Draft Initial Environmental Examination

Project Number: 55131-001

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Kyrgyz Republic: Strengthening Regional Health Security Project (Chui Oblast Subproject)

Prepared by the Ministry of Health of the Kyrgyz Republic for the Asian Development Bank.

ABBREVIATIONS

ACM	asbestos-containing material
ADB	Asian Development Bank
CAREC	Central Asian Regional Economic Cooperation
CSC-ESS	construction supervision consultant-environmental safeguard specialist
CQI	Continuous Quality Improvement
dB(A)	Decibel Weighted Average
EA	executing agency
EHS	Environmental, Health, and Safety
EIA	environmental impact assessment
EMP	environmental management plan
GRM	Grievance Redress Mechanism
IA	implementing agency
IBA	Important Bird Area
IBAT	Integrated Biodiversity Assessment Tool
IEE	initial environmental examination
IFC	International Finance Corporation
IUCN	International Union for Conservation of Nature
KBA	key biodiversity areas
MOH	Ministry of Health
OHS	Occupational Health and Safety
PIU	project implementation unit
PIU-SS	PIU-safeguards specialist
PM	particulate matter
RCP	Representative Concentration Pathways
SPS	ADB Safeguard Policy Statement (2009)
SRHS	Strengthening Regional Health Security Project
SSEMP	Site Specific Environmental Management Plan
SSEP	Shared Socioeconomic Pathways
SSES	State Sanitary and Epidemiological Services
TRTA	transaction technical assistance
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	UN International Strategy for Disaster Reduction
WHO	World Health Organization

NOTES

In this report, “$” refers to US dollars.

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EXECUTIVE SUMMARY

A. Introduction

1. The Strengthening Regional Health Security Project (SRHS) builds upon investments made in the last two decades for health system strengthening of Kyrgyz Republic. Laboratory services are an integral part of health service delivery. The laboratory services in the Kyrgyz Republic number more than 300 and include a range of public health laboratories under the State Sanitary and Epidemiological Services (SSES), and public and private clinical diagnostic laboratories.

2. The proposed project will:

   (i) Add value to improving patient care, public health and health security in terms of disease prevention, surveillance, screening, diagnosis and treatment. In correspondence to the commitments and efforts of the government, laboratory services will aim to become effective, equitable and efficient and operate according to international principles of quality and safety.

   (ii) Enhance the laboratory services provided at the SSES and clinical diagnostic reference laboratories in Chui and Osh oblasts.

   (iii) Address public health and regional health security not only by improving the capacity and quality of laboratory services, but also strengthening laboratory networking and governance of the national laboratory system.

   (iv) Address the vulnerability of the border communities to health risk by investing in border hospitals.

3. The project outcome will be achieved through the following three outputs:

   (i) Output 1: Capacity, quality, and networking of reference laboratories for regional health security in Bishkek and Osh cities strengthened.

   (ii) Output 2: Laboratory services based on continuous quality improvement (CQI) in Chui and Osh oblasts developed.

   (iii) Output 3: Improved patient care and biosafety capacity of hospitals in border area and high travel zones in the Chui and Osh regions.

4. This draft Initial Environmental Examination (IEE) covers the Chui Oblast project sites. This IEE will be updated with the final detailed engineering design. The project's physical works, which are within the scope of this IEE will take place under all three project outputs at 14 facilities in Chui oblast which are existing SSES laboratories or hospitals. No new construction is required as the civil works will take place within existing buildings. The civil works will focus on four key areas:

   (i) Repairs to floor, wall and ceilings.

   (ii) New doors and windows.

   (iii) Electricity and/or water supply improvement.

   (iv) Ventilation and/or air conditioning installation.

5. The project is classified as environment category B under ADB's Safeguard Policy Statement (SPS, 2009). A Rapid Environmental Assessment conducted to confirm the environment categorization is in Annex 1. Category B classification means the project's potential environmental impacts are site-specific, few if any of them are irreversible, and impacts can be readily addressed through mitigation measures. This triggers the requirement for an Initial Environmental Examination (IEE).

6. The due diligence undertaken during project preparation concluded that the project does not require environmental impact assessment under the Kyrgyz Republic law on Ecological Expertise because laboratories are not listed amongst the types of activities

requiring an environmental impact assessment. Therefore, the project will not require any further environmental due diligence under national law.

B. Key findings – baseline environment

7. The project will be conducted within the existing hospital and laboratory compounds meaning the area of influence for local impacts is limited and no resettlement impacts are anticipated, according to the transaction technical assistance (TRTA) team. The environment in both sites is highly disturbed and no protected areas or key biodiversity areas are located in the vicinity of the sites, following screening using the International Biodiversity Assessment Tool.

8. By the nature of the healthcare sites, the works will take place in an environment which includes receptors (patients) sensitive to noise, vibration and dust.

9. Site visits and screening confirmed that there are limited flora and fauna on the sites, with common urban trees (pine, spruce, birch, elm) being the dominant species observed. No sites were found to have natural water bodies within the area of influence. Storm water drainage and sewage is managed on sites according to the facilities available which may include storm water discharge onto spare land and use of a municipal sewer system.

10. The facilities confirmed they have a range of protocols in place for managing operational waste, such as disinfection and storage in dedicated areas before disposal by an approved company.

C. Environmental management plan (EMP)

1. Consultation and disclosure

11. ADB's SPS 2009 requires any project to carry out meaningful consultation with affected people. Following analysis of (i) site specific locations; and (ii) the scale and scope of the works, 'affected people' in the context of the project are primarily those staff working in and around the laboratories which will be subject to both the civil works and operational impacts. Therefore, meaningful consultations for this IEE focused on the laboratory and hospital staff, in order to understand the construction impacts of the project on the patients and service delivery and to understand any relevant operational issues. Consultations were held from 14th February to 29th March 2022; a summary of the consultation results is in Table 1.

