

**KHYBER PAKHTUNKHWA RURAL INVESTMENT
AND INSTITUTIONAL SUPPORT PROJECT**

**ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN
FOR
TEHSIL COMPLEX, LANDI KOTAL
DISTRICT, KHYBER**

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List of Acronyms

Communication & Works Department	C&W Department
Construction Contractors	CC
Contractor Environmental and Social Management Plan	CESMP
Environmental Engineer	EE
Environmental Impact Assessment	EIA
Environmental Protection Agency	EPA
Environmental Protection Ordinance	EPO
Environmental and Social Framework	ESF
Environmental and Social Management Plan	ESMP
Environmental and Social Standards	ESS
Federally Administered Tribal Area	FATA
Frontier Regions	FRs
General Environmental Assessment	GEA
Government of Khyber Pakhtunkhwa	GoKP
Government of Pakistan	GOP
Grievance Redress Mechanism	GRM
Initial Environmental Examination	IEE
Khyber Pakhtunkhwa	KP
KP Rural Infrastructure and Institutional Support Project	KPRIISP
Newly Merged Districts	NMDs
National Environmental Quality Standards	NEQS
Planning & Development Department	P&D Department
Pakistan Environmental Protection Act	PEPA
Pakistan Environment Protection Agency	Pak-EPA
Personal Protective Equipment	PPEs
Project Coordination & Management Unit	PCMU
Project Director	PD
Project Implementation Unit	PIU
Pakistani Rupees	PKR
Supervision Consultants	SC

Executive Summary

The Khyber Pakhtunkhwa Rural Infrastructure and Institutional Support Project (KPRIISP), funded by the World Bank, strengthens governance and service delivery in Pakistan's historically underserved Newly Merged Districts (NMDs). It aligns with the Tribal Decade Strategy (2020–2030) to build citizen-centric institutions and uplift vulnerable groups, particularly women. As a key subproject, a new Tehsil Complex in Landi Kotal (Khyber District) will be developed on 24 kanals of land to address critical administrative and residential gaps. The complex will house offices for the Tehsil Administration, Tehsil Municipal Administration, and 20-line departments; residential units for government staff; and public amenities including a post office, bank, female cafeteria, daycare center, green spaces, washrooms for females and disabled persons, ramps, and secure waiting areas.

Landi Kotal faces environmental and social challenges: water turbidity, water scarcity, presence of Particulate Matter (PM) and Nitrogen Dioxide (NO₂) higher values than the permissible standards in the air, causing health risks for the residents and climate extremes (droughts/floods), low female literacy (12.66%), and limited economic opportunities.

The ESMP ensures compliance with the World Bank's Environmental and Social Framework (ESF) and KP's Environmental Protection Act (2014), adopting proactive measures to mitigate risks. A stakeholder consultation, involving key district stakeholders, at the Tehsil level was held, aimed at evaluating the site's accessibility, safety, and sustainability. Participants recommended features such as ramps, gender-sensitive facilities, and separate waiting and washroom areas, respecting cultural norms. Environmental protection measures include waste management, a proper drainage system, and additional plantation of native species, recommended to promote sustainability. Continuous stakeholder consultations via community briefings and a Grievance Redress Mechanism (GRM) accessible via phone, email, or in-person (resolution within 15 days) are part of the ESMP.

The ESMP provides a structured framework for potential environmental and social risks, defining mitigation targets, assigning responsibilities, and ensuring adequate resource allocation. Key focus areas during the design/pre-construction phase include compliance with seismic and structural design standards, sustainable drainage planning, solid waste management, and detailed health and safety measures. In the construction phase, it addresses critical concerns such as air and water pollution control, noise and vibration mitigation, soil conservation, traffic management, labor safety, communicable disease prevention, and preservation of flora and fauna. It emphasizes proactive planning, continual monitoring, and strict adherence to environmental safety protocols.

A Capacity Building and Training component provides support to the effective implementation of the ESMP by enhancing the skills and environmental awareness of project personnel. This includes targeted training programs for the contractor's workforce and client-side professionals. A well-defined institutional framework that assigns clear roles and responsibilities across project stakeholders. The primary entities responsible include the Project Implementation Unit (PIU), the Supervision Consultant's Environmental Engineer, the Contractor's Site Environmental Engineer, and the Khyber Pakhtunkhwa Environmental Protection Agency (EPA) as the regulatory authority. A project's reporting framework is developed to ensure transparency, accountability, and timely communication with all relevant stakeholders, particularly concerning environmental and social performance.

The total Environmental & Social (E&S) implementation budget is **PKR 8,784,000/-**, covering mitigation measures, GRM operation, community engagement, and monitoring. This integrated approach prioritizes sustainability, social inclusion, and transparency throughout the project lifecycle.

2. INTRODUCTION

2.1 Project Description with scope of work

The Tribal Decade Strategy (2020-2030) points to the extension of administrative and service delivery systems as a critical pre-requisite for improving development outcomes for areas facing some of the highest poverty rates in Pakistan. In this context, the Government of Pakistan (GOP) and GoKP have requested World Bank financing to support the first phase of the Tribal Decade Strategy, with a strategic focus on building responsive and accountable institutions for service delivery and development in the Newly Merged Districts (NMD) and Frontier Regions (FRs). The World Bank-funded KP Rural Infrastructure and Institutional Support Project (KPRIISP) will provide complementary and foundational investments in infrastructure and institutional systems that would strengthen the Government's investments, both recurring and development investments, in the merged areas. The KPRIISP aims to enhance service delivery and socio-economic development in the NMD and FRs of KP, addressing long-standing disparities resulting from historical governance gaps and inadequate infrastructure. Aligned with the Tribal Decade Strategy (2020–2030), the project focuses on strengthening integrated service delivery centers at district, sub-divisional, and Tehsil levels, building local government capacity for inclusive and participatory planning, and investing in critical public services, particularly benefiting poor and vulnerable households. Spanning eight NMDs and six FRs, the project emphasizes responsive and accountable institutions, improved infrastructure, and active citizen participation, including empowering women at the grassroots level, to foster sustainable development and reduce multidimensional poverty.

2.2 Project Development Objective

The site for the proposed subproject complex is located on the Jinah Road in Landi Kotal. The site coordinates and site pictures, showing the existing situation of the site, are placed at Annexure-9 with the ESMP. The overall aim of the proposed Tehsil complex is to fulfil the office and accommodation needs of the growing number of Government Officials and employees at the Tehsil headquarters. The specific objectives are:

- i) To provide the office accommodation requirements for the Tehsil Administration, Tehsil Municipal Administration, and Line Departments with all required basic and allied facilities.
- ii) To meet the residential demands of Government Officers, associated staff, and allied services.

While preparing the E&S screening checklist of the subproject it has been observed that the construction activities of the proposed Tehsil Complex will have some moderate level concerns/impacts, within the site and immediate surrounding areas, such as air and water pollution, noise and vibration, soil conservation, generation of construction and solid waste, traffic management, labor safety, and preservation of flora and fauna can arise. In view of this fact, the ESMP provides a key focus on air and water pollution control, noise and vibration mitigation, soil conservation measures, sustainable drainage planning, solid waste management, and detailed health and safety measures.

2.3 Project Components

The proposed new Tehsil complex site is spread over an area of 24 kanals of land and has the following components:

1. One block having Basement + Ground + 2-storied Office building for Tehsil Administration.
2. Three blocks have a ground + 2-storied building for the line departments, accommodating 20 departments.
3. One block having a ground + 2-storied Office building for the Tehsil Municipal Administration.
4. One Amenity block having a Ground +2-storied building for allied facilities.
5. Two blocks of 2-bedroom apartments for Government Officials.
6. One block of 3-bed apartments for Government Officials.
7. 3 Number of Residences of Ground First floor for Officers.

In addition to the proposed new construction of buildings for Offices and residential accommodation, the subproject includes the demolition of the few existing, depleted office buildings and residential units to provide the required space for the new proposed buildings. The details of the building to be demolished are as under:

1. TMA Office building
2. Police Station building
3. Tehsildar house
4. Store building
5. Existing Assistant Commissioner's house

The land for the proposed subproject has been in the possession of GoKP for the last 80 years, and presently has a compound of District and Tehsil Administration offices and residences. Therefore, no land acquisition is required for the construction of the proposed Tehsil Complex at the proposed site.

The new proposed Office building blocks provide Offices, meeting rooms, courtrooms, male and female visitors waiting areas, public washrooms (both males and females), kitchens on each floor, a prayer area, service and circulation areas for easy access and circulation of the officials and the public, and car parking facilities for official visitors.

The residences and apartment buildings provide 20 apartments for the Officers and other Government Officials. The proposed complex will have an amenity building that includes a post office, bank, female prayer area, female staff's common room, daycare child center, cafeteria, and kitchen. All the buildings are provided with open lawns within and surrounding for better fresh air circulation and proper parking facilities.

2.4 Area of Influence of the Subproject

The proposed Tehsil complex subproject site is located on the Jinah Road in Landi Kotal and its area of influence within a radius of 500 m are on western northern and southern sides the Pakistan Army Land having some scattered offices buildings, on southern western side is the taxi stand and in around or slightly more than a 1 km radius are a small community of Shinwari tribe, Government School, NADARA Office, Mosque, Police station and the main Bazaar of Landi Kotal.

3. LEGAL, POLICY FRAMEWORK, AND REGULATORY REQUIREMENTS

3.1 Applicable Environmental and Social Policies

The World Bank Environmental and Social Framework sets out the World Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity. The WB's ESF Environmental and Social Standards related to this subproject are as follows:

- **Environmental and Social Standard 1:** Assessment and Management of Environmental and Social Risks and Impacts;
- **Environmental and Social Standard 2:** Labor and Working Conditions;
- **Environmental and Social Standard 3:** Resource Efficiency and Pollution Prevention and Management;
- **Environmental and Social Standard 4:** Community Health and Safety;
- **Environmental and Social Standard 10:** Stakeholder Engagement and Information Disclosure.

These Standards establish objectives and requirements to avoid, minimize, reduce, and mitigate risks and impacts, and where significant residual impacts remain, to compensate for or offset such impacts.

3.2 National and Provincial Legal and Regulatory Framework

Environmental governance in Pakistan has evolved significantly since the introduction of the Environmental Protection Ordinance (EPO) of 1983, providing a legal framework for addressing pollution and environmental degradation. The EPO 1983 was improved after an extensive and prolonged consultative process with all stakeholders, and a new law, the Pakistan Environmental Protection Act (PEPA), was promulgated in December 1997. In 2000, the Pakistan Environmental Protection Agency (Review of IEE and EIA) PEPA Rules were prepared for the operationalization and application of the Act. The 18th Constitutional Amendment devolved environmental governance to the provincial level, allowing provinces to legislate and enforce their environmental laws. Under the 18th Amendment, the Provincial Government enacted the Khyber Pakhtunkhwa Environmental Protection Act of 2014 to protect, conserve, rehabilitate, and improve the environment within the province. Under section 31 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, the Government of Khyber Pakhtunkhwa makes the Khyber Pakhtunkhwa Environmental Assessment Rules 2022. KP Environmental Assessment Rules in Section 2 provide the rules for the proposed assessment of projects. The details of the rules are as under:

4. Projects requiring an EIA or IEE, or GEA. ---Where the project falls with the categories mentioned in Schedules II, III, and IV, the proponent shall file EIA or IEE or GEA, respectively, with the Agency.

5. 6. Preparation of guidelines for EIA, IEE and GEA. --- Guidelines for the preparation of EIA or IEE, or GEA of general and sectoral applicability may be specified by the Agency, provided that such guidelines may indicate specific assessment requirements for planning, construction, and operation of a project relating to a particular sector.

This subproject has low to moderate environmental and social risks and therefore falls in the General Environment Assessment category.

3.3 Institutional Responsibilities

While the Pak-EPA is the federal agency, each province also has its own Environmental Protection Agency (EPA), which works independently within its respective jurisdiction. Khyber Pakhtunkhwa (KP) has its EPA. The KPRIISP project operates in the NMAs, and they are now part of the KP, so the regulatory authority for the KPRIISP and its subprojects is the EPA, KP.

As the E&S expected impacts of the subproject are moderate, therefore, the “General Environment Assessment (GEA) will fulfill the regulatory requirement. A formal approval of the EPA, KP will be obtained before the start of the construction of the proposed subprojects as per the rules of the EPA, KP.

4. ENVIRONMENTAL AND SOCIAL BASELINE

Landi Kotal, also known as Lwargai in Pushto language, is the administrative capital of Tehsil Landi Kotal and Khyber District, KP Province in Pakistan. It is one of the largest towns in the former Federally Administered Tribal Areas. Landi Kotal is situated on the route across the mountains to Peshawar. Shinwari and Afridi are two main tribes living here. Landi Kotal is the main shopping Centre for the Shalmani, Shinwari, Afridi, and Mulagori tribes of the District.

4.1 Environmental Baseline

An environmental baseline characterization of Landi Kotal Town, District Khyber, KP would involve assessing various environmental parameters to understand the existing conditions. The overall environment could include ecological, physical, and biological factors.

Biological Environment

Landi Kotal's is characterized by a diverse floristic composition adapted to its semi-arid, mountainous environment. The ecological/climate region is hot semi-arid (steppe), distinct from the more humid subtropical climate. The biological environment has a diverse vascular plant flora adapted to its semi-arid, mountainous terrain.

Topography: Landi Kotal's topography is defined by its location at the highest point on the Khyber Pass, at 1,072 meters above sea level, therefore, the town is situated within a mountainous region.

Climate: The climate of Landi Kotal is a hot semi-arid (steppe) climate, with long, hot summers and cold, snowy winters. The temperature in summer highs reach up to about 39°C, and winter lows drop to near 5°C or below. Landi Kotal has moderate annual rainfall, roughly in the range of 90–230 mm, with most precipitation occurring in spring and monsoon months; snowfall occurs in winter. The subproject site is not prone to flash floods, and there is no historical evidence of the flash floods in the existing Government compound, Landi Kotal, where the subproject site is located.

Soil Morphology: The soil characteristics are shallow to moderately deep soils, i.e., limited depth, potentially affecting root growth. Soils contain calcium carbonate, influencing nutrient availability. Soils have a mix of particle sizes, impacting water retention. The area's geological composition features, unconsolidated rocks, loose and unbound rock particles. Deposits of clay, gravel, boulders, and sand at varying depths.

Flora and Fauna: The region boasts a diverse range of plant species, including species like deodar ((cedrous deodara), Deodar (Cedrus deodara), fir (Abies pindrow), blue pine (Pinus wallichiana), chir pine (Pinus roxburghii), elm (Ulmus wallichiana), walnut (Juglans regia), oak (Quercus incana), yew (Taxus baccata), birch (betula). Eucalyptus camadulensis (Laachi). The project site has the plant species of Chir Pine (*Pinus roxburghii*), Black Mulberry (*Morus nigra*), Kikar (Acacia nilotica) and Banyan (Bar, Ficus benghalensis). Local communities utilize various plant species for medicinal purposes. The area's vegetation is generally sparse due to limited irrigation and the rugged landscape, but some areas have relatively thick forests. A diverse range of mammals, birds, reptiles, and amphibians is found in the Landi Kotal.

Physical Environment

The water, air, and soil quality in Landi Kotal, District Khyber, present mixed conditions, especially concerning water scarcity and contamination.

