50 y 30 % Relative Humbley conditions saless stated otherwise.
- Uncertainty of Messurement (Linkly state will be provided on request, if applicable.

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- This report data is not intended to be used legally by the client.

1. Sample Analyzed by:

Wages Ahroad Amirost

Macharal bitness **Trylank** 

Huterweal Irlan.

- 2. Horse of Chief Analyst with Sest: Mulsammad Artini
- 3. Signature of Incharge of the Environmental Laboratory:

General Na NAMES AND REAL PROPERTY.

End of Report

Non 2 of 3

Head Office:

Office No. 731, Block-2, Sector: D-1, Shen-Jiwii Road.

Tel: +92 42 3515 4012-16 Fax: +92 42 3515 4017 Email: Info@espak.com.pl: Web: sww.espak.com.pk

brianshad Office: Office No. 20, Rehmat Centre, i-fi Marker, Internhed, Pakiston Tet: +92 51 4938 351 Emvit ish@espak.com.pk.









Date of Completion of Analysis:

Particulate Matter Philip

Suppressed Porticulate Matter (SPM)

# Environmental Services Pakistan

PAK EPA & PUNJAB EPD CERTIFIED

Within Prescribed Units

Within Prescribed Limits

#### CHEMICAL ANALYSIS TEST REPORT (AMBIENT AIR)

ESPAK/427/20/AA/2500/00196 22/12/2020 Reference Number: Name of Industry/Client: Habit Construction Services. 15-A, Block G-1, Carel Bank Road, Near Doctors Hospital, Johan Town, Lahore. Address Telephone No. Frant of Construction Site, Punjab Local Monitoring Location: Govt. Academy, Civic Center, Johan Town Nature of Sample: Ambient Air Labore Date of Sample Collection: 17/12/2020 Continuous - 24 Hours Grab / Composite: Sample Collected/Sent By: Hamza Scheib, Field Officer, ESPAK

**Limit Values** Method / Equipment Concentration Barnaria 5. No (PEQS-24Hours) Steel 10 mg/m² Non-Dispersive infrared Within Prescribed Limits Carbon Monoelde (CO) 8.5-L2 reg/m² Absorption (NOIR) (1.Hour) Non-Dispersive Infrared S mg/m² 0.6-E.1 mg/m² Within Prescribed Limits Alteorytism (NUM) III Hours Surfac Dicester (\$10<sub>1</sub>) 130 yg/m² 11.3 jag/w<sup>2</sup> UV fluoressence (UVF) Within Prescribed Limits 130 vg/m² 21/845 Later Non Dispersive UV Within Prescribed Limits Deme (Od) Alterretion Chercifaminescence. Within Prescribed Limits Caldes of Nitrogen as NC NO Jug/W 11.5 sq/W 90 Ug/W Cheryluminoscence Witten Frescribed Limits Oxides of Nitrogen as NO, 15.6 ag/m² Farticulate Matter PMys. 35 100/11 30.5 safer? Particulate Service Within Prescribed Units

DB M/m

Alk up/m²

Particulate Sensor

High Volume Sampler (HVS)

PEOS: Purpali Environmental Quality Standards for Ambient Av., 2018

entainty of Measurement (LloVI) data will be provided on request, if applicable.

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150 m/w<sup>1</sup>

500 µg/re<sup>4</sup>

18/11/2020

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#### NOISE MONITORING REPORT

22/12/2020 ESPAK/427/20/N/2503/50182 Reference Number: Name of Industry/Client: Hubib Construction Services Address 15-A, Block G-1, Canal Bank Road, Near Doctors Hospital, Johan Town, Lahare Telephone No.: Neise Nature of Samole: Date of Sample Collection: 17/12/2020 Grab / Composite: Spot Sample Sample Collected/Sent By: Ameer Haruza, Flaid Officer, ESPAK Date of Completion of Analysis: 17/12/2020 Method/Equipment Used: Socod Level Meter Moise Level In **Street Values** Measurement Point 62 dB(A) RE-dB(N) Purjet Local Gors, Academy, John Town Labors - East Boundary Wall 65-08(4) 60 deski Purget Local Soirt, Academy, Johan Town Lahore - West Boundary Well Trurgati Local Slove, Academy, Johan Triwn 65 ett(X) 64 dS(A) Laboro - Humb Boundary Wall 65 (8)(A) ADDS (II) Purgid Local Goyt, Academy, Johan Town

PECSE. Purgets Environmental Quality Standards for Notice In Commencial Area, 2016 Day Time Hours (E.00 am to 10.00 pm).