Table 1 Consultation Summary During Project Preparation

Consultation theme	Consultee comment summary	Project response
Construction concerns on people, patients, staff, community	Impact of noise, dust on people during reconstruction and repair.	The EMP includes measures to manage and monitor noise and dust
Construction concerns on the environment?	(i) Cutting and demolition of trees and shrubs, especially large-sized (for where it is planned to add to existing buildings) (ii) Disposal of construction debris (especially asbestos containing)	No landscaping will be required as the project does not require vegetation removal as no construction will take place Asbestos management including disposal is in the EMP with measures including: (i) double bagging and burying in landfill approved by the regulatory authorities; and

		(ii) disposal of asbestos waste in accordance with national laws and best practice to ensure no escape of waste and use of a disposal site approved by the Regulatory Authorities
Any **operational** concerns?	Positive impacts only (i) Increased access to laboratory services; and (ii) The quality of management, emergency response in the work of laboratories and hospitals will increase.	No action needed
Mitigation measures suggested?	(i) Development of procedures for the organization of work within the framework of the project (ii) Carrying out additional landscaping (where necessary) (iii) Informing specialists, patients about the planned and ongoing work on the project. (iv) Monitoring the opinions of specialists, patients in the process of performing work on the project.	(i) Improvements to working practices will be supported through the continuous quality improvement programme (ii) The project includes a communication plan and consultation to ensure facilities and their patients are informed (iii) Monitoring and consultation will be conducted during the civil works.

12. Consultation will be required throughout project implementation. A stakeholder engagement and communication plan will also be developed to define who needs consulting and project information, and when and how this information should be delivered.

13. The project will follow ADB's disclosure requirements. A copy of the Executive Summary of the IEE and the Environmental Management Plan will be translated into an appropriate local language and will be held at the project implementation unit (PIU) office and on each hospital site/facility. The final IEE and EMP and any updates required during implementation will be disclosed on ADB's website on behalf of the borrower.

2. Grievance Redress Mechanism

14. A robust grievance redress mechanism will be established. It will ensure that all unplanned impacts which cause grievances for affected people are managed swiftly and a satisfactory outcome brought about. The mechanism will cover environmental and social impacts and will be administered by the PIU with support from safeguard specialists.

3. Key impacts during implementation and operation

15. The IEE environmental baseline showed that the project works will not be conducted at sites which are close to or within nationally or internationally protected areas or key biodiversity areas. The sites are generally in highly modified urban environments with no significant flora or fauna species in the vicinity. This was confirmed by using biodiversity screening tools and site visits.

16. Impacts will arise during implementation resulting from civil works activities which will generate nuisance impacts such as noise, dust, and vibration. Impacts will be minor, not significant very localized as most of the project works will take place within existing buildings and will be short term during the civil works phase only. The impacts will be managed to appropriate levels, particularly by good construction practice and the use of personal protective equipment and training for the civil works contractors.

17. During operation, the laboratories improved under the project will continue to generate waste and wastewater emissions. The facility staff and management are required to ensure that occupational health and safety and environmental protocols and national laws are followed and that the waste management and occupational health and safety recommendations and training delivered by the Project's Continual Quality Improvement

program are implemented.

4. EMP implementation, monitoring, and reporting

18. The EMP requires good quality and regular communication with the hospital management and planning activities to ensure that sensitive patient receptors are disturbed as little as possible. Regular monitoring and verification on site by the Construction Supervision Consultant team in conjunction with the PIU safeguards specialist will be critical to ensuring the project is not disturbing patients. This will include regular site visits and inspections of all construction sites.

19. Reporting requirements in the EMP include monthly progress reports from the contractor, quarterly site visit monitoring reports from the PIU environmental specialist with support from the construction supervision consultant environmental consultant. Also, ADB's semi-annual environmental safeguards monitoring report will be prepared and submitted by Ministry of Health (MOH) to ADB which will summarize the key environmental safeguard progress, updates, and any other issues relevant. The monitoring requirements are based on observation and discussion with potentially affected people; ambient air quality sampling and noise monitoring will take place only when valid issues are raised or when the project staff have observed a potential issue. Semi-environmental monitoring report will be submitted to ADB starting loan effectivity date until the Project Completion Report is issued.

5. Civil works contractor requirements

20. The contractor is required to recruit a qualified Environmental Health and Safety Manager and develop a Site-specific EMP (SSEMP) which is expected to include a series of Action Plans whereby the contractor will provide detail on how the specific project risks, such as the potential for finding asbestos containing materials, waste management, or emergency response, will be managed. The COVID-19 risks at the time of implementation cannot be anticipated therefore the EMP expects the contractor to always comply with all national guidance and develop a Health and Safety plan which includes management of COVID-19 risks throughout civil works.

D. Implementation arrangements

21. The MOH will be the executing agency of the proposed project. The MOH will be responsible for overall strategic planning, guidance, and management of the project, and ensuring compliance with the loan and grant covenants. A PIU will be established within the MOH to support with planning, implementation, monitoring and supervision, and coordination of all activities under the project. The PIU will be managed by a project director who is a senior MOH official. The PIU will engage one externally-recruited safeguards specialist who will be key to delivering the day-to-day safeguard requirements of ADB, including environmental safeguards.

22. A project steering committee will be the MOH high-level committee, which will monitor and supervise the program. The project steering committee will be chaired by a MOH official. The MOH will recruit a construction supervision consultant (CSC) firm, which will be responsible for ensuring the quality and timely delivery of civil works for each project site. The firm will also engage a National Environment Health and Safety Specialist who will act as the technical person to deliver the Project's capacity building plans and ADB safeguard requirements during implementation. The CSC's two environmental safeguard specialists (9-months each, one in each of the two regions since civil works will be at the same period) will support the PIU Safeguards Specialists in ensuring compliance with ADB SPS requirements, national laws and regulations as well as construction health and safety matters among others.

E. Conclusion and recommendations

23. The risks to the environment are considered to be minor for the project. Overall, the project impacts during civil works are anticipated to be short term, and can be adequately managed by good civil works practice which will include clear and regular communication with the facility management relating to any disturbance of patients, staff or visitors resulting from noise, vibration or dust.

24. The operational impacts will be those regularly experienced by a functioning laboratory including generation of medical, chemical and biological waste and wastewater which may pose and environmental and OHS risks. These can be managed by improving existing OHS and waste management practices at the facility, through support by the project with a continuous quality improvement program.