Water Quality and Resources: Drinking water in Landi Kotal is sourced mainly from tube wells and springs. Physicochemical parameters such as pH, electrical conductivity (EC), total dissolved solids (TDS), hardness, chloride, and nitrate generally fall within WHO permissible limits. However, turbidity in both surface and underground water sources is a concern. Microbial contamination (total coliform and fecal coliform) in the surface water sources shows an issue in some areas. A significant problem is the declining groundwater level due to prolonged drought and over-extraction. The average underground water table varies from 350 feet to 550 feet in depth. The project site, the Government Officer colony, is getting water from an existing surface source of springs near the Landikhana area.

In the subproject area, there is no underground sewerage system; rather all the existing buildings have septic tanks for the wastewater collection and disposal.

Air Quality and Environmental Concerns: Given Landi Kotal's mountainous and semi-arid environment with limited industrial activity, air pollution is likely less severe compared to urban centers, but could be affected by dust and particulate matter due to dry conditions and local activities. The Particulate Matter (with a diameter less than 2.5 micrometers and with a diameter less than 10 micrometers) and Nitrogen Dioxide (NO₂) are of concern due to their increased levels above the standards, thus causing health risks for the residents.

Geology and Soil Quality: Landi Kotal lies within a region dominated by the thick sequence of Khyber Limestone, exceeding 3,000 feet in thickness, which is Carboniferous to Permian, and possibly Jurassic in age. This limestone overlies older formations such as the Landi Kotal Slate (Ordovician to Carboniferous age), which consists of dark greenish-grey slates and locally metamorphosed schists.

Heavy Rainfall and Flash Flooding: The town has experienced extreme weather events, such as heavy rainfall and hailstorms, which have damaged homes and crops, further exacerbating the challenges the local population faces. The seasonal heavy rainfall usually triggers sudden flash floods sweeping through streets and low-lying areas. The torrential downpour caused severe disruptions, damaging homes, shops, and infrastructure.

4.2 Social Baseline

Landi Kotal's social landscape is characterized by a growing population, significant gender disparities in education, challenges in healthcare access, and a reliance on trade and agriculture for livelihoods. Addressing the socio-economic challenges, particularly in education and healthcare, remains crucial for sustainable development.

Population: As per the 2023 census, Landi Kotal Tehsil has a population of approximately 312,313, reflecting growth from 274,409 in 2017. The urban population stands at 33,697, while the rural population is 240,712. The gender distribution of the town's population comprised 20,084 males and 17,981 females. The average household size in Landi Kotal is approximately 7.86 persons, indicating large family units.

Literacy Rate: The overall literacy rate in Landi Kotal Tehsil is 38.92%. A significant gender disparity exists, with male literacy at 62.99% and female literacy at 12.66%. The low female literacy rate highlights barriers such as limited access to schools, cultural norms, and security concerns that hinder educational attainment for women and girls.

Healthcare Challenges: The limited number of facilities often leads to overcrowding and strained resources. The area faces challenges such as inadequate medical infrastructure, a shortage of healthcare professionals, and limited access to specialized care services.

Economic and livelihood: The economy of Landi Kotal is primarily based on trade, agriculture, and transportation. The town's strategic location along the Khyber Pass facilitates cross-border trade with Afghanistan. A large portion of the households engaged in subsistence agriculture, livestock rearing, and small-scale businesses. Some families also practice traditional handicrafts. Many residents work as both skilled and unskilled laborers or join security and paramilitary forces. Some people often migrate to major urban centers in Pakistan or the Middle East for better employment opportunities.

Religious and Linguistic Diversity: The majority population in the town is Muslim; however, there are religious minorities, mainly Christians and Sikhs. Pashto is the dominant language of the Landi Kotal; however, Punjabi and Sindhi are also spoken primarily due to the presence of Armed Forces personnel.

5. STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

5.1 Public Consultation

Subproject stakeholders were identified, and a consultation session was conducted on April 29, 2025, in the Tehsil Administration Office, Landi Kotal, with the relevant government department and communities, the list of participants is in Annex 10. Sample-based approach has been adopted. The objectives of the consultation were to inform the stakeholders about the subproject design and environmental and social impacts during the project implementation. Suggestions and concerns were recorded and addressed in this ESMP for compliance during the execution phase. Stakeholder consultations will remain a continuous process under the subproject and will be further carried out as per the guidelines given in SEP. The views of the stakeholders are presented below: The main findings of the consultation are:

- Stakeholders viewed the proposed site for the Tehsil Complex as an easily accessible site for the public, including women, the elderly, and administrative use.
- The site is inside a guarded compound, so it is very safe for the women to visit the Government Offices for their required official work in the offices.

The suggestions that the stakeholders made in the consultation and their respective responses are presented in the following table:

Table 1: Stakeholder Recommendations and the Respective Response

Serial No.	Stakeholder Recommendation	Response to the Recommendation
1.	Provide ramps with handrails at various places for the special and elderly persons' access, and specially designed separate washing rooms for special and elderly persons.	Will be incorporated in the building at the time of finishing stage of construction.
2.	Separate waiting areas and washrooms for visiting women to honour their privacy and "Parda."	Incorporated in the Design of the building.
3.	Including gender-sensitive facilities, such as dedicated desks for women to raise grievances and access public services in a secure and supportive environment.	Will be incorporated in the building at the time of the operation stage.
4.	Several community-centred facilities, including public washrooms, a community library, making the complex more than just an administrative space and aligning with broader goals of public service delivery.	The provision of public washrooms is incorporated at the design of the building. The community library would be incorporated at the time of operation of the complex; there are spaces provided in the design that suits this suggestion.
5.	Additional tree plantations and the establishment of a proper waste management system as part of the construction plan to enhance sustainability and reduce environmental degradation.	Incorporated in the design of the Tehsil Complex.

5.2 Stakeholder Identification and Analysis

The purpose of stakeholder identification and analysis is to systematically identify individuals, groups, and organizations who may be affected by or have an interest in the proposed subproject activities, and to assess their interest and roles. This ensures that engagement efforts are inclusive, contextually appropriate, and effective in addressing both risks and opportunities. Stakeholders have been categorized based on their relationship to the subproject. They are the primary stakeholder, those individuals and groups directly affected, positively or negatively, by the subproject. Secondary stakeholders are, who have an interest in the project but are not directly affected. The following Table represents the identified stakeholders and their potential interest in the project.

Table 2: Stakeholders Identification and their respective Interest and roles

Serial No.	Stakeholders	Project Impact, their Interest, and role
Primary Stakeholders		
1.	Assistant Commissioner, Landi Kotal, District Khyber, KP	Concerned about potential impacts such as noise, dust, water access, and disturbance in routine activities due to construction. Benefit from improved Office accommodation and facilities.
2.	Additional Assistant Commissioner, Landi Kotal, District Khyber	Concerned about potential impacts such as noise, dust, land use, water access, and disturbance in routine activities due to construction. Benefit from improved Office accommodation and facilities.
3.	Engineer PHED, Landi Kotal, District Khyber	Concerned about potential impacts such as noise, dust, land use, water access, and disturbance in routine activities due to construction. Benefit from improved Office accommodation and facilities.
4.	Tehsildar, Landi Kotal, District Khyber KP	Concerned about potential impacts such as noise, dust, land use, water access, and disturbance in routine activities due to construction. Benefit from improved Office accommodation and facilities.
5.	Families of the Government Officials living in the area in existing houses	Concerned about potential impacts such as noise, dust, land use, water access, and disturbance in routine activities due to construction. Benefit from improved Office accommodation and facilities.
6.	Vulnerable and Marginalized Groups (Families living in servant quarters of existing houses)	Women, the elderly, and persons with disabilities may not get specific attention to ensure inclusive participation and to avoid exclusion or disproportionate negative impacts.
Secondary Stakeholders		
7.	Local Religious Leaders (Imams, Pesh Imams)	Hold moral authority and can influence public perception of the project.

8.	Local Administrative Authorities (Tehsil and District Level)	Involved in need assessments, land coordination, law and order, and service delivery.
9.	Environmental Protection Agency, Khyber Pakhtunkhwa (EPA-KP)	Regulatory authority responsible for ensuring environmental compliance and reviewing ESMP documentation.
10.	Contractor (s) and Construction Workers	Involved in implementation; requires clear orientation on social and environmental safeguards.
11.	Media and Information Channels (Local Radio Channels)	Important for public disclosure, awareness-raising, and helping to spread accurate information.

5.3 Stakeholder Engagement Plan & Disclosure

This Stakeholder Engagement and Disclosure Plan outline how stakeholders will be involved and informed during the **construction phase** of the project under the ESMP in Landi Kotal. Its purpose is to ensure continuous two-way communication, enhance social accountability, reduce conflicts, and foster community support through timely and culturally appropriate engagement.

Table 3: Engagement Activities and Methods (During Construction)

Activity	Target Stakeholders	Frequency	Communication Method	Responsibility
Community Briefings	Residents (male & female), tribal elders' local community-based organizations	Monthly	Public meetings, mosque announcements, and community centers	Contractor's social staff, Supervision Consultant Social Staff
Information Disclosure	General public	Ongoing	Posters, notice boards, Urdu & Pashto pamphlets	Communication Officer, PIU C&W
Focused Group Discussions (FGDs)	Local Residents	Bi-monthly	Small group meetings, female outreach through the Gender staff	Social and Gender Staff
Grievance Redress Mechanism (GRM) Activation	All stakeholders	Continuous	Complaint boxes, hotline, in-person reporting, and all intake measures as these become available	Grievance Officer
On-site Signage & Safety Notices	Public, labor, commuters	Continuous	Visual safety signs, barriers, and flagmen	Contractor HSE team
Coordination Meetings	District administration, EPA-KP	Quarterly	Formal briefings, email reports, and written updates	PIU

6. ENVIRONMENTAL AND SOCIAL MONITORING PLAN

6.1 Potential Environmental and Social Impacts, Mitigation Measures, and Monitoring Plan

The Environmental and Social Management Plan (ESMP) provides the framework for the implementation of the mitigating measures and environmental management and monitoring during the construction and operation phases of the proposed subproject. The proper implementation of the ESMP will ensure that any adverse environmental impacts are adequately mitigated, either totally, prevented, or minimized to an acceptable level, and required actions to achieve those objectives are successfully taken by the concerned institutions or regulatory agencies. The implementation of ESMP will be carefully coordinated with the design, construction, and operation programs of the project to ensure that relevant mitigation measures are implemented at the appropriate stage and adequate resources are properly allocated to achieve the desired results.

Table 4 depicts impacts, targets, mitigations, and the responsible authorities for the implementation of the mitigation measures during design, construction, and operational phases.

Table 4: Environmental Management Plan

Sr. No.	Parameters	Target	Mitigation	Responsibility
Design/pre-construction Phase				
1	Design & Layout Planning	Intended to fulfil all the desired needs of the Tehsil Administration, enhance the complex aesthetic, and focus on the functional aspects of the complex	All structural, layout, and engineering design of the Tehsil complex should strictly follow the applicable laws and engineering parameters.	PIU, C&W
2	Drainage	To prevent flooding and pooling	- Provision of appropriate drainage facilities and structures should be provided in the building complex. - Proper slopes shall be incorporated in the design feature to avoid the formation of a water layer on road surfaces in rainy seasons.	PIU, C&W
4	Seismic Hazard	To minimize the structural damage	The proposed building and structures will be designed and constructed to withstand low to moderate earthquakes.	PIU, C&W
5	Traffic Management	To minimize traffic problems in the project area	- A proper traffic management plan shall be formulated and announced before construction to avoid traffic jams/public inconvenience. - Plan the timing for the movement of construction materials carrying vehicles to reduce traffic load and avoid inconvenience to the residents.	PIU, C&W

6	Health and Safety	To minimize health risks	- Preparation of a health and safety plan to minimize health risks; and - An emergency response plan should be formulated that emphasizes a line of action for rescue, medical emergencies, natural disasters, and firefighting operations.	PIU, C&W
7	Solid Waste Management	To manage (i.e., collect and dispose) the solid waste safely at appropriate sites.	- Incorporate technical design features for refuse collection and safe disposal at sites that would minimize burning impacts; and - Devise plan(s) for safe handling, storage, and disposal of harmful materials	PIU, C&W
Construction Phase				
1	Noise and Vibration	To minimize noise pollution	- Selection of up-to-date and well-maintained plant or equipment with reduced noise levels ensured by suitable in-built damping techniques or appropriate muffling devices; - Confining excessively noisy work to normal working hours in the day, as far as possible; - Providing the construction workers with suitable hearing protection like ear caps, or earmuffs, and training them in their use; - Restricting construction vehicles' movement during nighttime; - Avoid the use of heavy drill machines to avoid the vibration effect on the surrounding buildings. - Vehicles and equipment used should be fitted, as applicable, with silencers and properly maintained; - Use of low noise machinery, or machinery with noise shielding and absorption; - Contractors should comply with the submitted work schedule, keeping noisy operations away from sensitive points; implement regular maintenance and repairs; and employ strict implementation of operation procedures	Construction Contractor (CC)
2	Soil Erosion	To minimize soil erosion and contamination.	- All spoils shall be safely disposed off as desired, and the site will be restored to its original conditions; - Unnecessary excavations should be avoided;	CC

			- Septic tanks of adequate capacities will be constructed for receiving and treating wastewater from all temporary worksite toilets and at the temporary container offices, if any. The toilet wastewater should not be discharged untreated onto the adjacent lands/sewers/disposal station; and - Washout from washing of equipment and gadgets will be drained into either a septic tank or a sand-gravel bed for removal of the grit and contaminants.	
3	Air Pollution	To minimize air pollution	- All excavation work will be sprinkled with water to control dust. - The excavated material shall be covered and shall not be stored for long intervals. - Preventive measures against dust should be adopted for on-site mixing and unloading operations. Regular water sprinkling of the site should be carried out to suppress excessive dust emissions. - All vehicles, machinery, equipment, and generators used during construction activities should be kept in good working condition and be properly tuned and maintained to minimize the exhaust emissions. - All vehicles, machinery, and equipment used for the construction shall be plugged off or switched off immediately after completion of their work to avoid idling conditions; - Filter shall be installed at the point sources (machinery or equipment) of air emissions and shall be replaced regularly; - Emissions from power generators and construction machinery are important point sources at the construction sites. Proper maintenance and repair are needed to minimize hazardous emissions. - Open burning of solid waste from the Contractor's camps should be strictly banned; - Construction workers should be provided with masks for protection against the inhalation of dust; and	CC,