• Uncarrainty of Massachment (Linkt) data will be provided on request, if applicable.

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The values represent sample conditions when monitoring/testing was carried out.

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1. Sample Analyzed By:

Field Officer

2. Name of Chief Analyst with Seal: Muhammad Arfan (

Lishane - South Boundary Wall

2. Signature of incharge of the Environmental Laboratory:

11/11/20

Ent of Recort

Page 1 of 1

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Telephone No.:

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### CHEMICAL ANALYSIS TEST REPORT (WASTE WATER)

ESPAK/427/30/WW/2583/00367 73/12/2020 **Parkments Number** Habits Construction Services Name of Industry / Client: Address:

15-A, Block G-1, Canal Bank Road, Near Doctors Hougital, Johar Town, Lahore.

Final Drain Waste Water at Puriols Local Govs. Academy, Johan Town Lahore Nature of Sample: 17/13/2020 Crab / Composite: Graft Date Sergie Received:

11/13/3600 **Date of Sample Collection:** 

Amour Herrox, Field Officer, ESPAX Sample Collected / Sent By:

Date of Completion of Analysis: 29/12/3020

No	Parameters	Dell Wilses (PSQS)	Concertration	Method / Equipment Used	Remarks	
1	physic (P)	44	18	SMWW-4500H* B	Within Prescribed Smits	
2	Darwood Desgree Demand (COS)	250 mg/s.	27 ma/s	5MWW 5120 D	Water Prescribed Livels	
1	Total Streetweet Solids (TDS)	9100 mg/s	810 mg/L	SMWW 2540 C	Within Prescribed Limits	
	Ottorida (ns O')	2000 mg/1.	15.7 46%	SMWW-4500CF - 6	Within Prescribed Units	
1	Customer (CID)	0.5 mg/L	MD	U.S. 894-2003	Within Prescribed Livids	
	(bromum (treatest and resemble)	1.0 mg/s.	MC	U.S. 894-300.7	Within Prescribed Limits	
7.	Crapier (Call	L0 mg/L	Jun met.	U.S. 894-300.7	Within Prescribed Limits	
	Inm (N)	8.0 mg/s.	5.484 mg/L	U3494-2007	Witten Prescribed Circlin	
	Lend (PN)	85 mg/s.	NO.	¥E.884-200.7	Within Prescribed Circles	
10	stergeress (Wr)	5.5 mg/s	0.091.095	US-894-200.7	Witte Prescribed Units	
11	Merces (19)	0.01 mg/l	WEI	U.S. 074-200.7	Water Presented Limits	
u	Selenum (Sel	03765	100	USBARRE	Within Frescribed Units	
33	Noted DVI	Librail	60	U.L. 094-200.7	Within Prescribed Units	
34	Siver (Ag)	1.0 mg/L	8.009 mg/L	U.S. 994-200.7	Within Prescribed Limits	
11	3 to (24)	E0 mg/L	0.389 mg/L	U.S. 69A-200.7	Within Prescribed Limbs.	
15	Anserti (Ac)	1.0 mg/L	162	U.E. 89A-300.7	Within Prescribed Limits	
17	brise(b)	Lingt	Agr; 101.0	U.S. RM-200.7	Wittin Prescribed Limits.	
18	Storon (S)	8.0 (98)	6.482 mg/L	U.1.8FA-000.7	Within Prescribed Limits	
19	Total Toric Metals	Limpl	1.094 mg/5	Calculated Value	Witto Prescribed Limits	
20	Modernical Daygen Damand (800s) at 20 °C	80 mg/s	so mg/s.	5MWW 521E 8	With Prescribed Limits	
n	Total Syspenied Solids (TSS)	300 Mg/L	NB	SMWW 2540 D	Within Freumbed Limits	
11	Pharmic Compounds (as Pharm)	31.vg/s	0.05 mg/s.	SNAMM RESO C	Within Prescribed Livelic	
19	(inexecuted DR	10 mg/s	40	U.S. 074 3864 B	Within Prescribed Limits	
28	Nueritrias P1	stimpt.	0.79 mg/s.	U.S. SPR 9214	Within Prescribed Umrts	
25	Cyande (as OF)	1.0 mg/L	0.12 mg/s.	38/WW-4500 D4-7	Witten Prescribed Similar	
26	An laric delargents (as MOAS)	33 mg/L	0.10 mg/L	SMWW 3840 C	Within Prescribed Limits	