25. The recommended environmental safeguards action plan (Table 2) should be implemented to ensure impacts are minimized in the key project phases; this table is a summary of key actions, which are detailed in the EMP. This table may be further revised in the Final IEE.

Table 2: Environmental Safeguards Action Plan

Project Phase	Responsible Entity	Environmental safeguards actions	Output
Detailed design/ pre-construction	MOH	1. Establish PIU	PIU functioning
		2. Recruit qualified consultant as Safeguard Specialist	Staffing / resourcing complete
		3. Engage qualified construction supervision consultant 2 environmental safeguard specialists (one in each of the two regions)	
		4. Establish grievance redressal mechanism (GRM) and ensure the grievance redressal committee members are equipped with knowledge to address project-related grievances	GRM
	Transaction Technical Assistance firm	1. Complete detailed design	Final detailed design
		2. Conduct further consultation	Consultation completed up to detailed design
		3. Update draft IEE and EMP with detailed design for ADB clearance of a final IEE and EMP	Final IEE cleared and disclosed by ADB
Construction/project implementation	CSC	1. Establish reporting and monitoring and documentation systems for environmental health and safety (EHS).	Project systems for environmental safeguards monitoring, reporting and recording (including health and safety)
		2. Develop a communication and stakeholder engagement plan	Communication and stakeholder engagement plan
		3. Undertake site visits for monitoring, consultation, and reporting and provide EHS advice	Project in compliance with EMP including health and safety
		4. Update IEE and EMP should project change or corrective	Up to date IEE and EMP

		actions needed	
		5. Review and approve contractor site specific EMP	Approved site specific EMP
	PIU	1. Establish GRM and disseminate	A functioning GRM
		2. Facilitate translation and dissemination of local language IEE executive summary and EMP	Local language safeguards documents held in each site and disseminated
		3. Safeguard Policy Statement (2009) orientation training for MOH	MOH deeper understanding on ADB's Safeguard Policy Statement requirements
		4. Include EMP in bidding documents	Bidding documents issued with EMP
		5. Undertake site visits for monitoring, consultation, and reporting	Project in □ompliance with EMP
		6. Conduct semi-annual environmental monitoring reports until Project Completion Report is issued.	ADB cleared semi-annual environmental monitoring report
		7. Post-construction audit for site conditions	Sites in acceptable environmental condition for hand-over
	Contractor	1. Permits and other requirements obtained prior to start of works	Project contractor is in legal compliance
		2. Develop site specific EMP (SSEMP) in response to EMP requirements prior to start of works	Site specific EMP is approved
		3. Undertake asbestos survey prior to finalization of SSEMP	Asbestos survey and register for each site
		4. Implement SSEMP requirements	Site is in compliance with project environment health and safety requirements
		5. Implement corrective actions for non-compliances	Corrective Action Plan
Operation	Laboratory Operator	1. Staff to participate in and engage with continuous quality improvement programme	Occupational Health and Safety protocols improved for each facility.
		2. A medical waste management plan aligned with WHO guidance is developed and implemented	Biomedical waste management and biosafety improved for each facility
		3. Medical waste management responsibilities given to a dedicated staff member	Named waste management officer/staff member on each site.

ADB = Asian Development Bank, CSC = construction supervision consultant, EMP = environmental management plan, GRM = grievance redress mechanism, IEE = initial environmental examination, MOH = Ministry of Health, PIU = project implementation unit, SSEMP = site specific environmental management plan, WHO = World Health Organization.
Source: ADB TRTA Team.

26. The EMP, if implemented as directed, will mitigate impacts on the natural environment and affected people to an acceptable level. The EMP includes measures to

minimize any potential impacts due to the proposed activities. The implementation of mitigation measures during the civil works will be the responsibility of the contractor. Therefore, the required environmental mitigation measures will have to be clearly defined in the bidding and contract documents, and appropriately qualified environmental staff retained by the contractor to supervise EMP implementation.

I. INTRODUCTION

27. The Strengthening Regional Health Security Project (SRHS) builds upon investments made in the last two decades for health system strengthening of Kyrgyz Republic. Laboratory services are an integral part of health service delivery. The laboratory services in the Kyrgyz Republic number more than 300 and include a range of public health laboratories under the State Sanitary and Epidemiological Services (SSES), and public and private clinical diagnostic laboratories.

28. Laboratory services are fragmented resulting in gaps and overlaps. Public laboratories provide a limited package of free tests resulting in high demand for costly private services. Public laboratories have a shortage of qualified staff. Dated facilities and equipment and lack of supplies further affect their capacity. Hospitals in busy economic hubs and markets in border areas deal with a high volume of mobile people and returning migrants and other regional health security challenges, and face capacity constraints in terms of the management of infectious diseases and hospital sanitation.

29. The proposed project will:

(i) Add value to improving patient care, public health and health security in terms of disease prevention, surveillance, screening, diagnosis and treatment. In correspondence to the commitments and efforts of the government, laboratory services will aim to become effective, equitable and efficient and operate according to international principles of quality and safety.

(ii) Enhance the laboratory services provided at the SSES and clinical diagnostic reference laboratories in Chui and Osh oblasts.

(iii) Address public health and regional health security not only by improving the capacity and quality of laboratory services, but also strengthening laboratory networking and governance of the national laboratory system.

(iv) Address the vulnerability of the border communities to health risk by investing in border hospitals.

30. **Project outputs.** The project outcome will be achieved through the following three outputs: Output 1: Capacity, quality, and networking of reference laboratories for regional health security in Bishkek and Osh cities strengthened; Output 2: Laboratory services based on continuous quality improvement (CQI) in Chui and Osh oblasts developed; and Output 3: Improved patient care and biosafety capacity of hospitals in border area and high travel zones in the Chui and Osh regions.

A. ADB and national environmental due diligence

31. During the transaction technical assistance (TRTA) phase, the project was confirmed as environment category B under ADB's Safeguard Policy Statement (SPS, 2009). A Rapid Environmental Assessment (Annex 1) confirmed the environment categorization during Initial Environmental Examination (IEE) preparation, and a preliminary climate risk screening confirmed the project is low risk (Annex 2). This means an IEE is required; further climate risk vulnerability assessment is not necessary.