			PEQS applicable to gaseous emissions generated by construction vehicles, equipment, and machinery should be enforced during construction works.	
4	Water Quality and availability	To protect the ground and surface water resources from any kind of pollution due to the subproject	- Protection of surface and groundwater reserves from any source of contamination, such as the construction and oily waste that will degrade their potable quality. - Wastewater effluent from the contractor's workshop and equipment washing yards should be passed through gravel/ sand beds to remove oil/ grease contaminants before discharging to the final disposal point. - The solid waste will be disposed off in designated landfill sites to protect underground water contamination. - Water required for construction is obtained in such a way that the water availability and supply to nearby communities remain unaffected. - For construction purposes, water shall be drawn from surface water bodies on priority and as available. - Regular water quality monitoring according to a determined sampling schedule. - The contractor shall ensure that construction debris does not find their way into the drainage network, which may get clogged. - Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins, and collect wastewater in a sedimentation/retention pond. - Waste must not be disposed off into any surface water body.	CC, SE
5	Solid, Construction Waste, and Hazardous Waste	To minimize the solid, construction, and hazardous waste	- Wastewater effluent from the contractor's workshop and equipment washing yards would be passed through gravel/ sand beds to remove oil/ grease contaminants before discharging it into natural streams. - Training of the working force in the storage and handling of materials and chemicals that can potentially cause soil contamination. - Solid waste generated during construction and camp sites will be	CC, SC

			safely disposed off in demarcated waste disposal sites, and the contractor will provide a proper waste management plan. ▪ Burning of waste will be prohibited. ▪ Proper labelling of containers, including the identification and quantity of the contents, hazard contact information, etc. ▪ Training employees involved in the transportation of hazardous material regarding emergency procedures. ▪ Providing the necessary means for emergency response on call 24 hours/day. ▪ The sewage system for the campsite will be properly designed (pit latrines or, as required, septic tanks) to receive all sanitary wastewaters. ▪ Lined wash areas will be constructed at the site for the receipt of wash waters from construction machinery. ▪ Covering material during heavy rainfall. ▪ Locating stockpiles to minimize potential visual impact. ▪ Minimizing the land intake of stockpile areas as far as possible.	
6.	Removal of Asbestos causing health risks due to fibers of Asbestos contaminating air, soil, and water. Lung's cancer and mesothelioma are known risks.	To protect humans from health risks and to prevent fiber release and contamination.	Once it is established that Asbestos material is present in the underground wastewater pipes of the old building to be demolished, the following measures will be ensured: ▪ A licensed and Qualified firm will be engaged to identify and plan for safe management, storage, and disposal of asbestos-containing materials. ▪ Use of specific PPEs will be ensured at the time of removal, storage, and disposal. ▪ Apply a wetting agent (Water, etc) to reduce fiber release during removal and storage process. ▪ Asbestos-containing materials will be stored in closed containers away from direct sunlight, wind and rain. ▪ Limiting access to waste storage areas to employees who have received proper training. ▪ Identifying (label) and demarcating the area, including documentation of its location on a facility map or site plan.	PIU, CC, SC

			- All waste containers designated for off-site shipment should be secured and labeled with the contents and associated hazards, and be properly loaded on the transport vehicles before leaving the site. - Safe disposal of the containers. - Area, equipment, and PPEs will be decontaminated.	
7	Health and safety of workers and associated communities	To minimize health risks	- Obligatory insurance against accidents for laborers/workers shall be ensured; - Basic medical training shall be imparted to specified work staff, and basic medical service and supplies to workers shall be made available at the site. - Layout plan for campsite, indicating safety measures taken by the contractor, e.g., firefighting equipment, safe storage of hazardous material, first aid, security, fencing, and contingency measures in case of accidents; - Work safety measures and good workmanship practices are to be followed by the contractor to ensure no health risks for laborers. - Protection devices (ear muffs) should be provided to the workers doing a job in the vicinity of high noise-generating machines; - Provision of protective clothing for laborers handling hazardous materials, e.g., helmet, adequate footwear for bituminous pavement works, protective goggles, and gloves etc. - Ensure strict use of protective clothing during work activities; - Emergency number shall be placed at worksites; - Elaboration of contingency planning in case of major accidents; - Instruct the construction supervisor to strictly enforce the keeping out of non-working persons, visitors, particularly children, off work sites; and - Adequate signage, lightning devices, barriers, yellow tape, and persons with flags during construction to manage traffic at construction sites, haulage, and access roads.	CC, SC

			▪ There should be proper control on construction activities and oil spillage leakage from vehicles. ▪ Efforts will be made to create awareness about road safety among the drivers operating construction vehicles. ▪ Timely public notification on planned construction works. ▪ Provide proper safety and diversion signage, particularly at sensitive/accident-prone spots. ▪ Setting up speed limits in close consultation with the local stakeholders. ▪ The labor staff with any transmissible diseases should be restricted to the construction site. ▪ The communicable disease of most concern during the construction phase, like sexually-transmitted disease (STDs) such as HIV/AIDS, should be prevented by successful initiatives typically involving health awareness, education initiatives, training of workers in disease treatment, immunization programs, and providing health services; and ▪ Reducing the impacts of vector borne diseases on long-term health effect of workers should be accomplished through implementation of diverse interventions aimed at eliminating the factors that lead to disease, which includes prevention of larval and adult propagation of vectors through sanitary improvements and elimination of breeding habitat close to human settlements and by eliminating any unusable impounding of water. ▪ A supply of safe drinking water will be made available and maintained at the project site(s). ▪ Chlorinated disinfecting spraying must be conducted at the work site(s). ▪ Prohibition of entry for the local community/any unauthorized persons at work sites. ▪ Proper hygiene practices in the toilets and washrooms will be implemented	
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			with proper and adequate use of soaps and disinfectant spray.	
8	Labor Camp	To minimize loss of assets and vegetation due to labor movement, to prevent degradation of the environment due to construction camps, and to ensure the camp presence does not cause any concerns for the nearby community.	- All the workers staying in the camp will be issued ID cards for security purposes. - Provision of all required medical health facilities in the camp for emergency health services. - The camps will be properly fenced and gated to prevent the entry of outsiders into the camp. - Entry for the local community/any unauthorized persons at the campsite will be prohibited. - Preparation of Waste Management Plan addressing the classification, storage, and disposal of all solid wastes and the training of employees for handling the hazardous materials. - Training will be provided to all staff members on camp management rules and overall discipline, and cultural awareness. - The constructor will submit labor camp management plan.	CC
9	Flora and fauna	To protect, conserve, and minimize the impact on flora and fauna	- All efforts will be made to protect and conserve the existing trees. - Any tree(s) are at the building spot and their cutting is unavoidable; each tree will be replaced with 10 trees of the same species in the available land. - The Contractor's staff and labor will be strictly directed not to damage any vegetation, such as trees or bushes. - Contractor will provide gas cylinders at the camps for cooking purposes, and cutting of trees/bushes for fuel will not be allowed. - Hunting and poaching of animals will be strictly prohibited, and the Contractor will warn their labor accordingly. - The camps will be properly fenced and gated to prevent the entry of animals in search of edible goods. - Waste from the camps will be properly disposed off to prevent the chances of being eaten by animals, which may become hazardous to them; - Special measures will be adopted to minimize impacts on the birds, such as avoiding noise-generating activities during critical periods of breeding.	CC, SC

			Staff working on the project should be given clear orders not to shoot, snare, or trap any bird.	
10	Traffic Management	To minimize traffic problems in the project area	- A proper traffic management plan will be prepared and implemented to avoid traffic jams/public inconvenience. - Movement of vehicles carrying construction materials should be restricted during the daytime to reduce traffic load and inconvenience to the residents. - The executing agency must maintain liaison between the residents/visitors, travelers, and the contractor to facilitate traffic movement during the construction stage.	CC, SC, and PIU
14	Communicable diseases	To minimize the spread of Communicable diseases	A communicable disease prevention program will be prepared for construction workers or residents near the construction sites. - Reporting employees showing symptoms such as fever or high body temperature, coughing, difficulty breathing, or chest pain, send them to a clinic or the nearest hospital immediately. - Awareness and implementation of the Quarantine Procedure for all employees who have come back from vacation. - Ensure Disinfection of offices and machinery periodically. - Provision of face masks, instruction boards, and signage at different locations for health hazards awareness.	CC
Operational Phase				
1	Natural Hazard	To minimize the risk of structural collapse and flooding in the Tehsil complex	- Ensure that the new structures can withstand earthquake impacts; - Inspections should be conducted at appropriate intervals by qualified personnel to ensure the integrity of structures, and - Develop an emergency response plan for the rainwater flooding in the sup project site.	PIU
2	Waste	To minimize and store the solid waste	A proper waste management system, including provision of waste bins, regular sweeping, and collection of waste, will be adopted during the operational phase.	PIU

3	Drainage	To prevent flooding and pooling	Routine inspection and maintenance of the drainage system shall be scheduled and implemented.	PIU
4	Flora	To maintain flora in the Tehsil complex	- Routine inspection will be carried out to check the maintenance of the Tehsil complex. - Weeds will be monitored weekly and removed no less than every two weeks; - Any tree that poses a concern to public safety will be immediately barricaded and evaluated by an ecologist. Issues of immediate concern would be trees or branches that are leaning or broken, that may fall onto an area of pedestrian or vehicular activity. - Use of fertilizers in open spaces should be strictly monitored to avoid any incident. - Natural nutrients should be preferred.	PIU

Environmental Monitoring is undertaken during both the construction and operational phases to ensure the effectiveness of the proposed mitigation measures. Certain environmental parameters are selected, and quantitative & qualitative analyses are carried out. The results of the analysis are compared with the guidelines, standards, and pre-project conditions to investigate whether the EMP and its implementation are effective for the mitigation of impacts or not.

Parameters to be analyzed during pre-construction, construction & operation of the project, responsibilities for monitoring have been discussed and provided in Tables 4 to 6 below.

Table 5: 'Pre-Construction' Monitoring Plan for Baseline Development

Parameter to be measured	Objective of Monitoring	Parameters to be Monitored	Measurements	Location*	Frequency	Responsibility
Ambient Air Quality	To establish baseline air quality levels	CO, NO ₂ , SO ₂ , O ₃ & PM ₁₀ (particulate matter smaller than 10 microns) concentration at the receptor level	1-hr and 24-hr concentration levels	At three random receptor locations in the project area	Once	CC
Ambient Noise	To establish baseline noise levels	Ambient noise level near the receptors in the project area	A-weighted noise levels – 24 hours, readings taken at 15 s intervals over 15 min. every hour, and then averaged	At three random receptor locations in the project area	Once	CC

Groundwater Quality	To establish the groundwater quality in the project area	Groundwater quality in the project area	Water samples for comparison against NEQS parameters	At two locations around the site in the project area	Once	CC
Surface water quality	To establish surface quality in the project area	Surface water quality in the project area	Water samples for comparison against NEQS parameters	At two locations around the site in the project area	Once	CC

* Monitoring Locations to be finalized jointly between PIU Safeguards staff and the Supervision Consultant (SC).

Table 6: Construction Phase Monitoring Requirements

Project Activity and Potential Impact	Objective of Monitoring	Parameters to be Monitored	Measurements	Location	Frequency	Responsibility
Noise Disturbance due to noise from construction activity	To determine the effectiveness of noise abatement measures on sound pressure levels	Ambient noise level at different locations in the project area	A-weighted noise levels – 24 hours, readings taken at 15 s intervals over 15 min. every hour at 15 m from the receptors, and then averaged	At five random receptor locations in the project area	Quarterly basis on a typical working day	Contractor's Environmental Officer, SC
Air Quality Dust emissions from construction vehicles and equipment	To determine the effectiveness of the dust control program on dust at the receptor level	CO, NO ₂ , SO ₂ , O ₃ & PM ₁₀ (particulate matter smaller than 10 microns) concentration at the receptor level	1-hr and 24-hr concentration levels	At five random receptor locations in the project area	Quarterly basis on a typical working day	Contractor's Environmental Officer, SC
		Visible dust	Visual observation of the size of dust clouds, their dispersion, and	Constructi on site At the location of	Once daily during the peak construction period	Contractor's Environmental Officer, SC

			the direction of dispersion Water Sprinkling to settle down the dust.	the digging Area	As and when the dust appers at the construction site	
Groundwater Quality	To establish the groundwater quality in the project area	Groundwater quality in the project area	Water samples for comparison against NEQS parameters	At five locations around the site in the project area	Quarterly	Contractor's Environmental Engineer (CEE), SC
Safety precautions by workers	To prevent accidents for workers and the general public	Number of near-miss events and accidents taking place	Visual inspections	Constructi on site	Once Daily	Contractor's Environmental Engineer (CEE), SC
Soil Contaminatio n	To prevent contamination of soil from oil and toxic chemical spills and leakages	Incidents of oil and toxic chemical spills	Visual inspections	At constructi on sites and vehicle and machinery refuelling & maintenanc e areas	Once a month	Contractor's Environmental Engineer (CEE), SC
Solid Waste & Effluent Disposal Insufficient procedures for waste collection, storage, transportation , and disposal	To check the availability of the waste management system and its implementation	Inspection of solid and liquid effluent generation, collection, segregation, storage, recycling, and disposal will be undertaken at all work sites in the project area	Visual inspections	At work sites in the project area	Once daily.	Contractor's Environmental Engineer (CEE), SC

* Monitoring Locations to be finalized jointly between PIU Safeguards staff and the Supervision Consultant (SC).

Table 7: Operation Phase's Environmental Monitoring Plan

Parameter to be measured	Objective of Monitoring	Parameters to be Monitored	Measurements	Location	Frequency	Responsibility
Solid Waste Management	To assess whether solid waste generated from WBDC is managed as per EMP requirements	All waste being generated is being managed and disposed off as per international good practices	Solid waste inventory audit	Tehsil Complex premises	Bi-Annual	PIU, Tehsil Administration

6.2 Grievance Redress Mechanism (GRM)

The Grievance Redress Mechanism (GRM) is an institutional arrangement which provides the project's stakeholders an opportunity and a structured mechanism to submit their concerns. The grievance redress mechanism will focus on the following steps/points during the implementation process:

- Record grievances, both written and oral, categorizing and prioritizing them, and providing solutions within an agreed-upon timeframe;
- Reporting to the aggrieved parties about the resolutions regarding their grievances and the decision;
- Dissemination of various reporting channels such as complaint boxes, complaint register, PIU phone numbers, online complaint registration and proformas for complaints.
- All information about grievance procedures, grievance forms, and responses will be available in languages readily understandable to the locals.
- During GRM orientation, inform labor and associated staff about alternative reporting channels, including the GRM register, telephone numbers, and online portals, in addition to the GRM boxes.
- All complaints received will be treated with confidentiality.

The Grievance Redress Mechanism (GRM) is an effective tool for early identification, assessment, and resolution of concerns, complaints and suggestions. A key emphasis will be to quickly respond to all highlighted and reported concerns or grievances, as per the KPRIISP GRM Manual.

Grievance Registration and Resolution Process

Submission: Complainants can lodge grievances through:

- **Focal Person:** Deputy Director (Environment & Social), PIU C&W KP-RIISP
- **Phone:** +92 91 9224272
- **Email:** usmanshinwari179@gmail.com
- **Website:** <https://www.cwd.gkp.pk/projects/KP-RIISP>
- **In person/letter:** House No. 8-BC, Park Road, University Town, Peshawar, Khyber Pakhtunkhwa
- **Complaint Box/Registers** at site offices

Recording and Categorization: All grievances (oral or written) will be registered, categorized (urgent/regular), and logged in a centralized GRM database.

Investigation and Resolution:

The Deputy Director (E&S) will coordinate with C&W PIU staff or field officers to investigate the issue. The resolution will be shared with the complainant within the agreed timeframe.

Follow-up and Feedback:

The complainant will be informed in writing (or preferred method) of the decision/resolution and any follow-up actions.

Appeal and Escalation Mechanism:

If not satisfied, complainants may escalate the issue to:

- **Project Coordination & Management Unit (PCMU), P&D Department**
 - **Focal Person:** Senior Social Development Specialist
 - **Phone:** 0919213022
 - **Email:** ssds@kp-riisp.gov.pk
 - **Address:** Civil Secretariat, Peshawar, KP

Grievance Redress Committee (GRC)

To support timely grievance handling, a Grievance Redress Committee (GRC) will be formed at the PIU level. The GRC will meet on a regular basis (or as needed) to address escalated or complex grievances.