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#### CHEMICAL ANALYSIS TEST REPORT (WASTE WATER)

Bafarence Number: Name of Industry / Client:

23/12/2020 Date: ESPAK/427/26/WW/2591/00367 Habib Construction Services



5. No	Parameters	Limit Vallees (PEQI)	Concernation	Method / Equipment Used	femiris
27	Suiter (SO/T)	900 mg/L	86.84 mg/L	19400W 4500 - 90/F C	Water Prescribed Units
26	submit(f)	1.tmg/L	NO.	5MWW 4500 - 5 <sup>th</sup> F	Witten Prescribed Units
29	Ammonia (Nin <sub>4</sub> )	40 mg/s.	37.34 mg/l.	SMWW 4500 NH <sub>6</sub> -D	Within Prescribed Limits
30	Olorie (C)	12-161	ND	DWWW-4500-CI N	Within Prescribed Limits
30	Temperature:	NO/S	21.610	Thermometer	-

PEQS: Purgst Divinormental Quality Standards for Municipal & Uspet Industrial Effuence, 2000 SWWW: Nandard Methods for the Economistion of Water and Wassettivesr I Drd Edition, American Public Health Association, American Water Works Association, Water Environment Federation USA (2017)

USEPA: United Storag Environmental Protection Agency

**NOVE:** No Guadatine Volue Set

ND: Not Detected

- Laboratory tasts and measurements were carried out at 25 e 2 °C and 30 e 10 % Relative Humidity conditions unless stated otherwise.
- Uncertainty of Manusement (Light) data will be provided on request, if applicable.

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Wages Khroali 1. Sample Analysed By: Aust Anshort Anuiyat. Analyst 2. Name of Chief Analyst with Seal: Muhammad Arfan

3. Signature of incharge of the Environmental Laboratory:

Irrean Malia General Man 210/13/2000

Acted Diams

End of Report -

Page 2 of 2

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### CHEMICAL ANALYSIS TEST REPORT (DRINKING WATER)

15-A, Block G-1, Canal Bank Road, Near Doctors Hospital, Jokar Town, Lahore

Reference Wurnber: Name of Industry / Client: ESPAX/427/20/0W/2582/00688 Habib Construction Services

23/12/2020



Address Telephone No.:

Nature of Sample:

Orleading Water from Tep at at Purpab Local Govt. Academy, Johan Town Lahore

Brab / Composite: Ensb

Date Sample Received: Date of Sample Collection:

17/12/2020 17/12/2020

Ameer Hamza, Field Officer, ESPAK

Sample Collected / Sent By:

	т.		