32. Under the Kyrgyz Republic law on Ecological Expertise, Appendix 1, laboratories are not listed amongst the types of activities requiring an environmental impact assessment. Therefore, it is considered, following consultation with national environmental specialists, that the project will not require any further environmental due diligence under national Environmental Impact Assessment law. During preparation of this draft IEE, this is being confirmed through written confirmation with the relevant ministries, facilitated by MOH.

B. IEE scope, updates and structure

33. The scope of this IEE covers all the physical works associated with facility upgrades under the project Outputs in Chui Oblast only. The civil works in each oblast will be in separately procured works packages. A separate IEE and corresponding Environmental Management Plan (EMP) is prepared for in the Osh civil works package.

34. This draft IEE will be reviewed by the TRTA team when the detailed design is available, to ensure the IEE is in line with the final design. If necessary, amendments will be made, for example if there are any significant design changes or site changes. A final IEE will be produced which will be submitted to ADB for review clearance and disclosure on ADB's website on behalf of the borrower. During contractor procurement for civil works, the Executing Agency will be responsible for ensuring that the Environmental Management Plan (EMP) requirements for contractors are incorporated into the bidding documents process. Issuance of bid documents will only be allowed when the final IEE is cleared by ADB.

35. This IEE report is structured in accordance with Appendix 1 of SPS (2009):

(i) The project description identifies activities which may cause impacts.
(ii) The legislation framework highlights laws and policies relevant to the project bas on the description.
(iii) The baseline conditions identify environmental and social receptors on which impacts may occur, within the area of influence.
(iv) The impacts assessment and mitigation measures identify and evaluate the likely significance of the potential impacts on receptors according to defined assessment criteria and develops and describes mitigation measures that will be taken to avoid, minimize, reduce or compensate for any potential adverse environmental effects, and to report the significance of the residual impacts that remain following mitigation.
(v) The consultation and disclosure section demonstrates how stakeholder consultation has been considered, highlighting potential concerns or impacts to be addressed.
(vi) The grievance redress mechanism establishes a way affected people can voice their concerns or ideas about the project.
(vii) The environmental management plan defines roles and responsibilities for implementing mitigation measures and will become a contractual document during the bidding phase of project implementation.
(viii) Annexes provide supporting information including the Rapid Environmental Assessment used to determine the Project environment safeguards categorization.

II. PROJECT DESCRIPTION

A. Project overview

36. The Strengthening Regional Health Security Project (SRHS) builds upon investments made in the last two decades for health system strengthening of Kyrgyz Republic. Since independence, the country has undertaken wide-ranging reforms of its health system, which introduced comprehensive structural changes to health care delivery system aiming at strengthening primary health care, developing family medicine and restructuring the hospital sector. [1] Health statistics show significant improvements; however, compared to neighboring countries such as People's Republic of China, Kazakhstan and Uzbekistan—these indicators need to be improved further.

37. Laboratory services are an integral part of health service delivery. The laboratory services in the Kyrgyz Republic number more than 300 and include a range of public health laboratories under the State Sanitary and Epidemiological Services (SSES), and public and private clinical diagnostic laboratories. Laboratory services are fragmented resulting in gaps and overlaps. Public laboratories provide a limited package of free tests resulting in high demand for costly private services. Public laboratories have a shortage of qualified staff. Dated facilities and equipment and lack of supplies further affect their capacity. Hospitals in busy economic hubs and markets in border areas deal with a high volume of mobile people and returning migrants and other regional health security challenges, and face capacity constraints in terms of the management of infectious diseases and hospital sanitation.

38. The proposed project will add value to improving patient care, public health and health security in terms of disease prevention, surveillance, screening, diagnosis and treatment. In correspondence to the commitments and efforts of the government, laboratory services will aim to become effective, equitable and efficient and operate according to international principles of quality and safety.

39. The project will enhance the laboratory services provided at the SSES and clinical diagnostic reference laboratories in Chui and Osh oblasts. It will address public health and regional health security not only by improving the capacity and quality of laboratory services, but also strengthening laboratory networking and governance of the national laboratory system, as well as addressing the vulnerability of the border communities to health risk by investing in border hospitals.

40. The proposed project aims to optimize recent investments in laboratory services and infectious diseases control and prevention.

41. The SRHS project will base its strategies on the decisions taken by the Government of Kyrgyz Republic[2] a few years ago, projected the laboratory system in a network of laboratories intended to provide better coverage in a rationalized manner. Adequately planned laboratory facilities are expected to provide better services to the population in their catchment areas. By preparing the country to prevent, detect and respond to any public health events, the project will contribute to regional health security committed by the government, [3] as well as enhanced regional cooperation and integration on regional health

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[1] European Observatory on Health Systems and Policies. 2011. *Health Systems in Transition: Kyrgyzstan Health system review;* National Statistical Committee of the Kyrgyz Republic (NSC), Ministry of Health of the Kyrgyz Republic, and ICF International. 2013. *Kyrgyz Republic Demographic and Health Survey 2012.* Bishkek, Kyrgyz Republic, and Calverton, Maryland, USA: NSC, MOH, and ICF International.

[2] MOH. *Program and Strategy for the Development of Laboratory Service of the health care system (2016-2025)*; and MOH. *Healthy Person, Prosperous Country" Program (2019-2030) on Public Health Protection and Health Care System Development and the first Action Plan (2019-2023).*

[3] The Joint Order of the Action Plan for the Implementation of the International Health Regulations (2005) for 2020-2022.

strategy.[4] Moreover, as the COVID-19 pandemic has demonstrated, it is crucial to alleviate the burden of non-communicable diseases to reduce future mortality and morbidity of co-morbidities (infectious diseases and non-communicable diseases). Hence, it is necessary to improve service delivery of hospitals in border areas and high travel zones.