Composition of GRC (PIU C&W):

Designation/Organization	Position in PIU GRC
PD PIU C&W	Head/convener of GRC
DD E&S PIU C&W	Secretary of GRC
DD Procurement Specialist PIU C&W	Member
Tehsil/District Focal Person	Member
Contractor	Member
Community Representative(s)	Member
Environment/Social/Gender Specialist, Meinhardt Consultant, PIU C&W	Observer
Co-opted/Invited member(s) E.g. complainant, lawyer, relevant govt. Official, etc	Member/Observer

Composition of the GBV GRC (PIU C&W):

Composition	Status
Project Director, PIU C&W, KP-RIISP	Chairman
Deputy Director, Procurement Specialist, PIU C&W, KP -RIISP	Secretary / Member
Deputy Director, (E&S), PIU C&W, KP-RIISP	Member
Gender Specialist (Female), Meinhardt Consultant, PIU C&W, KP-RIISP	Observer
Social Specialist, Meinhardt Consultant, PIU C&W, KP-RIISP	Observer
Any Co-opt member	Member/observer

Working Arrangements:

GRC meeting will be held at the PMU or any other location agreed by the Committee. If needed, GRC members may undertake field visits to verify and review the dispute issues.

If the affected person is not satisfied with the decision of GRC at PMU, then it can be referred to the Project Steering Committee for resolution. If the complainant does not accept the resolution, or chooses to accept it, this will be

confirmed in writing. The complainant may also seek redress through courts or other mechanisms available in case of non-acceptance.

GRM Awareness and Capacity Building

- Awareness sessions will be conducted for laborers, contractors, local communities, and other stakeholders.
- Orientation on GRM channels, procedures, and available support will be integrated into community consultations and labor inductions.
- GRM posters, brochures, and contact details will be displayed at all construction and project sites.

6.3 Capacity Building and Training

To raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. The SC will play a key role in this respect and supervise the arrangements for training.

The contractor's environmental awareness and appropriate knowledge of environmental protection is critical to the successful implementation of the EMP, as without appropriate environmental awareness, knowledge, and skills required for the implementation of the mitigation measures, it would be difficult for the contractor's workforce to implement effective environmental protection measures. A suitable training program is proposed to train the Contractor's staff who will be involved in the Construction Phase and the professional staff from the client involved at the operational stage of the project. The details of this training program are presented in Table 7.

Table 8: Personnel Training Program

Provided by	Contents	Trainees/Events	Duration
Consultants/ organizations Specializing in environmental management and monitoring	Short training session, on: Environmental laws and regulations, daily monitoring and supervision	Two training sessions, one For PIU staff and one for Contractor project staff	2 Days
Consultants/ organizations specializing in Occupational health and Safety	Short lecture relating to Occupational Safety and Health	One seminar for contractor's staff	1 Day
Consultants/ organizations specializing in Grievances Redressal Mechanism	Training session on what is GRM, how it's working, and who to be approached for redressal of complaint	One session for the Surrounding community.	1 Day

6.4 Institutional Arrangements and Roles

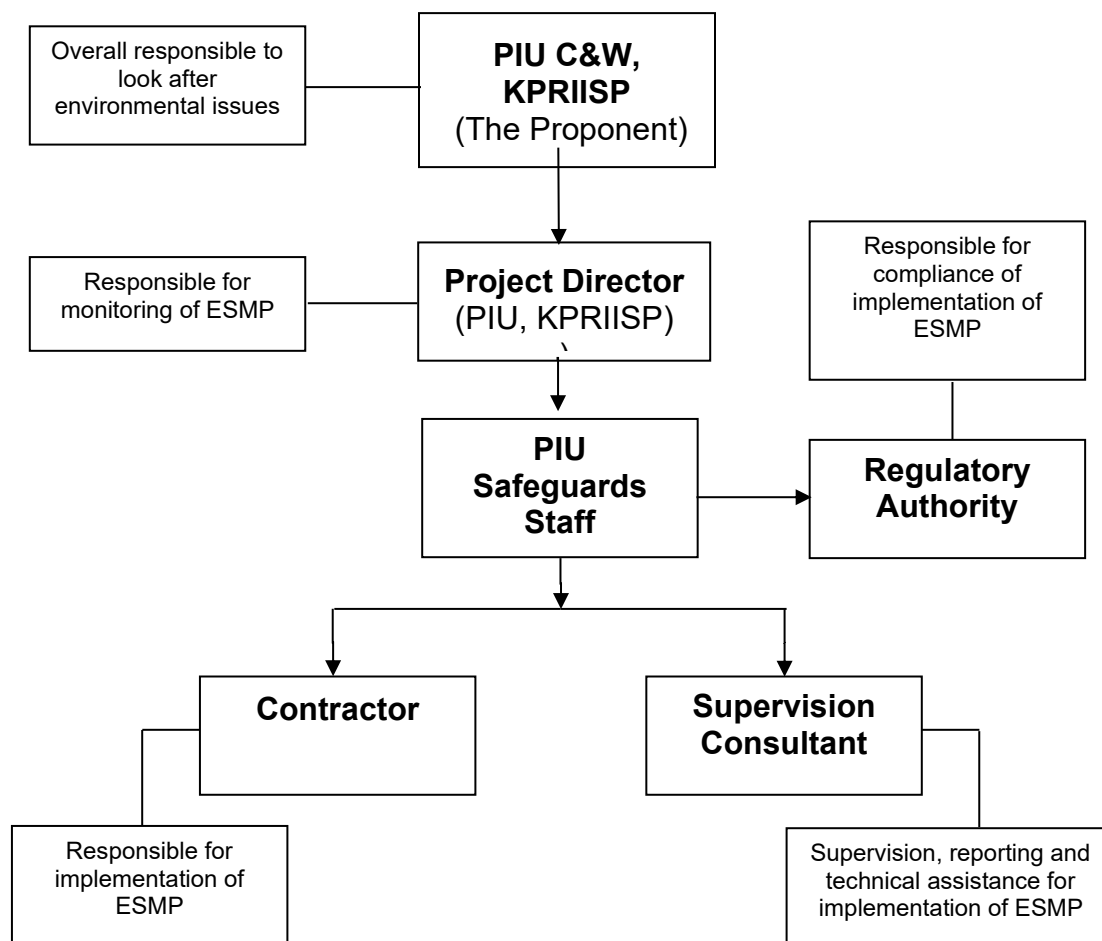
The main purpose of the ESMP is to provide a strategy for environmental protection. According to ESMP, all the activities associated with the project will be controlled and monitored during the design, construction, and operation phases. EMP will propose a plan of action that will indicate responsibilities and required measures to prevent or minimize the potential environmental impacts.

The following functionaries will be involved in the implementation of ESMP:

- Program Implementation Unit (PIU);
- Supervision Consultant's Environmental Engineer;
- Contractor's Site Environmental Engineer; and
- EPA, KP (Regulatory Authority)

The organizational set-up for the implementation of ESMP is shown in **Figure 1** below.

Figure 1: Organizational Setup for Implementation of ESMP



The PIU C&W will be overall responsible for the implementation of this ESMP and the environmental management and supervisory affairs during the construction phase of the proposed project. For effective environmental management, the PIU will assign the necessary responsibilities through the Project Director to an Environmental Expert and a Social Expert in implementing the mitigation measures proposed in the ESMP.

The ESMP will be part of the Bidding documents. During the implementation, the contractor will prepare and submit the Contractor Social Management Plan (CSMP) to the PIU. The Contractor will be responsible for the implementation of ESMP under the Supervision Consultant. The Contractor shall be bound to follow the provisions of the Contract documents, especially regarding environmental protection, and apply good construction techniques and methodology without damaging the environment. The Contractor must safeguard, mitigate adverse impacts, and rehabilitate the environment should be addressed through environmental provisions in the Contract document and through adequate implementation at the site. Regulatory Authority will be responsible for the compliance with the implementation of ESMP.

6.4.1 Project Implementation Unit (PIU)

Design and Construction of the project is the core responsibility of PIU, C&W. The major role and responsibilities related to environmental and social tasks are as follows:

- To ensure that the Project design and specifications are adequately reflected in the ESMP.
- To ensure the Project's compliance with the environmental regulations and donor requirements.
- Setting up systems for environmental management.
- Ensuring that the Contractor(s) develop their own, and carry out, Environmental Management Plan that are consistent with the ESMP;

6.4.2 Responsibilities of the Environmental Engineer of the Supervision Consultant

The Environmental Engineer (EE) of the Supervision Consultant (SC) will oversee the performance of the Contractor through periodic monitoring to make sure that the Contractor is carrying out the work following ESMP.

The EE of SC will provide guidance to the Contractor's Environmental Engineer for implementing each of the activities as given in the ESMP. The EE of SC will be responsible for record keeping, providing instruction through the Resident Engineer (RE) for corrective actions, and ensuring the compliance of various statutory and legislative requirements. The EE will maintain close coordination with the Contractor and PIU for successful implementation with environmental safeguard measures. However, the overall responsibilities of the EE of SC are as follows:

- Directly reporting to the RE;
- Discussing various environmental issues and environmental mitigation, enhancement, and monitoring actions with all concerned directly or indirectly;
- Inspect, supervise, and monitor all the construction and allied activities related to the EMP for the project
- Assist the RE to ensure the environmental sound engineering practices;
- Assisting the contractor and PIU in all matters related to public contacts, including public consultation on environmental and community health & safety issues;
- Assisting PIU Safeguards staff to carry out environmental monitoring;
- Organizing training for the EE of Contractor and field staff; and
- Preparing and submitting monthly and quarterly environmental progress/ compliance reports to the PIU.

6.4.3 Responsibilities of the Site Environmental Engineer of the Construction Contractor

The Site Environmental Engineer of the Construction Contractor will carry out the implementation of mitigation measures at the construction site. The Construction Contractor will be bound through the Contract documents to appoint the Site Environmental Engineer with a relevant educational background and experience. Responsibilities of the EE of the Contractor are as follows:

- Preparing sub plans, including monitoring plan, traffic control/diversion plan, site rehabilitation plans, etc., and will submit all the plans to the EE of SC.
- Implementation of ESMP and taking effective measures against the corrective actions plan;
- Preparing the compliance reports as per schedule and will submit them to the SC;
- Providing proper Personal Protective Equipment (PPEs) to the workers and training them for their proper use; and
- Providing environmental and health & safety training to the workers /labor.

6.5 Labor Camp Management

Campsite will be selected in consultation with the Tehsil Administration, PIU C&W at a suitable location once the contractor is mobilized on site on an adequate area for establishing camp sites, including parking areas for machinery, stores, and workshops, access to local markets, and an appropriate distance from sensitive areas and existing

residences in the vicinity. It is anticipated that around 30-40 laborers will be present at the camp during the construction phase of this subproject. The area required for construction camps will depend upon the deployed manpower and the type and quantity of machinery mobilized; however, the estimated area required is 1000-1500 square yards for each campsite. Given the required area, two probable sites have been identified and locations shown in Annex 6. However, CESMP (CESMP will be prepared by the contractor before the start of construction) and other local considerations will be considered before the final selection of the campsite.

6.6 Occupational Health and Safety

Occupational Health and Safety (H&S) related impacts will arise during construction stage activities, including clearing of earth, levelling, compaction, pavement finishing, and testing & commissioning. The falls during inspection or maintenance of pile rigs, steel fixing bridges, framework erection, and other related activities may also occur. Eye injury can be caused by stone or metal particles. The hazards of being hit by falling objects, major hand-arm and whole-body vibration hazards, skin and respiratory tract irritation from exposure to cement dust, overexertion, awkward postures, etc., will be another impact. Welding hazards include electric shock, fumes and gases, fire and explosions, falls from height, eye and head injuries, etc. The contractor will take all protective measures and provide the Personal Protective Equipment to the laborers during the construction to minimize the OSH risks and ensure the safety of the laborers at the site. Strict monitoring by the PIU and the Supervision Consultant team will be conducted during the construction stage to ensure compliance with the ESMP mitigation and safety measures.

6.7 GBV/SEA/SH Risk Mitigation:

To mitigate risks of Gender-Based Violence (GBV), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH), the contractor will implement a Code of Conduct (CoC) signed by all workers, ensure GBV awareness training is conducted regularly, and establish a confidential and accessible GRM with specific protocols for GBV-related complaints. The PIU will monitor compliance and refer survivors to appropriate support services.

6.8 Budget for ESMP Implementation

Environmental Monitoring is undertaken during both the construction and operational phases to ensure the effectiveness of the proposed mitigation measures. Certain environmental parameters are selected, and quantitative & qualitative analyses are carried out. The results of the analysis are compared with the guidelines, standards, and pre-project conditions to investigate whether the EMP and its implementation are effective for the mitigation of impacts or not. This section discusses parameters to be analyzed during the project's construction and operation, responsibilities for monitoring and reporting, and monitoring costs. Tables 6 to 9 below provide the respective monitoring to be conducted during the three project development phases: the Pre-Construction Phase, Construction, and Operation Phases.

Table 9. Cost Estimates for 'Pre-Construction Phase' Environmental Monitoring

Monitoring Component	Parameters	Quantity	Amount PKR	Details
Air Quality	CO, NO ₂ , SO ₂ , O ₃ PM ₁₀	3 (1 time at 5 locations)	90,000	3 readings @ PKR 30,000 per sample
Noise Levels	dB(A)	3 (1 time at 5 locations)	90,000	3 readings @ PKR 30,000 per reading
Ground Water Quality	NEQS	3 (1 time at 5 locations)	90,000	2 readings @ PKR 30,000 per sample
Contingencies			27,000	10% of the monitoring cost
Total (PKR)			297,000	

1. For air quality monitoring: 'Passive samplers', such as test tubes, can be used, or 'Active samplers' with sorbent tubes can also be used.
2. For noise monitoring, sampling equipment with a duration greater than 1 hour can be used.