, Sin	Parameters	Limit Valves (MIQA)	Consentration	Wethod / Equipment Used	Remarks
1	git	65-65	6.7	SWWW 4500FF8	Within Prescribed Units
1	Total Disselved Solids (TDS)	<5000 Mg/L	ritmph.	SMWW 2540C	Within Preumbed Limits
1	Criorde (ni CF)	<250 mg/L	13 mg/L	MAWW 4500018	Within Prescribed Units
4	Community (Cd)	tidi mg/l.	NO:	U.S. 894-200-7	Within Prescribed Limits
4	Chromium (Cr)	Jan 150s	ND	U.S. 09A-300.7	Within Prescribed Limits
	Cooper (Col.)	2.0 mg/L	0.034 mg/s	U.S. 894-200.7	Within Prexcribed Units
7	Low (Pt)	40.05 mg/L	10	U.S. 09A-200,7	Within Prescribed Limits
	Margarose (Mr)	stringt.	0.000 mg/L	U.S. EPA-200.7	Within Prescribed Limits
	Water (N)	40.02 mg/L	ND	U.S. 6FW-200.7	Witten Prescribed Limits
10	Dre Chi	5.0 mg/L	5.067 mg/L	U.S. SPA-200.7	Within Prescribed Limits
15	Antimory (IX)	sticos wat.	ND	U.S. SPA-250.7	Within Prescribed Limits
12	Aluminor (A)	April Co.	7gm 800.0	U.S. EPA-200LT	Within Proxy Bed Limits
11	Answer (Asi)	Agm 85.0z	ND	U.S. 894-200.7	Within Prescribed Limits
14	Sprey (9)	0.3 mg/L	0.210 mg/L	U.S. 884-200.7	Within Prescribed Limits
15	Sanuri (Ref	0.7 mg/s	0.046 mg/s	U.S. 89A-200.7	Within Prescribed Units
tel	Metsury (Hg)	s0.000 mg/L	NO	U.S. 074-200.7	William Presented Limits
17	Selecture (Se)	881.mg/L	110	U.S. EPH-200.7	Witten Prescribed Limits
18	Total California	-	HD	580WW 9221 B	-
18	Peopl Cultions Bacteria	Muyl not be despossible in any 100mi, sample	ND	SMWW 9221 F	Within Prescribed Umits
20	E-049	Must not be desectable in any 100ms. Sample	ND	5MWW \$221 F	Within Prescribed Limits
27	Calve	515 TEU	101	5MWW 2520 C	Weble Prescribed Limits
22	Sante	Non Objectionable / Acceptable	Acceptable	Organolegolo	Within Prescribed Circles
			Was		

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#### CHEMICAL ANALYSIS TEST REPORT (DRINKING WATER)

Reference Number: Name of Industry / Client: ESPAK/427/20/UW/2592/00586

Habib Construction Services



s. Re	Parameters	Circle Values (PEQS)	Concentration	Method / Equipment Used	Berarks
29	Odor	Non Objectionshile / Acceptable	Acceptable	Organoleptic	Within Prescribed Limits
28	Twistery	45 MTV	0.15 NTV	SWWW 21308	Witte Prescribed Limits
25	Total Hardness as CoCO <sub>3</sub>	<500 mg/L	Amp/L	5MWW 23HDC	Witten Prescribed Limits
25	Cyanate (CNY)	spim mgn.	0.05 mg/L	SWWW 4500 CV* F	Within Prescribed Limits
27	Fluorida (f*)	£1.5 mg/s	O.Dt.mg/L	U.S. EPA 9234	Within Frescribed Simils
28	Nitrato (NO <sub>6</sub> 1)	ato mg/L	5.12 mg/L	SWWW 4500NO/TE	Within Prescribed Units
29	Nitray (NO <sub>V</sub> 7)	skrat.	0.04 mg/L	SWWW 4500MO/ %	Within Prescribed Limits
30	Residual Otto Yea	0.0-0.5 mg/s	NO	SMWW 4500-CI E	-
13	Phenely Compounds (in Phonois)	NOVE	ND	SMWW 9530 C	-

PEQS: Furgis Environmental Quality Standards for Drissing Water, 2005 SMWM: Exercised Methods for the Seatonstion of Water and WasteWater 23rd Salton, American Public Health Association, American Water Warts Association Water Environment Federation USA (2017)

USEPA: United States Evolvanimental Evenetian Agency

NSVS: No Guideline Value Set

NO: Not Detected

Laboratory traits and measurements were carried out at 25 ± 2 °C and 50 ± 10 % Relative Humility conditions unless stated otherwise.

Uncertainty of Measurement (UoM) data will be provided on request, if applicable.