B. Impact, outcome and outputs

42. **Project Impact and Outcome.** The intended impact of the project is "improved public health and regional health security in the Kyrgyz Republic by developing a cohesive laboratory network and border hospital services." The outcome of the project will be "enhanced coverage of effective laboratory services and border hospital services in Chui and Osh oblast". [5]

43. **Project Outputs**. The project outcome will be achieved through the following:

44. Output 1: Capacity, quality, and networking of reference laboratories for regional health security in Bishkek and Osh cities strengthened. This output will upgrade and strengthen antimicrobial resistance diagnostic reference laboratories under SSES and clinical diagnostic reference labs in Bishkek and Osh, as apex institutions with advanced referral diagnostics, internal quality assurance and biosafety, skills training facilities, and technical support for external quality assurance and licensing, based on international best practices and standards.

45. **Output 2: Laboratory services based on continuous quality improvement (CQI) in Chui and Osh oblasts developed.** This output will (i) develop cohesive networks of SSES and clinical diagnostic laboratory services in Chui and Osh oblasts (including Bishkek and Osh cities) with restructuring, upgrading, and CQI; (ii) strengthen capacity for the national laboratory system in regulation, standards, financing, management, monitoring, and studies for innovative solutions; (iii) develop a laboratory system and financing plan for Chui and Osh laboratory systems including support systems such as supplies and maintenance; (iv) upgrade or adapt and equip laboratories based on modern quality and biosafety standards; (v) network SESS and clinical diagnostic laboratories in Chui and Osh oblasts internally and with patient care and cross-border services using digital and physical communication systems; and (vi) develop a CQI program for all laboratories in Chui and Osh oblasts including training module development and skills training

46. Output 3: Improved patient care and biosafety capacity of hospitals in border area and high travel zones in the Chui and Osh regions. This output will upgrade and strengthen the capacities of hospitals with referral laboratories for preparedness, prevention and control, screening, and case management of infectious diseases in border areas and high travel zones in Chui and Osh oblasts. More specifically, it will upgrade and equip facilities, provide staff training, and coordinate cross-border for information exchange and outbreak prevention and control

47. In summary the project's physical works will focus on four key areas and will take place under all three project outputs:

(i) Repairs to floor, wall and ceilings;
(ii) New doors and windows;
(iii) Electricity and/or water supply improvement; and
(iv) Ventilation and/or air conditioning installation.

48. The physical works undertaken at the sites are described in the following table which confirms that no new buildings will be constructed; the project will take advantage of the numerous empty buildings at many of the sites and these rooms will benefit from refurbishment which offers a financial and environmental saving as fewer resources are

[4] ADB. 2022. *CAREC Health Strategy 2030*. Manila .
[5] ADB. Strengthening Regional Health Security Project, Kyrgyz Republic: Project Data Sheet.

required than for newly constructed buildings.