Table 10: Cost Estimates for 'Construction Phase' Environmental Monitoring

Monitoring Component	Parameters	Quantity	Amount PKR	Details
Air Quality	CO, NO ₂ , SO ₂ , O ₃ PM ₁₀	12 (Quarterly basis at 5 locations)	360,000	12 readings @ PKR 30,000 per sample
Noise Levels	dB(A)	12 (Quarterly basis at 5 locations)	360,000	12 readings @ PKR 30,000 per reading
Ground Water Quality	NEQS	8 (Quarterly basis at 5 locations)	240,000	8 readings @ PKR 30,000 per sample
Contingencies			60,000	5% of the monitoring cost
Total (PKR)			1,020,000	

Table 11: Cost Estimates for 'Operation Phase' Environmental Monitoring

Monitoring Component	Parameters	Quantity	Amount PKR	Details
Waste Management	Solid Waste	Quarterly	200,000	Four times @ PKR 50,000
Total (PKR)			200,000	

Table 12: Cost Estimates for Environmental Mitigation

Activity	Basis	Cost (Rs.)
Medical screening for workers	Rs. 5000 per employee and for 30 employees	150,000
Material Storage, handling, and use	Three (03) No. of tarpaulins of Rs. 25,000 each	75,000
Handling of hazardous waste and safe storage	Lump sum cost of the containers, marking, and safe storage before disposal.	500,000

Handling/ transportation of hazardous material	Rs. 30,000/month for 12 months will be required for the transportation of material	360,000
Asbestos material screening, storage, and management.	The cost includes screening, handling, storage, transportation, and disposal.	1,500,000
Handling of solid waste	Rs: 21,000 per month (three trips per month) for 12 months, which includes the cost of collection, transportation, and disposal to the designated site. It includes the cost of 3 dustbins to be placed at the construction site.	270,000
Cost of Personal Protective Equipment (PPE)*	For 30 employees for the provision of dust masks, safety shoes, gloves, a first aid box, ear plugs	1,056,000
Cost of environmental training	Lump sum	550,000
Disease Management Cost	Lump sum	400,000
Grand Total		4,861,000

Table 13: Cost Estimates and Break-up of Personal Protective Equipment (PPEs)

Items	Quantity	Cost / Item (Rs.)	Total Cost (Rs.)
Dust masks	3000	20	60,000
Safety Shoes	240	2000	480,000
Gloves	1200	300	240,000
Safety Helmet	240	900	216,000
First Aid Box	3	8000	24,000
Ear Plugs	1200	30	36,000
Total			1,056,000
Time required for Construction = 36 months			
Number of laborers required during construction = 30			
Dust mask	1 dust mask to be used in a week by each laborer		
Safety Shoes	1 safety shoe for six months for each laborer		
Gloves	2 pairs of gloves for each laborer for a month		
First Aid Box	1 first aid box at each work site within the subproject site		
Ear Plug	1 set of earplugs to be used for 1 month for each laborer		

Table 14: Total Cost for ESMP Implementation

Serial No.	Activity	Cost in PKR
1.	Cost Estimate for 'Pre-Construction Phase' Environmental Monitoring	297,000/-
2.	Cost Estimate for 'Construction Phase' Environmental Monitoring	1,020,000/-
3.	Cost Estimate for 'Operation Phase' Environmental Monitoring	200,000/-
4.	Cost Estimate for Environmental Mitigation Cost	4,861,000
5.	Cost Estimate and Break-up of PPEs	1,056,000/-
6.	Cost Estimate for Environmental Engineer, with intermittent input of 9-man-months @ PKR 150,000/ per month.	1,350,000/-
	Total	8,784,000/-

6.9 Reporting Requirements

6.9.1 Monitoring and Reporting Responsibilities

An ESMP can only be effective if it is regularly monitored and the results are reported to the appropriate authority, ensuring that the proposed mitigation measures are properly implemented on the ground. Monitoring and reporting of outcomes are shared responsibilities among all project partners. The roles and responsibilities for monitoring and reporting are distributed among the partners as follows:

- **Implementing Agency/Contractor:** Responsible for daily/weekly environmental and social monitoring and internal reporting.
- **Supervisory Consultants:** Responsible for reviewing contractor reports and submitting periodic consolidated reports to the project management unit.
- **Environmental and Social Specialists:** Oversee proper ESMP implementation and conduct spot checks.

6.9.2. Types of Reports Required

The table below outlines the types of reports to be prepared, their required frequency, their intended purpose, and the parties responsible for their preparation and submission.

Table 15: Types, frequency and purpose of reports

Serial No	Report Type	Frequency	Purpose	Responsible Party
1	Daily Site Report	Daily	To monitor compliance with ESMP mitigation measures on-site	Contractor
2	Weekly Monitoring Report	Weekly	Summarizes environmental and social performance, any incidents or complaints	Contractor
3	Monthly Progress Report	Monthly	Overview of ESMP implementation, mitigation actions, non-compliance, grievances	Contractor

4	Quarterly Environmental and Social Monitoring Report (ESMR)	Quarterly	Comprehensive review of ESMP performance indicators and compliance	Supervising Consultant
5	Incident/Accident Report	As needed	Immediate reporting of major incidents including GBV & SEA/SH affecting the environment or community	Contractor and Supervising Consultant
6	Grievance Redress Reports	Monthly	Track grievances received, status of resolution, time taken	Grievance Redress Mechanism (GRM) focal point

6.9.3. Stakeholder Reporting

An effective stakeholder reporting process ensures transparent communication, fosters accountability, and keeps all relevant parties informed about the project's progress, challenges, and compliance with environmental and social safeguards. The key stakeholders with whom the reports are to be shared are as follows:

- **Disclosure:** Reports must be shared with relevant stakeholders, including:
 - Residents of the area
 - Tehsil Administration and Local Government
 - Environmental Protection Agency (EPA), KP
- **Public Consultation Records:** Must be maintained and included in periodic reports.

6.9.4. Emergency and Contingency Reporting

In addition to regular ESMP monitoring and reporting, additional reports must be prepared and submitted in the event of emergencies. These may include, but are not limited to, the following:

- Immediate notification of:
 - Hazardous material spills
 - Significant ecological damage
 - Social unrest
- Submit a detailed incident report within 24–48 hours

Annex 1. EPA Environmental Assessment Rules



GOVERNMENT OF THE KHYBER PAKHTUNKHWA FORESTRY, ENVIRONMENT AND WILDLIFE DEPARTMENT

NOTIFICATION

Dated Peshawar the, 02nd September, 2021

No. SO (Envf)/FE&WD/1-29/2021/Vol-II. In exercise of the powers conferred by section 31 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014 (Act No. XXXVIII of 2014) read with section 13 thereof, the Government of Khyber Pakhtunkhwa is pleased to make the following rules, namely:

THE KHYBER PAKHTUNKHWA ENVIRONMENTAL ASSESSMENT RULES, 2021.

1. Short title and commencement.---(1) These rules shall be called the Khyber Pakhtunkhwa Environmental Assessment Rules, 2021.

(2) They shall come into force at once.

2. Definitions.---- (1) In these rules, unless there is anything repugnant in the subject or context;

- (a) **“Act”** means the Khyber Pakhtunkhwa Environmental Protection Act, 2014 (Khyber Pakhtunkhwa Act No. XXXVIII of 2014);
- (b) **“Director-General”** means the Director-General of the Khyber Pakhtunkhwa Environmental Protection Agency;
- (c) **“Environmental Assessment Advisory Committee”** means the Committee constituted under rule 23 of these rules;
- (d) **“EIA”** means an Environmental Impact Assessment as defined in clause (s) of section 2 of the Act;
- (e) **“GEA”** means as General Environmental Approval to be submitted with the Agency by proponent, which are not covered by Environmental Impact Assessment or Initial Environmental Examination;
- (f) **“GIS”** means Geographic Information System;
- (g) **“GPS”** means Global Positioning System;
- (h) **“IEE”** means an Initial Environmental Examination as defined in clause (ff) of section 2 of the Act; and
- (i) **“Schedule”** means a Schedule appended to these rules.

(2) Words and expressions used in these rules but not defined shall have the same meanings as are assigned to them in the Act.

3. Application for screening and scoping of project.--- The proponent shall file an application with the Agency, having project description or activities on attached proforma as specified in **Schedule-I** to get clear directives for screening and scoping of the project, as per rule 4.

4. Projects requiring an EIA or IEE or GEA.---Where the project falls with the categories mentioned in **Schedules-II, III and IV**, the proponent shall file EIA or IEE or GEA respectively, with the Agency.

5. Directions for a specific project.---Where the project does not fall within the categories as mentioned in **Schedule-II, III and IV** and the Agency is of the opinion that said project may create an environmental hazard, the Agency shall direct the proponent to file an EIA, IEE or GEA, as the case may be, for reasons to be recorded in such directions:

Provided that such directions shall not be issued without the recommendations in writing of the Environmental Assessment Advisory Committee.

6. Preparation of guidelines for EIA, IEE and GEA.--- Guidelines for preparation of EIA or IEE or GEA of general and sectoral applicability may be specified by the Agency; provided that such guidelines may indicate specific assessment requirements for planning, construction and operation of a project relating to a particular sector.

7. Review Fees.---The proponent shall pay, at the time of submission of an EIA or IEE or GEA, a non-refundable review fee to the specified account of the Agency, as per rates given in **Schedule-V**.

8. Filing of EIA, IEE and GEA.--- (1) The proponent shall file ten paper copies and two electronic copies of an EIA or IEE with the Agency.

(2) Every EIA or IEE shall be accompanied by--

- (a) an application, in the form set out in **Schedule-VI**; and
- (b) original receipt of the review fee slip.

(3) The process for filing the GEA shall be the same as mentioned in sub-rule (1) and (2) except one hard and electronic copy of the report shall be submitted with the Agency.

9. Preliminary scrutiny.---(1) Within ten (10) working days of filing of the EIA, IEE or GEA, the Agency shall,-

- (a) confirm that the EIA, IEE or GEA is complete for purposes of initiation of the review process and issue confirmation letter to the proponent; or
- (b) require the proponent to submit such additional information as may be specified at any stage during the review process; or

SCHEDULE-VI
(see rule 8 (2) (a))

Application Form

1	Name and Address of Proponent -----	Phone: ----- Fax: ----- Telex: -----												
2	Description of project----- -----													
3	Location of project and GPS Coordinates/GIS map:-----													
4	Objectives of Project:-----													
5	IEE/EIA/GEA attached? EIA/IEE/GEA	Yes/No												
6	Have alternative sites been considered and reported in EIA/IEE/GEA?	Yes/No												
7	Existing land use Is basic sites data (Only tick yes if the available, or has it been data is reported in measured? the EIA/IEE/GEA)	Land Requirement												
8	Meteorology (including rainfall) Ambient air quality Ambient Water Quality Ground Water quality	<table border="0"> <tr> <td><u>Available</u></td> <td><u>Measured</u></td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> </table>	<u>Available</u>	<u>Measured</u>	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
<u>Available</u>	<u>Measured</u>													
Yes/No	Yes/No													
Yes/No	Yes/No													
Yes/No	Yes/No													
Yes/No	Yes/No													
Yes/No	Yes/No													
9	Have estimates of the following been reported	<table border="0"> <tr> <td><u>Measured</u></td> <td><u>Reported</u></td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> <tr> <td>Yes/No</td> <td>Yes/No</td> </tr> </table>	<u>Measured</u>	<u>Reported</u>	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No				
<u>Measured</u>	<u>Reported</u>													
Yes/No	Yes/No													
Yes/No	Yes/No													
Yes/No	Yes/No													
10	Source of power	Power Requirement												
11	Labour force (number)	Construction: Operation:												

Verification: I do solemnly affirm and declare that the information given above and contained in the attached IEE/EIA/GEA is true and correct to the best of my knowledge and belief.

Date _____

Signature, name and
Designation of proponent
(with official stamp/seal)

SCHEDULE-IX
(see rule 13)

Decision on GEA

1. Name and address of proponent _____
2. Description of project _____
3. Location of project and GPS Coordinates/GIS map. _____
4. Date of filing of GEA _____
5. After careful review of the GEA, and all comments thereon, the Agency has decided

(a) to accord its approval, subject to the following conditions:

or

(b) that the proponent should submit a GEA with the following modifications-

or

(c) that the proponent should submit an IEE of the project, for the following reasons:-

or

(d) to reject the GEA report of the project, being contrary to environmental objectives, for the following reasons:

[Delete (a)/(b)/(c)/(d), whichever is inapplicable]

Dated _____ Tracking no. ____

Director-General Agency (with official stamp/seal)

SO (Envt)/FE&WD/1-29/2021/Vol-II/

Dated 02-09-2021

Copy forwarded to the:

1. Principle Secretary to Governor, Khyber Pakhtunkhwa.
2. Principle Secretary to Chief Minister, Khyber Pakhtunkhwa.
3. All Administrative Secretaries, Khyber Pakhtunkhwa.
4. Accountant General, Khyber Pakhtunkhwa.
5. All Commissioners, Khyber Pakhtunkhwa.
6. All Heads of Attached Department, Khyber Pakhtunkhwa.
7. Chairman Environmental Protection Tribunal, Peshawar.
8. All Deputy Commissioners, Khyber Pakhtunkhwa.
9. Registrar, Peshawar High Court, Peshawar.
10. PSO to Chief Secretary, Khyber Pakhtunkhwa.
11. PSO to Chief Minister, Khyber Pakhtunkhwa.
12. Director General, Environmental Protection Agency, Khyber Pakhtunkhwa, Peshawar **with the request to depute a representative to collect 100 gazatted copies of the Notification from Government Printing Press.**
13. Director Information, Khyber Pakhtunkhwa.
14. Chief Executive Officer, WSSP, Peshawar.
15. Manager, Government Printing Press for publication in next official gazette. **He is requested to provide 100 Gazatted copies of the same for information and record.**
16. Section Officer (Cabinet), w/r to his letter No. SOC(E&AD)/13-3/through circulation/21 dated 01-09-2021
17. PS to Secretary Forestry, Environment and Wildlife Department, Khyber Pakhtunkhwa.
18. Master file.

(Muhammad Qasim)
Section Officer (Environment)

Annex 2. Environmental and Social Screening Form

Khyber Pakhtunkhwa Rural Investment and Institutional Support Project

Environmental and Social Screening Checklist For Tehsil Complex, Landi Kotal District, Khyber

May 2025

This Checklist accompanies the annexes, including the Screening Form, the land coordinates of the complex site, the location map of the complex site, and pictures of the site.

The list of annexes contains the following:

1. Screening Form
2. Location Map of the Tehsil Complex site
3. Land Coordinates of the Tehsil Complex site.
4. Master Plan of the proposed Tehsil Complex
5. Stakeholder Consultation

Annex 1. Screening Form

Subproject: *Tehsil Complex, Landi Kotal District Khyber*
 Project Implementation Unit (PIU): *Communication & Works Department (C&W)*
 Consulting Firm: *Meinhardt International Pakistan*



Name of the person who conducted the screening: **Hameed Hasan,**
 Position of the person who conducted the screening: **Senior Environmental Specialist,**
Meinhardt International Pakistan
 Date of screening: **April 12, 2025.**

The E&S Screening procedure comprises two stages: (1) Initial screening by using the **Exclusion List** in Table 5 of the ESMF; and (2) Screening the proposed activities to identify the approach for E&S risk management. This Screening Form is the second stage of the screening process and is to be used for all subproject activities. The completed forms will be signed and kept in the Project ESF file. The World Bank may review a sample of the forms during implementation support visits.

1. Subproject Information:

Subproject Title	Tehsil Complex, Landi Kotal, District Khyber KP
Subproject Location	The proposed new Tehsil Office cum Residential Complex is situated in Landi Kotal Tehsil, District Khyber, in the Khyber Pakhtunkhwa Province, Pakistan. The proposed site for the new Tehsil complex in Landi Kotal lies around 2 km ahead of the Ameer Hamza Baba Chowk, Landi Kotal. The site for the proposed Tehsil complex is within the premises owned by the Government for more than 80 years.
PIU in Charge	Communications & Works (C&W).
Estimated Cost	Not known at this time. Will be available in the detailed design report.
Start/Completion Date	Not known at this time.
Brief Description of Subproject	The proposed new Tehsil complex site is spread over 24 Kanals and has existing government offices and residential buildings. Some existing buildings in really bad condition will be demolished to provide proper space for the newly proposed buildings. The proposed complex will comprise Office and residential buildings with allied facilities and amenities. The complex will include offices for the Tehsil Administration, Tehsil Municipal Administration, Line Departments, an amenities block, and residential facilities for Government Officers and their associated staff. The Office buildings will consist of ground and two floors providing Offices, meeting rooms, courtrooms, male and female visitors waiting areas, public washrooms (both males and females), kitchens on each floor, a praying area, service and circulation areas for easy access and circulation of the officials and the public and car parking facilities for officials and visitors. The residences and residential buildings are proposed for the Officers and other government personnel. It will have an amenity building that includes a post office, bank, female praying area, female staff's common room, daycare child center, cafeteria, and kitchen. All the buildings are provided with open lawns within and surrounding for better fresh air circulation and proper parking facilities.