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Wago Ahrod

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1. Sample Analyzed By: Analyst Andred

2. Name of Chief Analyst with Seal: Muhammad Artiss 3. Signature of Incharge of the Environmental Laboratory:

Person Sidel 20/12/2010

Amer Usene

Aust Microbiologist

End of Report

Progration 3

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April Anwent





### Appendix E: SAHIWAL PARKS HSE CHECK LIST

RESIDENT ENGINEER: MUHAMMAD TAYYAB

CELL NO.: 0321-6369549 LOCATION: SAHIWAL

NAME OF PROJECT: Upgradation of 3 Existing Parks in

Sahiwal under PICIIP Date:30-12-2020

SOP.	Monitoring Parameters fo	r Safe System of	Triggered		Comp	oliance Status
No.	Work	•	Yes/No	Yes	No	Remarks
1	PERSONAL PROTECTIVE					
	EQUIPMENT'S	Steel Toe Shoes		√		Ref: Appendix D
		Helmets		V		Pictures showing
						the labor using
						protective
						equipment's at
						work activities.
		Coveralls/				
		Uniforms		<u> </u>		
		Gloves		1		
		Jacket		√		
		Goggles		V	<u></u>	
		Face Shields		ļ .	V	
		Ear Muffs		√		
		Face Masks				
		Disposable PPE				
2	FIRST AID EQUIPMENT			1 1		Ref: Pictures
_				,		Sahiwal Parks
						Appendix: A
3	ROAD SAFETY & TRAFFIC					Not Applicable
	MANAGEMENT	Diversion Sign				
		Boards				
		Removal of Waste				
		Material				
		Fencing				
		Movement of				
		Heavy Equipment				
		at Night				
		Speed Limits				
		Lightening				
	WORKERS WELLS A.D.					
4	WORKERS WELFARE	D: 1: 34/		,		
		Drinking Water				

SOP.	Monitoring Parameters for	r Safe System of	Triggered	Compliance Status		
No.	Work		Yes/No	Yes	No	Remarks
		Changing Room		1		
		Smoking Area			√	
		Insurance of		√		
		Workers				
		First Aid Facility		√ √		
		Toilets Available		√		
		on Site				
5	FIRE FIGHTING					Ref: Appendix A
	EQUIPMENT	Fire Alarm			1	
		Fire Buckets/ Fire		√		
		Extinguisher				
		Training				No workers camp
		Fire Fighting			1	
		System at Camp				
		Office				
		Emergency Drills				
6	LIGHTING ALONG THE					Not Applicable
0	RIGHT OF WAY					Not Applicable
7	TRAINING REQUIREMENTS					
•	TIVALITIES REGULERENTS	Training Records		1		
		Attendance of		1 1		
		Workers		'		
8	GENERAL HOUSEKEEPING				1	
9	EMERGENCY RESPONSE			√		
	PLAN					
10	SOPS FOR ACCIDENTS			,	√	
11	SOPs FOR SKILLED AND			1		
	UNSKILLED LABOUR	Child Labour		1		
12	WORK AT HEIGHT					Work at ground
12	WORK AT HEIGHT					level
		Safety Harness				ICVCI
		Fixed Working				
		Platform				
		Proper Access				
		Toe Boards on				
		Platforms				
		Fencing Around				
		Active Site				
		Training of				
		Workers				
		Weather				
		Conditions				
		Signboards				

SOP.	Monitoring Parameters f	or Safe System of	Triggered	Compliance Status			
No.	Work		Yes/No	Yes	No	Remarks	
		Proper Supervision					
13	DRILLING OPERATION					Not Applicable	
		Training					
		PPEs					
		Communication					
		Proper Access i.e.					
		ladder					
		Covering of bore					
		holes Cordon off with					
		steel sheets					
		Emergency					
		Response Plan					
14	PITS & EXCAVATION						
14	FIIS & EAGAVATION	Proper Lighting		V			
		Sign Boards		1			
		Proper Access		V			
		Underground		,		Not Applicable	
		Facilities					
		Falling Objects				Not Applicable	
		Near Excavation		,			
		Noise & Dust		1			
		Excavated Material		√ 			
15	ELECTRICS ON SITE &					No electrical work	
	YARD					started yet	
		Use Proper					
		Insulated Wires					
		Wear Suitable PPEs					
		Working Place					
		Must be Dry					
		Check Overhead					
		Electric Power					
40	LIETING EDECTION	Lines				Na life at Oit	
16	LIFTING ERECTION	Area Must be				No lift at Site	
		Barricaded					
		Wind Speed &					
		Direction					
		Overhead Lines					
		Safe Working					
		Load					
		Sign Boards					