Table 3: Summary of Civil Works Requirements in Chui Oblast

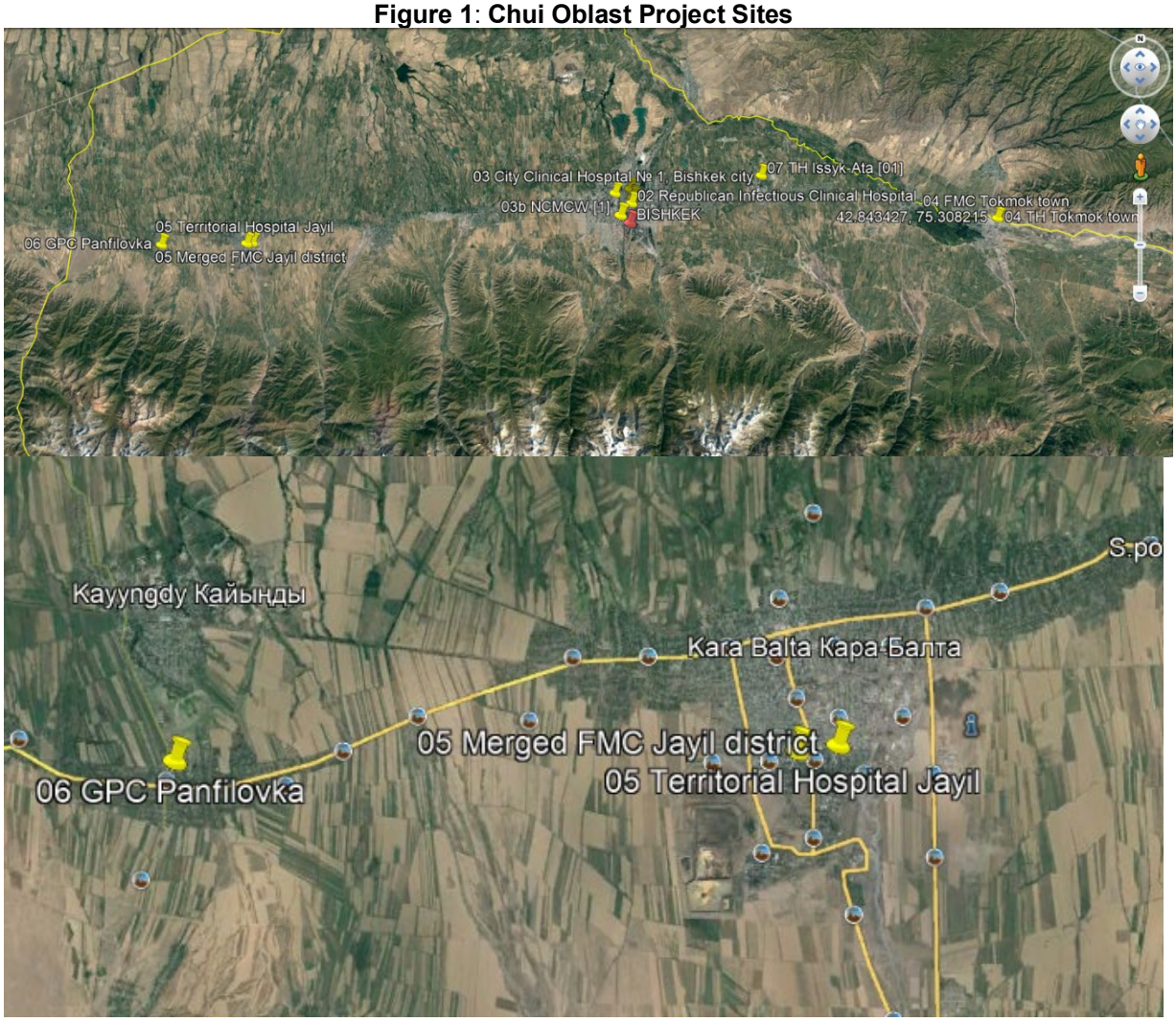
	Facilities Chui	Construct-ion cost USD	Remarks/details of project activities
1	SSES-National AMR Bishkek	250,000	The reconstruction involves the expansion of the laboratory from 180 m^2 by 100 m^2 within existing buildings. On the added area, it is necessary to install a ventilation system. Reconstruction of the water and electricity supply system throughout the area. Installation of the air conditioning system. Minor repairs to walls and ceiling. Partial replacement of windows and doors.
2	SSES Tokmok	150,000	Reconstruction involves the replacement of windows and doors. Wall and ceiling repair. Audit of water and power supply systems. Installation of the ventilation system of the air conditioning system. Reconstruction of the heating system.
3	CDL National Reference LAB National Hospital	350,000	The reconstruction involves the expansion of the laboratory area within existing buildings from 374 m^2 to 550 m^2. It is planned to reconstruct the floor (pouring concrete and linoleum flooring), removing a number of interior partitions, replacing the roof. Reconstruction of electrical, plumbing, heating and sewerage. Wall painting and cladding. Installation of a ventilation and air conditioning system. Replacement of windows and doors.
4	CDL City Clinical Hospital No. 1, Bishkek	250,000	Renovation work on electricity, sanitation and finishing throughout the existing laboratory (approximately 200m^2). Providing additional natural ventilation. Expanding the laboratory into existing available area approximately 100m2.
5	CDL National Centre for MCH Bishkek	150,000	The construction is in good condition. The total area of the laboratory is 220 m^2. The walls, ceiling and floor need to be repaired. Partial replacement of doors and windows. Ventilation system repair. Installation of the air conditioning system.
6	CDL Republican Infectious Clinical Hospital	200,000	Includes two divisions: the first division is to be extended by 100 m^2 within existing buildings. Both divisions will require wall and ceiling work, partial replacement of windows and doors. Installation of ventilation and air conditioning systems.
7	CDL Zhail	150,000	Reconstruction involves partial replacement of windows and doors, walls and ceilings. Installation of a ventilation and air conditioning system.
8	CDL Tokmok	150,000	Expand the area of the existing laboratory within existing buildings. Repair the water and power supply system. Installation of a ventilation system. Replacing windows and doors, repairing the floor.
9	CDL Issyk-Ata	150,000	Reconstruction involves the replacement of windows and doors. Wall and ceiling repair. Audit of water and power supply systems. Installation of a ventilation system. Reconstruction of the heating system.
10	CDL Panfilov	-	no renovation required
11	H National Hospital Bishkek	200,000	The department is located on the basement of the building. The total area is 180 m^2. Installation of a ventilation / air conditioning system is required. Repair of walls, ceiling and floor. Partial redevelopment, replacement of windows and doors. Repair of the water and electricity supply, heating system.
12	H Clinical City Hospital No. 1, Bishkek	150,000	Emergency admission: The branch opens in another building. Reconstruction involves the removal of partitions. Replacement of windows and doors. Repair of the water and power supply

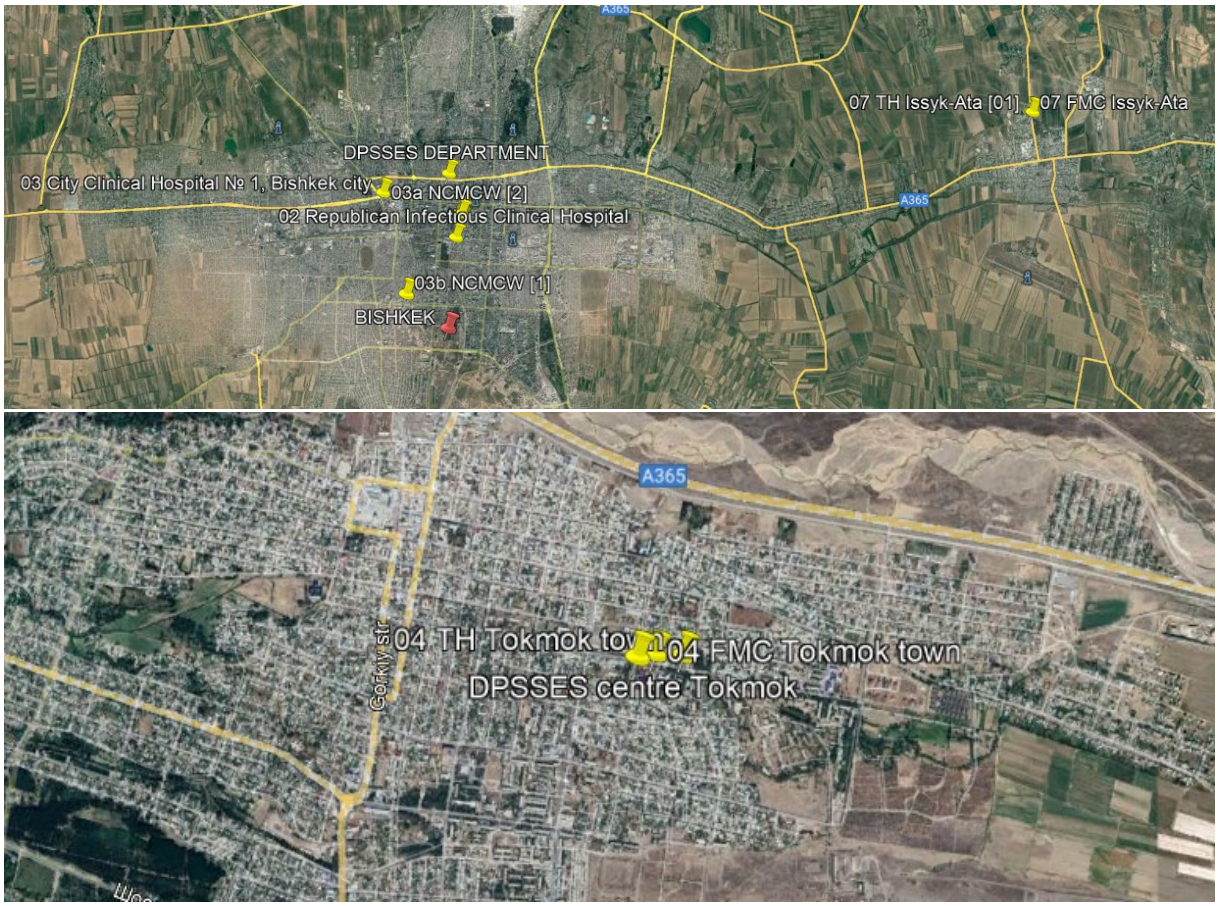
			system. Installation of air conditioners. Cosmetic repairs of walls, floors, ceilings
13	H Issyk-Ata	150,000	Emergency admission: Minor cosmetic repairs required. Replacement of windows and doors. Air conditioning installation. Revision of heating and water supply systems. Reconstruction of electrical networks.
14	H Tokmok	100,000	Emergency admission. An addition to an existing building is planned. Reconstruction of the existing building will require repair of water and electricity systems, Repair of the heating system. Installation of air conditioners.
	Total Cost for Oblast:	2,400,000	