2. Environmental and Social Screening Questionnaires

Questions	Answer		Remarks
	Yes	No	
ESS1: Assessment and Management of Environmental and Social Risks and Impacts			
1. Is the subproject likely to have significant adverse environmental impacts that are sensitive and unprecedented that trigger the 'Ineligible Activities' or other exclusion criteria?		No	The proposed subproject will have moderate environmental impacts that can be easily mitigated on-site with protective measures.
Questions 2 and 3 below are examples. These two are critical questions in the Screening Form, as they will determine whether a sub-project can use pre-prepared ESCOPs (Environmental and social commitment plans) included in Annex 2 or needs to prepare a site-specific ESMP. If all the sub-projects are expected to be low risk, then all sub-projects may be able to use the pre-prepared ESCOPs. However, if there are some sub-project activities, such as construction of community bridges, which may propose moderate risk, these may require site-specific ESMPs to be prepared. Think of the sub-project activities in your project and separate those that may be low risk and those that may be moderate risk. 2. Does the subproject involve <u>new construction or significant expansion</u> of ponds, solid waste management systems, shelters, roads (including access roads with ramps, elevators and tactile paths to accommodate persons with disabilities and the elderly), community centers, schools, bridges and jetties?	Yes		The proposed subproject will involve new construction of office and residential buildings.
3. Does the subproject involve the <u>renovation or rehabilitation</u> of any small-scale infrastructure, such as groundwater wells, latrines, showers/washing facilities, or shelters?		No	The subproject will involve the new construction of offices and residential buildings, having all the allied facilities for the offices and residential areas.
4. Will construction or renovation works require new borrow pits or quarries to be opened?		No	The construction materials, like sand and aggregate, required for the construction will be brought from the existing licensed and approved borrow pits and quarries in the surrounding vicinity. The proposed ESMP will include E&S screening of the proposed Quarry site that will be used to supply material for the construction of the Complex. The Quarry license will be attached to the proposed ESMP.
5. Does the project lead to any risks and impacts on, individuals or groups who, because of their particular circumstances, may be disadvantaged or vulnerable. ¹		No	The proposed complex site is already a government office cum residential area and will not lead to any risks or negative impacts on individual groups or communities.
ESS2: Labor and Working Conditions			
6. Does the subproject involve uses of goods and equipment involving forced labor, child labor, or other harmful or exploitative forms of labor?		No	The construction works will be contracted out to approved Government contractors through an open bidding process. Government-approved contractors are those that fully abide by the existing labor laws of the country.

¹ "Disadvantaged or vulnerable" refers to those individuals or groups who, by virtue of, for example, their age, gender, ethnicity, religion, physical, mental or other disability, social, civic or health status, sexual orientation, gender identity, economic disadvantages or ethnic peoples status, and/or dependence on unique natural resources, may be more likely to be adversely affected by the project impacts and/or more limited than others in their ability to take advantage of a project's benefits.

7. Does the subproject involve recruitment of a workforce including direct, contracted, primary supply, and/or community workers?	Yes		The contractor will recruit the workforce either directly, contractually, or local community workers of the surrounding areas.
8. Will the workers be exposed to workplace hazards that need to be managed in accordance with local regulations and EHSs? Do workers need PPE relative to the potential risks and hazards associated with their work?	Yes		The workers may be exposed to workplace hazards like dust and other hazards during the construction activities. These will be managed by the local regulations of labor and EHSs, and required PPE will be provided by the contractor to the workers.
9. Is there a risk that women may be underpaid when compared to men when working on project construction?		No	Generally, in Khyber Pakhtunkhwa and particularly in the merged districts, no female workers are in construction activities so underpayment to female workers will be irrelevant.
ESS3: Resource Efficiency and Pollution Prevention and Management			
10. Is the project likely to generate solid or liquid waste that could adversely impact soils, vegetation, rivers, streams or groundwater, or nearby communities?	Yes		The new construction will generate solid and liquid waste, but it will be handled and safely disposed of regularly from the site. The process of handling and safely disposing of both liquid and solid waste be strictly monitored by the construction supervision consultants and the implementation agency to ensure it does not adversely impact the surrounding environment and the nearby communities.
11. Whether the subproject construction will use any community resources (water, sand, and gravel) and whether there is a risk of depleting these resources.	Yes		The water requirement for the construction work will be provided through tankers using the existing surface sources of springs near Ali Masjid and Landikhana. For sand and gravel, the existing licensed borrow pits are in the nearby vicinity. The existing licensed borrow pits of sand and gravel can provide the required material without compromising the community's existing needs, and this will be strictly monitored during the construction phase.
12. Do any of the construction works involve the removal of asbestos or other hazardous materials?	Yes		As the site already has offices and residential buildings, some of these buildings have been built for more than 75 years. There are likely chances of old water supply and sewage pipelines of Asbestos pipes. During the construction, if such pipes are found will be carefully removed, properly stored, and safely disposed of to avoid any risks to workers and surrounding communities.
13. Are works likely to cause significant negative impacts to air and/or water quality?	Yes		During the construction of buildings, chances exist for a moderate level of negative impact on the ambient air quality and underground water quality of the site and its immediate surrounding areas. To avoid this possibility of negative causes, ambient air quality and underground water tests will be carried out, and these will be repeated at regular intervals to see the difference in the levels.
14. Does the activity rely on existing infrastructure (such as discharge points) that is inadequate to prevent environmental impacts?		No	The existing buildings have individual systems of septic tanks. Their present capacity is only to serve the purpose of that particular building. Therefore, for the proposed complex, a new separate system of septic tanks with soakage pits will be to accommodate the future sewage flow and safe disposal of the treated water.

15. Is there any potential to have an impact on soil or water bodies due to agro-chemicals (e.g., pesticides) used in farmlands due to the consequences of the subproject activities (e.g., development of irrigation system, agriculture-related activities, seed and fertilizer assistance, procurement of pesticides)?		No	No agrochemicals like pesticides will be used during the construction process. However, at the foundation level, "Anti-termite" spray will be used to protect the building components from termites in the future. The quantity, handling, and method of spraying will be strictly monitored at the site to avoid any negative impact on the soil and water.
ESS4: Community Health and Safety			
16. Is there a risk of increased community exposure to communicable diseases (such as COVID-19, HIV/AIDS, and Malaria), or an increase in the risk of traffic-related accidents?		No	As the site for the proposed complex is not situated in a congested built-up area rather it is in a fairly large open setting, therefore, the chances of the spread of communicable diseases are low. To prevent traffic-related accidents during the construction process, vehicular movement related to the construction activity will be managed through a traffic management plan (to be provided in ESMP) and limited to specified timings to avoid rush hours at the site.
17. Is an influx of workers, from outside the community, expected? Would workers be expected to use the health services of the community? Would they create pressure on existing community services (water, electricity, health, recreation, and others?)	Yes		During the construction process, around 30-40 construction workers will be present at the labor camp. The site of the labor camp will be provided in the proposed ESMP, and additional mitigation measures will be provided once the location of the camp is finalized. The mitigation measures will be provided in the ESMP. Their presence at the site may cause pressure on the existing health facility present in the area in the case of an accident, for emergency services. However, the contractor will be bound to ensure that all emergency medical facilities to its crew inside the camp and referral to nearby hospitals. For water supply and electricity, the contractor will be making arrangements from outside the site to provide such services to their workers.
18. Is there a risk that SEA/SH (Sexual Exploitation and Abuse, and Sexual Harassment) may increase as a result of project works?	Yes		Although the worker's campsite will include supervisory staff to protect against such incidents, a risk does exist. The project will follow the Labor Management Procedures prepared under ESS2 and the GBV/SEA Mitigation Plan prepared under ESS4 and ensure Contractor and labor sign the GBV/SEA/SH Code of Conduct and are provided training and awareness on this issue to assist in preventing any GBV incidents. These mitigation steps will be included in the proposed ESMP."
19. Would any public facilities, such as schools, health clinics, or places of worship be negatively affected by construction?		No	There are some public facilities in the nearby area, but as construction activities are carried out within the designated complex, there are no or very low impacts on the surrounding public facilities.
20. Will the subproject require the government to retain workers to provide security to safeguard the subproject?	Yes		Some of the construction workers will be camped inside the site with the prior approval of the administration for security purposes. In the ESMP, a chapter on "Security Risks Assessment and Mitigation" will be included in line with the KPRIISP Security Management Plan.

21. Is the selected site exposed to land mines, unexploded ordnance, or explosive remnants of war?		No	The site of the subproject has been a declared official cum residential area for the last 75 years and inhabited by the Government Official of former Khyber Agency, and is now by the District Administration. Therefore, the site is not in any war zone.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement			
22. Will the subproject require the involuntary acquisition of new land (will the government use eminent domain powers to acquire the land)?		No	The District Administration owns the entire proposed subproject land and is Government Land, so no involuntary acquisition of new land will be needed.
23. Will the subproject lead to temporary or permanent physical displacement (including people without legal claims to land)?	Yes		As the project site has existing offices and residences of officials, the construction of new facilities will require the demolition of some of these existing ones. Therefore, some of the officials will be temporarily displaced from their offices and residences to the alternate buildings by the administration.
24. Will the subproject lead to economic displacement (such as loss of assets or livelihoods, or access to resources due to land acquisition or access restrictions)?		No	As the potential affected are Government Officials, their jobs are secured, and therefore their livelihood will not be disrupted by this temporary displacement.
25. Has the site of the subproject been acquired through eminent domain in the past 5 years, in anticipation of the subproject?		No	The proposed subproject land has been owned by the Government through the District Administration for more than 80 years, and established the former Khyber Agency District Offices campus here.
26. Are there any associated facilities needed for the subproject (such as access roads or electricity transmission lines) that will require the involuntary acquisition of new land?		No	The existing Government Tehsil, District offices, and residential buildings already had such facilities, and these will be used by the newly built Tehsil Complex. However, some improvement and rehabilitation of existing services will be done but no new land acquisition will be required.
27. Is private land required for the subproject activity being voluntarily donated to the project?		No	No private land acquisition is involved, whether voluntary or involuntary, as the Government owns the proposed complex site.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources			
28. Does the subproject involve activities that have the potential to cause any significant loss or degradation of critical habitats ² whether directly or indirectly, or which would lead to adverse impacts on natural habitats ³ ?		No	The proposed complex site is not situated in or near to any critical and natural habitats, therefore, it would not have any adverse impact on them.
29. Will the project involve the conversion or degradation of non-critical natural habitats?		No	The proposed subproject is the construction of office and residential buildings within a defined area.
30. Will this activity require the clearance of trees, including inland natural vegetation?	Yes		The proposed new complex' site has around 55 number of trees of various species mostly, including Chir Pine (<i>Pinus roxburghii</i>), Black Mulberry (<i>Morus nigra</i>), Kikar (<i>Acacia nilotica</i>) and Banyan (Bar, <i>Ficus benghalensis</i>). The master plan of the proposed complex has been developed keeping in view the existing

² Environmental and Social Standard 6, paragraph 23: "Critical habitat is defined as areas with high biodiversity importance or value, including (a) Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national approaches; (b) Habitat of significant importance to endemic or restricted-range species; (c) Habitat supporting globally or nationally significant concentrations of migratory or congregatory species; (d) Highly threatened or unique ecosystems; and (e) Ecological functions or characteristics that are needed to maintain the viability of the biodiversity values described above in (a) to (d)."

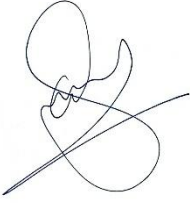
³ Environmental and Social Standard 6, paragraph 21: "Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition."

			trees' placement at the site, and the proposed new buildings are placed in such a manner as to affect a very minimum number of existing trees, only those that will be on the site of the proposed new buildings. The actual number of trees to be affected will be determined once the layout plan of the proposed new buildings is plotted on the ground before the execution plan of the foundations. The kind and number of trees to be cut down will be replaced with 7 or 10 per species, as agreed to with the World Bank or as per notification by the Government in the proposed open spaces of the complex.
31. Will there be any significant impact on any ecosystems of importance (especially those supporting rare, threatened, or endangered species of flora and fauna)?		No	The new construction will mostly be on the existing building sites while conserving the existing trees and natural vegetation in the surroundings, therefore not disturbing the existing ecosystem of the area.
ESS7: Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities			
32. Are there any Indigenous Peoples or Sub-Saharan African Historically Underserved Traditional Local Communities present in the subproject area and are likely to be affected by the proposed subproject negatively?		No	At the site and even in the entire central part of Khyber Pakhtunkhwa, there are no Indigenous Peoples or Communities as per ESS7 that exist or are present.
ESS8: Cultural Heritage			
33. Is the subproject to be located adjacent to a sensitive site (historical archaeological or culturally significant site) or facility?		No	There is no historical, archaeological, or culturally significant site or facility located adjacent to the site. The historical "Ali Masjid" is at 17 km, the archaeological site of "Sphola Stupa" is at 8 km, and the historical "Khyber Pass" is at 2 km from the site.
34. Locate near buildings, sacred trees, or objects having spiritual values to local communities (e.g. memorials, graves or stones) or require excavation near there.		No	No objects have spiritual values to local communities present within or near the subproject site.
ESS10: Stakeholder Engagement and Information Disclosure			
35. Is Stakeholder Engagement Carried out, and what are the stakeholders' views about the subproject?	Yes		A summary of the consultation is presented below: The stakeholders pointed out several advantages of the proposed site for the new Tehsil Complex, including State-owned land, Central location, enhancing accessibility, Consolidation of offices, and promoting efficiency. These factors make the site well-suited for the new Tehsil complex. On the accessibility of the site for all community groups, they said yes, the site is easily accessible for the general public, including women, elderly people, and special people. However, the new proposed complex should have specified facilities for the elderly and people with disabilities in terms of mobility, like availability of paved paths/ramps in the proposed new buildings, and in car parking areas. With regards to assistance may be needed for women and children to access and avail Government facilities, they responded that a dedicated desk for women should be established to record and address their grievances and provide a safe and accessible platform for support to them.

3. Conclusion:

From the above screening checklist, it is evident that the potential environmental and social risks and impacts are of a moderate level and for a limited construction time. These risks and impacts can easily be handled, managed, and mitigated at the local level at the site with effective, efficient, and regular monitoring at the site following the site-specific ESMP will be prepared to mitigate these risks.