SOP.	Monitoring Parameters for Safe System of		Triggered	Compliance Status		
No.	Work		Yes/No	Yes	No	Remarks
		Driver License PPEs				
17	CHEMICAL HANDLING					Not Applicable
	&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				
18	HEAVY EQUIPMENT					Not yet used
		Well Trained 7 Licensed Driver Warning Light Area Must be Barricaded Correctly Positioned & Installed Noise Monitoring PPEs				
19	WELDING EQUIPMENT & OXYGEN CYLINDERS	Fire Extinguisher Cylinder Stored in Enclosed Room Warning Signs Proper Ventilation				No welding work started yet
20	REPORTING OF ACCIDENT	Emergency Response Plan		1		
21	CONSTRUCTION ACTIVITIES NEAR HIGH VOLTAGE LINES	Total no. of Incident				Not applicable

SOP.	Monitoring Para	meters for	Safe System of	Triggered	Compliance Status		
No.	Work			Yes/No	Yes	No	Remarks
			Incident Investigation Reports				
	General Observations		Satisfact	ory HSE Arrar	ngemer	nts	
	Recommendatio ns	datio					
					ورد المال	2 lay	500
	Name: MUHAMMA	D TAYYAB		Signatures	s:		
	RE NESPAK SAHIWAL						

#### Appendix F: SIALKOT PARKS 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:

DATE: 31-12-2020

RESIDENT ENGINEER: SYED ABDULLAH HUSSAIN

CELL NO.: 0308-7300775 LOCATION: SIALKOT

NAME OF PROJECT: Upgradation of 4 Existing Parks in

Sialkot under PICIIP

SOP. No.	Monitoring Paramete	rs for Safe System of Work	Triggered Yes/No		Con	npliance Status
				Yes	No	Remarks
1	PERSONAL PROTECTIVE					
	EQUIPMENT'S	Steel Toe Shoes		<b>√</b>		
		Helmets		√		
		Coveralls/ Uniforms			1	Labour utilized on the project is on daily wedges. No permanent labour available. therefore uniform can not provided
		Gloves		√		
		Jacket		√		
		Goggles		1		
		Face Shields			1	
		Ear Muffs		V		Noise is in permissible limits (Test results attached)
		Face Masks		√		
		Disposable PPE			<b>V</b>	

SOP. No.	Monitoring Parameters t	Triggered Yes/No	Compliance Status			
				Yes	No	Remarks
2	FIRST AID EQUIPMENT			<b>V</b>		Available at site
3	ROAD SAFETY & TRAFFIC MANAGEMENT				V	Work is under confined space
		Diversion Sign Boards				Work is under confined space
		Removal of Waste Material		√		
		Fencing		<b>√</b>		
		Movement of Heavy Equipment at Night			1	
		Speed Limits			<b>√</b>	
		Lightening				
4	WORKERS WELFARE					
		Drinking Water		√		
		Changing Room		<b>V</b>		
		Smoking Area		V		
		Insurance of Workers		V		
		First Aid Facility		<b>V</b>		
		Toilets Available on Site		√ 		
5	FIRE FIGHTING EQUIPMENT					
		Fire Alarm			V	Not provided

SOP. No.	Monitoring Parameters fo	or Safe System of Work	Triggered Yes/No		Con	ipliance Status
				Yes	No	Remarks
		Fire Buckets/ Fire Extinguisher		<b>V</b>		
		Training		<b>V</b>		Conducted on site.
		Fire Fighting System at Camp Office		٨		
		Emergency Drills				√ Will be conducted upon provision of fire/Emerge ncy alarm.
6	LIGHTING ALONG THE RIGHT OF WAY					
7	TRAINING REQUIREMENTS	Training Records		V		Tool box talk's attendance is available at site office.  Attendance sheet and RFI for training of staff and labor is available.
		Attendance of Workers		√ 		Available at site office.
8	GENERAL HOUSEKEEPING			<b>V</b>		Practice to keep the site clean exists but needs improvement.
9	EMERGENCY RESPONSE PLAN			V		Available at site office.
10	SOPS FOR ACCIDENTS			V		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.
11				<b>V</b>		SOP's of Govt. Of the Punjab Covid-19