AMR = antimicrobial resistance, CDL = clinical diagnostic laboratory, SSES = State Sanitary and Epidemiological Services
Source: ADB TRTA Team.

49. The location of the Project sites in Chui Oblast are shown in Figure 1 (with close up maps showing exact locations):

Figure 1: **Chui Oblast Project Sites**





Source: TRTA Team / Google Earth

C. Implementation schedule

50. The indicative implementation schedule for the project is shown in Table 4:

Table 4: Implementation Schedule

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	A. DMF																												
1	**Output 1: Capacity, quality, and networking of reference laboratories in Bishkek and Osh cities strengthened**																												
1.1	Promote formal recognition of selected laboratories as reference laboratories, identify reference functions, develop operational plans, and provide support to reference laboratories in carry out these functions.																												
1.2	Prepare with the reference laboratories budgets for their reference functions.																												
1.3	Establish mentoring program for 4 project reference laboratories and 2 other labs previously supported by WHO, agree on monitoring checklists and mentoring plan, and provide mentoring in preparation for accreditation to international standards (project reference labs to apply for ISO accreditation within 36 months from Effective Date) .																												
1.4	Select a universal tool to monitor performance of the mentored laboratories within the project and collect and analyze the data annually.																												
1.5	Support national reference laboratories during the first runs of carrying out their functions for lower-level laboratories																												
1.6	Upgrade laboratory infrastructure, laboratory equipment, and teaching facilities.																												
1.7	**Regional collaboration activities:**																												
1.7.1	ABEC: conduct activities on the Kyrgyz side for the National AMR Reference Laboratory, including standardization of approaches and methods for validation of reference diagnostics of antimicrobial resistance with Bacteriology SSES lab, Bishkek (AMR testing) – national reference lab, in year-4																												

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	and 5.																												
1.7.2	CAREC: Organize regional conference/webinar, assessment on national laboratory system (LAT national module, e-SPAR and JEE)																												
2	**Output 2: Laboratory services based on continuous quality improvement in Chui and Osh oblasts (including Bishkek and Osh cities) developed**																												
2.1	**Strengthen governance capacity for the national laboratory system including regulation, standards, planning, financing, management, monitoring, and studies for innovative solutions.**																												
2.1.1	National quality and safety standards:																												
2.1.1a	Conduct assessment of current quality and (bio)safety standards and norms governing laboratories and mechanisms of control of compliance.																												
2.1.1b	Conduct research and consultations with CLC, representatives of MOH, KCA, WHO on optimal way to develop and implement laboratory standards.																												
2.1.1c	Update draft standards (national quality and safety standards for laboratories), legislation and their implementation plan with involvement of stakeholders.																												
2.1.2	Circulate drafts among stakeholders, collect and incorporate feedback, develop final proposal of norms and legislation.																												
2.1.3	Provide advocacy and support to respective government agencies and other stakeholders in adopting the standards and legislation (within 24 months from Effective Date).																												
2.1.4	Identify in consultations with stakeholders what support KCA needs to become full ILAC member for ISO 15189 and develop plan for these support activities (e. g. training of experts, training audits).																												
2.1.5	Perform support activities for KCA to become full ILAC member.																												

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.1.6	Select national mentors for all other labs in preparation for accreditation to national standards.																												
2.1.7	Review baseline LAT assessment of individual laboratories and compile a list of informative and actionable PI.																												
2.1.8	Pilot PIs chosen for each type and level of laboratory in the Project laboratories.																												
2.1.9	Carry out preparatory work and implement innovative solutions pilot:																												
a	Optimizing bacteriology testing																												
b	Outsourcing selected tests																												
c	Outsourcing specimen transportation																												
2.2	**Develop a cohesive laboratory system and financing plan for the Chui and Osh laboratory system with stakeholders including support systems such as supplies and maintenance.**																												
2.2.1	Approve and adopt the national Laboratory Optimization Master plan 2023-2030 (within 12 month from Effective date)																												
2.2.2	Establish a small (4-5 members) Costing Working Group – represented by CDL and SSES lab expert members of CLC																												
2.2.3	Based on the Chui and Osh Optimization Master Plan, agree on a list of tests to be included in the costing exercise.																												
2.2.4	Together with MHIF, determine costing methodology based WHO costing tools adapted to the needs.																												
2.2.5	Present and get approval of MHIF and MOH on costing methodology and outcome (cost of test).																												
2.2.6	Propose updated reimbursement mechanism reflecting calculated costs to MHIF.																												
2.2.7	Propose updated benefit package (selected tests).																												