4. Review & Approval:

 Reviewed By: Position: Deputy Director (E&S), C&W PIU	 Approved By: Position: Project Director, C&W PIU
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Annex 3. Sample Monitoring Checklist

Project Name: _____

Location: Landi Kotal, District Khyber, KP

Date of Monitoring: _____

Monitoring Team: _____

A. Air Quality and Dust Control

Parameter	Yes/No	Observations/Comments	Action Required
Dust suppression measures are in place (e.g., water sprinkling)			
Vehicles and machinery are well-maintained (no excessive smoke)			
Construction materials are properly covered during transport			
Ambient air quality monitored (PM10, PM2.5) if required			

B. Noise and Vibration

Parameter	Yes/No	Observations/Comments	Action Required
Noise levels within acceptable limits (dB)			
Use of silencers/mufflers on machinery and equipment			
Noise-sensitive receptors (schools, hospitals) identified and protected			

C. Soil and Erosion Control

Parameter	Yes/No	Observations/Comments	Action Required
Topsoil is stripped and stored properly			
Erosion control measures in place (e.g., silt fences, bunds)			
Excavation and filling carried out as per plan			

D. Water Resource Protection

Parameter	Yes/No	Observations/Comments	Action Required
No discharge of wastewater into water bodies			
Sanitation facilities for workers are provided			
Drinking water sources are protected from contamination			
Proper drainage and runoff management			

E. Waste Management

Parameter	Yes/No	Observations/Comments	Action Required
Solid waste is collected and disposed of properly			
Hazardous waste (oil, chemicals) is handled safely			
Reuse/recycling practices in place (if any)			

F. Biodiversity and Vegetation

Parameter	Yes/No	Observations/Comments	Action Required
Vegetation clearance minimized			
Replantation or landscaping measures planned/implemented			
No disturbance to local fauna/habitats			

G. Occupational Health & Safety

Parameter	Yes/No	Observations/Comments	Action Required
PPE provided and used by workers			
Safety signage is posted at the site			
Emergency response procedures are in place			

H. Social Considerations

Parameter	Yes/No	Observations/Comments	Action Required
Community grievances mechanism in place			
Local community consulted			
No child labor or forced labor observed			

I. Labor Camp Management

Parameter	Yes/No	Observations/Comments	Action Required
Labor camp area is clean and solid waste is properly managed			
Adequate safety and security measures in place (lighting, gates/locks, boundary, guards)			
Labor camp located at a safe distance from nearby communities			
Clean and adequate living accommodations provided (ventilation, space, bedding)			
Clean and adequate washroom and bathing facilities available and functional			
Adequate and hygienic kitchen/cooking facilities available			
Clean and safe drinking water provided			
Separate facilities for male and female workers (if applicable)			
Camp rules and grievance mechanism communicated to workers			

Signature of Monitor: _____ Date: _____

Annex 4. Grievance Redress Mechanism (GRM) Form

Date: _____

Grievance Number: _____

Complainant Information (optional if anonymity is preferred)

- Name (Complainant): _____
- Gender: ☐ Female ☐ Male ☐ Other / Prefer not to say
- Age (optional): _____
- Cell Phone (optional): _____
- District: _____
- Tehsil: _____

Grievance Location (District, Tehsil, or specific site):

Description of Grievance

(Please provide details of your grievance, including *who, what, where, and when*. If relevant, kindly mention if the issue particularly affects women, men, or any vulnerable group.)

Suggested Resolution

(Please describe what outcome or action you expect to resolve the grievance.)

Confidentiality and Safety Note

The complainant's identity and details will remain confidential unless they consent to disclosure. Special attention will be given to grievances involving women, youth, minorities, or vulnerable groups to ensure dignity, respect, and safety.

Signature / Thumb Impression of Complainant (optional): _____

Signature of Recording Officer: _____

Instructions for Recording Officer (in simple terms):

- Ensure privacy (talk in a safe, separate space).
- Treat the complainant with respect (use their preferred gender identity).
- Do not force anyone to give their name or details.
- Pay extra attention to women, minorities, and vulnerable groups.
- For harassment or sensitive cases → refer immediately to protection/gender focal person.

Annex 5. Incident Reporting Format (ESIRT) Form

Details of Incident (e.g., to a worker or visitor) and Treatment		
Date of incident		
Time of incident		
Nature of incident	☐ Near miss ☐ First aid ☐ Medical treatment/doctor	
Name of injured person		
Address		
Occupation		
Date of birth		
Telephone		
Employer		
Activity in which the person was engaged at the time of injury		
Exact site location where injury occurred		
Nature of injury—e.g. fracture, burn, sprain, foreign body in eye etc.		
Body location of injury		
Treatment given onsite and Name of Treating Person		
Referral for further treatment? ☐ Yes ☐ No	Name of doctor or hospital	Medical certificate received? ☐ Yes ☐ No
Injury management required? ☐ Yes ☐ No	Return date	

Witness to Incident (Include all witnesses)	
Witness name and contact	

Details of Incident	
Date of incident	
Time of incident	
Details of damage to equipment or property	
Name of person who received the report	
Description of incident	

Annex 6. Maps and Architectural Diagrams



SEASON-4-12-2024.

DIGITAL EDITION

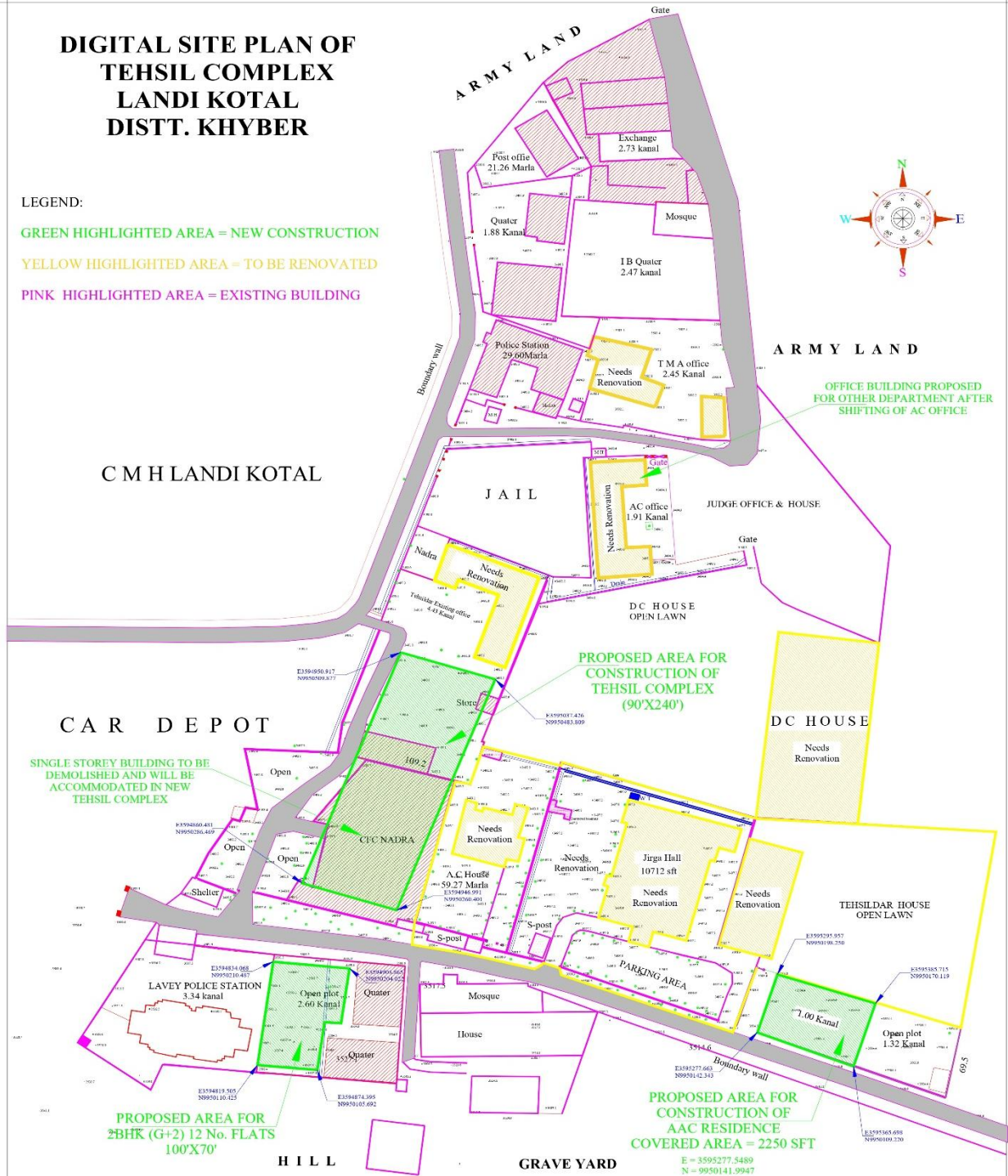
DIGITAL SITE PLAN OF TEHSIL COMPLEX LANDI KOTAL DISTT. KHYBER

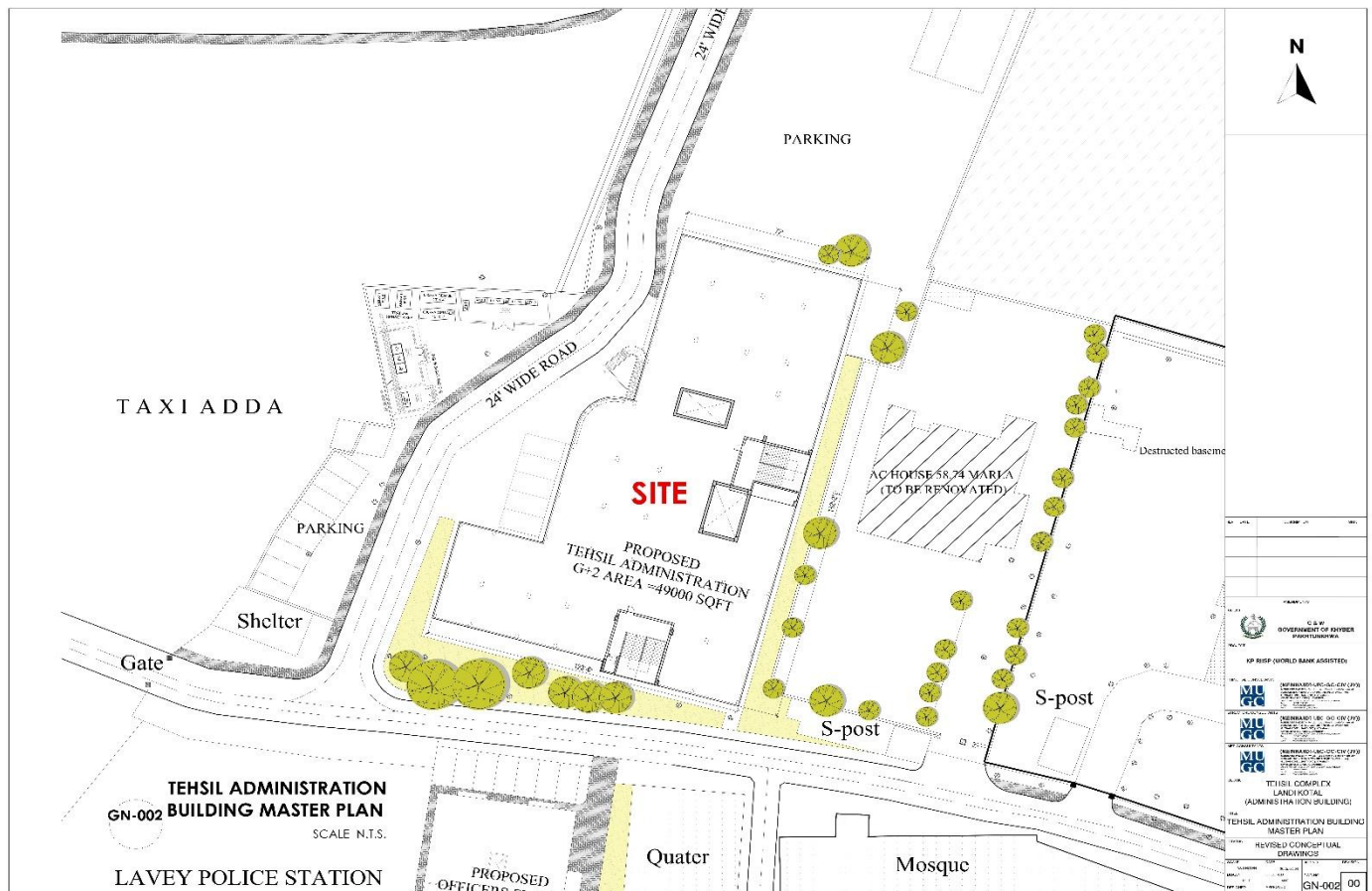
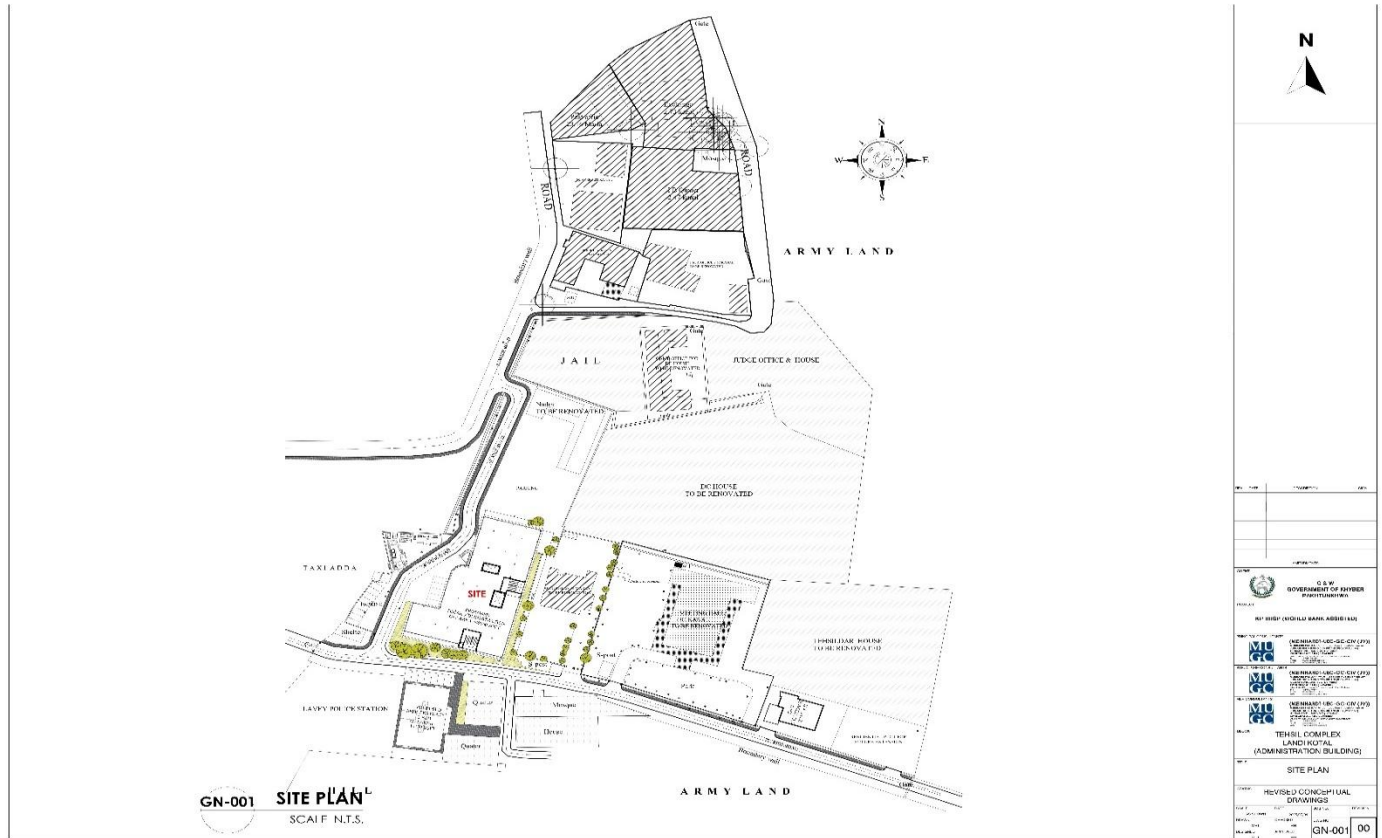
LEGEND:

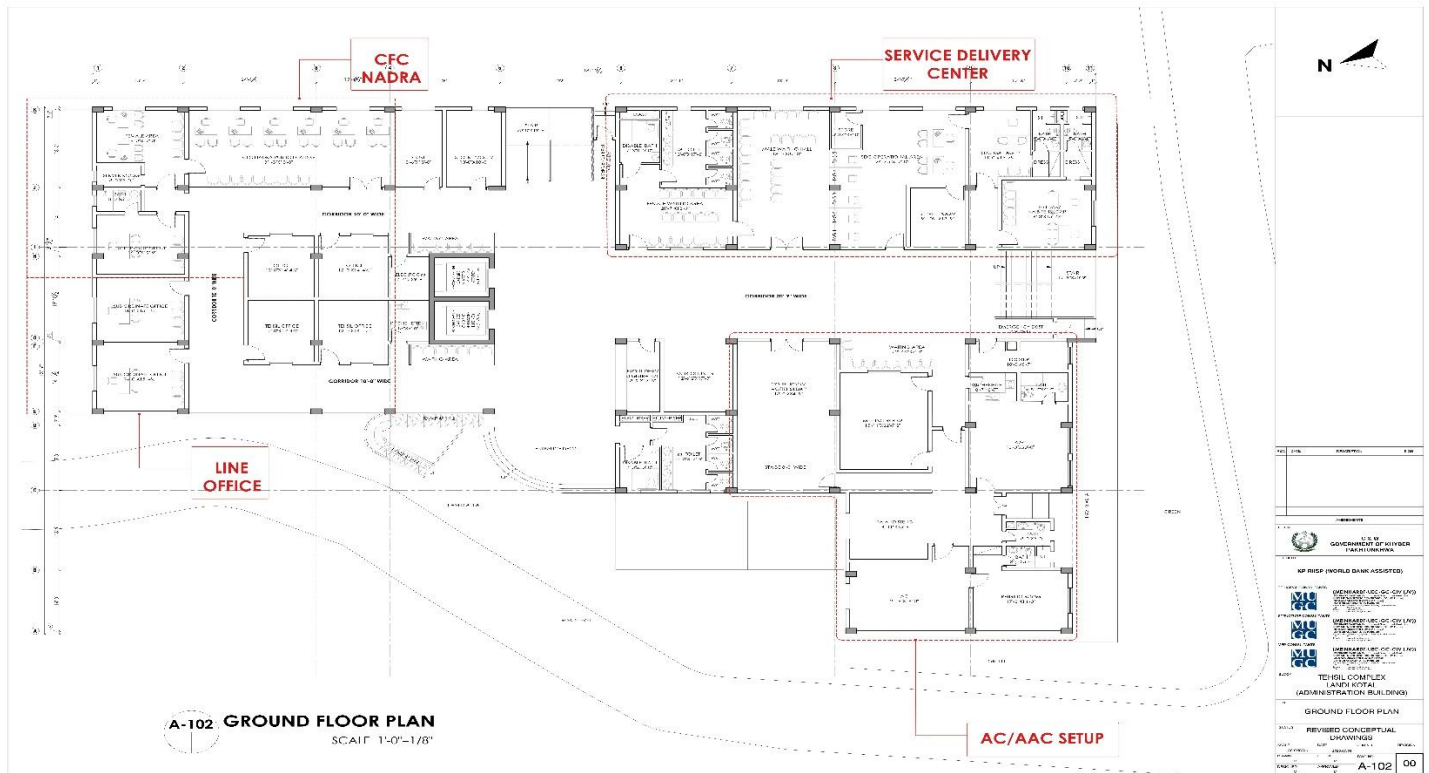
GREEN HIGHLIGHTED AREA = NEW CONSTRUCTION

YELLOW HIGHLIGHTED AREA = TO BE RENOVATED

PINK HIGHLIGHTED AREA = EXISTING BUILDING







Annex 7. Photos (with captions) of the Site and of the Consultations



Meinhardt team during the meeting with AC Landi Kotal



Selected sites for AC offices



Site for Jirga Hall



NADRA office



Site for Tehsildar residence



Site for construction of ADC residence

Annex 8: Air, Water quality baseline test reports

i) Air Quality, Landi Kotal Town on June 18, 2025 (Source: <https://www.accuweather.com/>)

S No.	Parameters	Standard	Result
1	Pollutants	50 $\mu\text{g}/\text{m}^3$	133
2	PM 10	67 $\mu\text{g}/\text{m}^3$	81
3	NO 2	44 $\mu\text{g}/\text{m}^3$	55
4	O 3	98 $\mu\text{g}/\text{m}^3$	48
5	SO 2	7 $\mu\text{g}/\text{m}^3$	7
6	CO	269 $\mu\text{g}/\text{m}^3$	3

ii) Ground Water Quality Test Report

	PAKISTAN COUNCIL OF RESEARCH IN WATER RESOURCES Ministry of Science & Technology, Government of Pakistan Water Resources Research center Plot No.31-32, Sector E-8, Phase IIV, Hayatabad Peshawar www.pcrwr.gov.pk
	WATER QUALITY TEST REPORT (CHEMICAL ANALYSIS)

Report Serial No	Chem-21/03/112	Total No. of Pages	1
Client Name & Address	Ultimate Consultant Engineers, H#27-A, Jamaluddin Afghani road, university town Peshawar		
Sampling Date	19/03/2021	Sampling Time	-
WQL, Peshawar Sample Code.	WQL/112	Client Code	Khyber /Shaheed Maina-02
Temperature of sample at receipt °C	25°C	Sample Receipt Date	19/03/2021
Date (s) of Analysis	19/03/2021 To 26/03/2021	Reporting Date	26/03/2021

PHYSICAL & AESTHETIC PARAMETERS					
Sr. #	Water Quality Parameter	Units	Reference Method	Permissible Limits (PSQCA/NSDWQ, 2010)	Results
1.	Color	-	Sensory evaluation	Colorless	Colorless
2.	Electrical Conductivity	(µS/cm)	APHA, 22 nd Edition	NGVS	630
3.	pH	-	APHA, 22 nd Edition	6.5-8.5	7.60
4.	Turbidity	NTU	APHA, 22 nd Edition	<5	54.2

MAJOR CHEMICAL PARAMETERS					
Sr. #	Water Quality Parameter	Units	Reference Method	Permissible Limits (PSQCA/NSDWQ, 2010)	Results
5.	Alkalinity as CaCO ₃	ppm	APHA, 22 nd Edition	NGVS	4.8
6.	Bicarbonate	ppm	APHA, 22 nd Edition	NGVS	240
7.	Calcium	ppm	APHA, 22 nd Edition	NGVS	80
8.	Carbonate	ppm	APHA, 22 nd Edition	NGVS	BDL
9.	Chloride	ppm	APHA, 22 nd Edition	250	25
10.	Hardness	ppm	APHA, 22 nd Edition	500	300
11.	Magnesium	ppm	APHA, 22 nd Edition	NGVS	24
12.	Potassium	ppm	APHA, 22 nd Edition	NGVS	22.5
13.	Sodium	ppm	APHA, 22 nd Edition	NGVS	12
14.	Sulfate	ppm	APHA, 22 nd Edition	NGVS	80
15.	Nitrate (N)	ppm	APHA, 22 nd Edition	10	06
16.	TDS	ppm	APHA, 22 nd Edition	1000	424

MAJOR BIOLOGICAL PARAMETERS					
Sr. #	Water Quality Parameter	Units	Reference Method	Permissible Limits	Results
17.	Total Coliform	CFU/100ml	APHA, 21 st Edition	Nil	0
18.	Fecal Coliform	CFU/100ml	APHA, 21 st Edition	Nil	0
19.	E. Coli	+Ve/-Ve	APHA, 21 st Edition	-Ve	-Ve

NGVS: No Guideline Value Set WHO: World Health Organization APHA: American Public Health Association, BDL: Below Detection Limit
QC: Quality Control CSS: Customer Service Section, PSQCA: Pakistan Standard Quality Control Authority, NEQS: National Environment Quality Standards, NSDWQ: National Standard for Drinking Water Quality

Interpretation

Quality of Water	Safe ☐	Unsafe ☒
Remarks (if any)	Sample is found UNSAFE for the TURBIDITY parameter.	

Terms & Conditions:

- Test results in this report relate only to the test item/sample submitted and tested.
- The test report shall not be reproduced except in full, without written approval of NWQL PCRWR.
- Water Quality Parameters exceeding the WHO Drinking Water Guideline values (Guidelines for Drinking-Water Quality, third edition, 2004) National Environmental Quality Standards (1999) and Pakistan Standard Quality Control Authority/National Standard for Drinking Water Quality (NSDWQ, 2010, PAKEPA) are highlighted.

Prepared by		Assist. Manager (Lab.)		Manager (Lab.)	
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iii) Surface Water Quality Test Report

	PAKISTAN COUNCIL OF RESEARCH IN WATER RESOURCES Ministry of Science & Technology, Government of Pakistan Water Resources Research center Plot No.31-32, Sector E-8, Phase IIV, Hayatabad Peshawar www.pcrwr.gov.pk	
	WATER QUALITY TEST REPORT (CHEMICAL ANALYSIS)	

Report Serial No	Chem-21/03/99	Total No. of Pages	1
Client Name & Address	Ultimate Consultant Engineers, H-277-A, Jamshuddin Afghani road, university town Peshawar		
Sampling Date	08/03/2021	Sampling Time	-
WQL, Peshawar Sample Code.	WQL/99	Client Code	Khyber /Shaheed Maina-01
Temperature of sample at receipt °C	25°C	Sample Receipt Date	08/03/2021
Date (s) of Analysis	08/03/2021 To 15/03/2021	Reporting Date	16/03/2021

PHYSICAL & AESTHETIC PARAMETERS					
Sr. #	Water Quality Parameter	Units	Reference Method	Permissible Limits (PSQCA/NSDWQ, 2010)	Results
1.	Color	-	Sensory evaluation	Colorless	Colorless
2.	Electrical Conductivity	(µS/cm)	APHA, 22 nd Edition	NGVS	470
3.	pH	-	APHA, 22 nd Edition	6.5-8.5	7.60
4.	Turbidity	NTU	APHA, 22 nd Edition	<5	60.0

MAJOR CHEMICAL PARAMETERS					
Sr. #	Water Quality Parameter	Units	Reference Method	Permissible Limits (PSQCA/NSDWQ, 2010)	Results
5.	Alkalinity as CaCO ₃	ppm	APHA, 22 nd Edition	NGVS	1.4
6.	Bicarbonate	ppm	APHA, 22 nd Edition	NGVS	170
7.	Calcium	ppm	APHA, 22 nd Edition	NGVS	80
8.	Carbonate	ppm	APHA, 22 nd Edition	NGVS	BDL
9.	Chloride	ppm	APHA, 22 nd Edition	250	25
10.	Hardness	ppm	APHA, 22 nd Edition	500	250
11.	Magnesium	ppm	APHA, 22 nd Edition	NGVS	12.2
12.	Potassium	ppm	APHA, 22 nd Edition	NGVS	7.6
13.	Sodium	ppm	APHA, 22 nd Edition	NGVS	12
14.	Sulfate	ppm	APHA, 22 nd Edition	NGVS	44
15.	Nitrate (N)	ppm	APHA, 22 nd Edition	10	6.5
16.	TDS	ppm	APHA, 22 nd Edition	1000	312
17.	Arsenic	ppb	APHA, 22 nd Edition	50	0.10
18.	Copper	ppm	APHA, 22 nd Edition	02	0.003
19.	Zinc	ppm	APHA, 22 nd Edition	5.0	0.00
20.	Lead	ppb	APHA, 22 nd Edition	50	0.65
21.	Fluoride	ppm	APHA, 22 nd Edition	1.5	0.13
22.	Iron	ppm	APHA, 22 nd Edition	0.3	0.10

MAJOR BIOLOGICAL PARAMETERS					
23.	Total Coliform	CFU/100ml	APHA, 21 st Edition	Nil	200
24.	Fecal Coliform	CFU/100ml	APHA, 21 st Edition	Nil	100
25.	E. Coli	+Ve/-Ve	APHA, 21 st Edition	-Ve	+Ve

NGVS: No Guideline Value Set WHO: World Health Organization APHA: American Public Health Association, BDL: Below Detection Limit
 QC: Quality Control CSS: Customer Service Section, PSQCA: Pakistan Standard Quality Control Authority, NEQS: National Environment Quality Standards, NSDWQ: National Standard for Drinking Water Quality

Interpretation

Quality of Water	Safe ☐	Unsafe ☒
Remarks (if any)	Sample is found UNSAFE for the tested parameters.	

Terms & Conditions:

- Test results in this report relate only to the test item/sample submitted and tested.
- The test report shall not be reproduced except in full, without written approval of NWQL-PCRWR
- Water Quality Parameters exceeding the WHO Drinking Water Guideline values (Guidelines for Drinking-Water Quality, third editions, 2004) National Environmental Quality Standards (1999) and Pakistan Standard Quality Control Authority/National Standard for Drinking Water Quality (NSDWQ, 2010, PAKEPA) are highlighted.

Prepared by		Assist. Manager (Lab.)		Manager (Lab.)	
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WQL-TR-11
 Revision No. : 13
 Revision Date: 25-03-2019

Annex 9: Coordinates of the Proposed Site

Site	Area	Coordinates
Tehsil Complex, Landi Kotal	4.75 kanal	E3594950.917 N9950509.877
Tehsil Complex, Landi Kotal	4.75 kanal	E3595037.426 N9950483.809
Tehsil Complex, Landi Kotal	4.75 kanal	E3594946.991 N9950260.401
Tehsil Complex, Landi Kotal	4.75 kanal	E3594860.481 N9950286.469

Site	Area	Coordinates
Residential Complex, Landi Kotal	1.5 kanal	E3594903.865 N9950204.022
Residential Complex, Landi Kotal	1.5 Kanal	E3594874.395 N9950105.692
Residential Complex, Landi Kotal	1.5 Kanal	E3594834.068 N9950210.487
Residential Complex, Landi Kotal	1.5 Kanal	E3594819.505 N9950110.425

Annex 10: Participants' list of Stakeholders' Consultation

- Mr. Adnan Mumtaz, Assistant Commissioner, Landi Kotal, District Khyber, KP
- Mr. Shahab ud Din, Additional Assistant Commissioner, Landi Kotal, District Khyber, KP
- Mr. Taimur Afridi, Tehsildar, Landi Kotal, District Khyber, KP
- Mr. Raheem Ullah, Engineer PHED, Kandi Kotal, District Khyber
- Mr. Hanief Khan, Social Safeguard Specialist – MUGC / PIU C&W
- Ms. Saima Saeed, Gender Specialist – Meinhardt / PIU C&W
- Ms. Laiba Nasir, Admin Officer – MUGC / PIU C&W