SOP. No.	Monitoring Parameters	for Safe System of Work	Triggered Yes/No	Compliance Status		
				Yes	No	Remarks
	SOPS FOR SKILLED AND UNSKILLED LABOUR	Child Labour		V		Strictly Prohibited
12	WORK AT HEIGHT					
		Safety Harness			1	
		Fixed Working Platform		<b>√</b>		
		Proper Access		V		
		Toe Boards on Platforms		√		
		Fencing Around Active Site		V		Work is under confined space.
		Training of Workers		<b>√</b>		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.
				√		
13	DRILLING					
	OPERATION	Training		N/A		
		PPEs		N/A		
		Communication		N/A		
		Proper Access i.e. ladder		N/A		
		Covering of bore holes		V		

SOP. No.	Monitoring Parameters	for Safe System of Work	Triggered Yes/No		Compliance Status	
				Yes	No	Remarks
		Cordon off with steel sheets  Emergency Response Plan		N/A		
14	PITS & EXCAVATION					
		Proper Lighting		1		Work is during day time and all parks are closed for public.
		Sign Boards		<b>V</b>		
		Proper Access		<b>V</b>		Ladders are provided at site.
		Underground Facilities		√		
		Falling Objects Near Excavation		<b>√</b>		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.
		Excavated Material		√		
15	ELECTRICS ON SITE & YARD	Use Proper Insulated		<b>√</b>		
		Wires		V		
		Wear Suitable PPEs		√		

SOP. No.	Monitoring Parameters	for Safe System of Work	Triggered Yes/No		Con	npliance Status
				Yes	No	Remarks
		Working Place Must be Dry		V		
		Check Overhead Electric Power Lines				
				√		
16	LIFTING ERECTION					
		Area Must be Barricaded		<b>√</b>		
		Wind Speed & Direction		<b>√</b>		
		Overhead Lines		<b>√</b>		
		Safe Working Load		<b>√</b>		
		Sign Boards		N/A		
		Driver License		<b>V</b>		
		PPEs				
				<b>√</b>		
				,		
17	CHEMICAL HANDLING &STORAGE					Anti-Termite liquid, Diesel, Water Proofing Chemical etc.
		Stored in Proper Shade/ Dry Place		<b>√</b>		
		Store Kept Clean/ Not Use for Other Activity		√		
		Proper Ventilation		1		
		PPEs		<b>V</b>		
		First Aid Facility		V		

SOP. No.	Monitoring Parameters f	or Safe System of Work	Triggered Yes/No	Yes/No		
				Yes	No	Remarks
		Fire Extinguisher		<b>V</b>		
		Warning Signs				
				√		
18	HEAVY EQUIPMENT					Only material delivery vehicles inside the confined working space.
		Well Trained &Licensed Driver		1		
		Warning Light		<b>√</b>		
		Area Must be Barricaded		V		
		Correctly Positioned & Installed		-		
		Noise Monitoring		-		
		PPEs		V		
19	WELDING EQUIPMENT &					
	OXYGEN CYLINDERS	Fire Extinguisher		<b>V</b>		
		Cylinder Stored in Enclosed Room		<b>√</b>		
		Warning Signs		V		
		Proper Ventilation				Welding is being done under open sky.

SOP. No.	Monitoring Parameters	for Safe System of Work	Triggered Yes/No		Cor	mpliance Status
				Yes	No	Remarks
20	REPORTING OF ACCIDENT					1 accident occurs so far
		Emergency Response Plan		<b>V</b>		
21	CONSTRUCTION ACTIVITIES NEAR					Not applicable
	HIGH VOLTAGE LINES	Total no. of Incident		N/A	-	
		Incident Investigation Reports		N/A	-	
	General Observations		Satisfactory HS	E Arrang	ements	
	Recommendations					
		Abdullaly				bdullaly
	Name: Abdullah Hussain	Signatures:				
	RE NESPAK SIALKOT					

### Appendix G: PLGA- HSE CHECKLIST

-	ARTELIA				Pittip		
_		st for HSE	Compl	ance	~		
Date:	28.12.2020						
Cons	truction Manager: Muhammad Hanif F	Chokar					
1000	tion: Lahore						
Name	of Project: Punjab Local Governmen	t Academy					
SOP	Monitoring Parameter for safe	Triggere d	Compliance Status				
No.	system of work	Yes/No	Yes	No	Remarks		
1	Personal Protective Equipment						
	Safety shoes		Yes				
	Helmets		Yes				
	Safety Jacket	3	Yes		8		
	Gloves		Yes				
	Goggles		Yes		(3)		
	Ear Plugs		Yes	_	Ĭ.		
3	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				
9	Fencing		Yes				
	Movement of heavy vehicles at night		N/A				
	Speed limits		N/A		¥ 3		
	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		Ê		
	Fire buckets / extinguishers		Yes				
	Training		Yes		Pictures are attached		
6	Lightening along the right of way	1	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 Disposa installed at different location		
10	Emergency response Plan		Yes				

11	Training for skilled and unskilled labour	Yes	
	Child labour	Yes	Child Labour is Prohibited.
12	Work at Height	N/A	Related activity not yet started
	Safety harness	N/A	
	Fixed working platform	N/A	
	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.

	Area must be barricaded	Yes	
	Wind speed and direction	Yes	
	Overhead lines	Yes	
	Safe working load	Yes	
	Sign board	Yes	
	Driver's license	Yes	
	PPEs	Yes	
17	Chemical handling & storage		Anti-Termite liquid, Diesel, Water Proofing Chemical etc.
	Stored in proper shade/dry place	Yes	
	Store kept clean / not used for other activity	Yes	
	Proper ventilation	Yes	
	PPEs	Yes	
	First aid facility	Yes	
	Fire extinguishers	Yes	
	Warning signs	Yes	
18	Heavy equipment		Only material delivery vehicles inside the confined working space.
	Warning light	Yes	·
	Area must be barricaded	Yes	
	Correctly positioned & installed	Yes	
	Noise monitoring	Yes	Test performed (Results attached)
	PPEs	Yes	
19	Welding equipment & oxygen cylinders		
	Cylinders stored in enclosed room	yes	
	Warning signs	Yes	
	Proper ventilation	N/A	
20	Reporting of accident		No accident occured so far.
21	Construction activities near high voltage lines	N/A	
	Total no of incidents	N/A	
	Incident investigation reports	N/A	
	General observation		
	Recommendations		

### Appendix H: PROJECT PHOTOGRAPHS

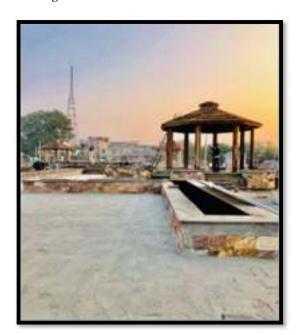
### **Physical Progress Sahiwal Parks:**





Painting work at Kiosk in FT Park

Laying of Tuff Paver on front walkway in FT Park







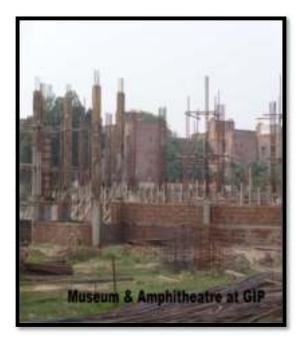
Children Play Equipment in Fateh Sher Park

### **Physical Progress Sialkot Parks:**



Parking Area, Gulshan-e-Iqbal Park

Kiosk, Gulshan-e-Iqbal Park







Planter, Gulshan-e-Iqbal Park

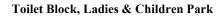




Gazebo, Abdul Hakeem Park

Walkways and Toilt Block at AH Park







Child play Equipments, Ladies & Children Park

### **Physical Progress PLGA:**







### **Good Practices Adopted:**





Use of PPES by Workers at Gulshane Iqbal Park Sialkot





Use of PPES by Workers at Sahiwal & PLGA Site

:









**COVID-19 SOPs Being Followed at Project Sites** 









**Use of Safety Signage at Project Sites** 





Material Covered with Tarpaulin & Water Sprinkling at Project Site



**Solid Waste Management Practices at Project Site** 

### **Quarterly Environmental Monitoring at Project Sites:**









### **Trainings Conducted at Project Sites:**