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.2.8	Support labs to prepare budgets, update payment system, monitor expenditure and utilization (sustainability measures).																												
2.3	**Upgrade and equip laboratories as per plan based on modern quality and biosafety standards.**																												
2.3.1	Civil work/renovation:																												
a	Prepare description of civil work and finalize tender documentation.																												
b	Conduct tendering of civil work packages and contract award.																												
c	Monitor progress and compliance with environmental and social safeguards.																												
d	Verify payment and as-built.																												
2.3.2	Laboratory equipment upgrading:																												
a	Define tender packages and finalize tender documents.																												
b	Manage tendering process, tender evaluation and contract award.																												
c	Monitor delivery, installation, technical training and handing over.																												
d	Monitor execution of warranty and post-warranty maintenance services.																												
2.4	**Network SESS and clinical diagnostic laboratories in Chui and Osh oblasts internally and with patient care and cross-border services using digital and physical communication systems.**																												
2.4.1	Prepare tender document for IT hardware and TOR																												
2.4.2	Define development/customization requirements - type of tests to be reported digitally, PIs to be generated from LIMS and use of PIs, cross-border information sharing, etc.																												
2.4.3	Prepare LIMS implementation plan and operational guidelines																												

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.4.4	Software development/customization and interface with lab equipment																												
2.4.5	Prepare and conduct user training including basic computer skill																												
2.4.6	Conduct user acceptance testing and go-live																												
2.4.7	Monitor post-live performance																												
2.5	**Develop a CQI program for the Chui and Osh laboratory services including strengthening human resources for health.**																												
2.5.1	Review existing postgraduate training curricula for laboratorians of different levels in both branches of KSMI, including waste management.																												
2.5.2	Develop needed curricula taking into account new topics (new methods, equipment, etc.), beginner and advanced courses, number of laboratory personnel in the country, capacity of teaching laboratories and teachers' capacity, financial sustainability and geographical access.																												
2.5.3	Identify teaching personnel, survey their needs in education and conduct training workshops and on-job training for core teaching staff in both branches of KSMI.																												
2.5.4	Assemble working groups for respective disciplines and manage developing of needed courses.																												
2.5.5	Provide support during the first runs of the new courses in the renovated facilities.																												
2.5.6	Research needs and possibilities, select candidates and organize for them relevant studies abroad supported by the Project scholarships																												
2.5.7	Research the possibilities and select and organize twining programs for two reference laboratories																												
3	**Output 3: Patient care and biosafety capacity in hospitals in border area and high travel zones in Chui and Osh oblasts improved**																												

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.1	Civil work/renovation:																												
a	Prepare description of civil work and finalize tender documentation for civil work.																												
b	Conduct tendering of civil work packages and contract award.																												
c	Monitor progress and compliance with environmental and social safeguards.																												
d	Verify payment and as-built.																												
3.2	Medical equipment upgrading:																												
a	Define tender packages and finalize tender documents.																												
b	Manage tendering process, tender evaluation, and contract award.																												
c	Monitor delivery, installation, technical training and handing over.																												
d	Monitor execution of warranty and post-warranty maintenance services.																												
3.3	Provide training related to infection prevention and control.																												
	B. Management Activities																												
	Establish PIU																												
	Recruit key PIU staff (PIU Manager, Procurement Specialist, and Finance Officer)																												
	Initiate advertisement and award consultant for baseline and endline survey																												
	Initiate advertisement and award consultant for construction supervision company, costing of lab tests																												
	Initiate advertisement and award consultant for LIMS, CQI																												
	Initiate advertisement and award consultant for preparation of service contracts: Rationalization of Bacteriology test, Outsourcing of special CDL lab test Bishkek,																												

	Activities	Advance Actions 2022				Year 1 2023				Year 2 2024				Year 3 2025				Year 4 2026				Year 5 2027				Year 6 2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	and Sample collection transport																												
	Initiate advertisement and award consultant for auditing																												
	Initiate advertisement and award equipment packages (office, lab, medical, ICT)																												
	Initiate advertisement and award civil work contractors																												
	Implementation of civil works contracts																												
	Environment Management Plan key activities																												
	Gender Action Plan key activities																												
	Continuous monitoring and reporting on project activities (Quarterly)																												
	Annual and Midterm review (semiannual ADB review missions)																												
	Government Project Completion Report																												
	ADB Project Completion Report Mission																												

ABEC = Almaty-Bishkek Economic Corridor, AMR = antimicrobial resistance, CDL = , clinical diagnostic laboratory, CLC = Coordination Laboratory Council, CQI = continuous quality improvement, e-SPAR = electronic State Parties Self-Assessment Annual Reporting Tool, KCA = Kyrgyz Center for Accreditation, KSMI = Kyrgyz State Medical Institute for Retraining and Advanced Training, DMF = design and monitoring framework, JEE = joint external evaluation, ILAC = International Laboratory Accreditation Cooperation, ISO = International Organization for Standardization, ICT = information and communication technology, IT = information technology, LAT = Laboratory Assessment Tool, LIMS = laboratory information management system, MHIF = Mandatory Health Insurance Fund, MOH = Ministry of Health, PI = performance indicator, PIU = project implementation unit, Q = quarter, SSES = State Sanitary and Epidemiological Surveillance, TOR = terms of reference, WHO = World Health Organization.
Source: Asian Development Bank.

III. POLICY AND REGULTAORY FRAMEWORK

A. General

51. This section provides an overview of the policy framework and national legislation applicable to the proposed activities within the scope of this IEE. The project is expected to comply with all national legislation in Kyrgyz republic as well as the requirements of ADB SPS 2009, and to obtain all the regulatory clearances required.

B. National laws and policies

52. Table 5 summarizes the relevant national laws.

Table 5: Relevant National Laws and Regulations

Environmental law/regulation	Summary description
The Constitution of the Kyrgyz Republic (2021)	Land, its mineral resources, airspace, waters, forests, flora and fauna and other natural resources are used, but at the same time are under protection. Everyone is obliged to take care of the environment, flora and fauna of the country.
The Environmental Safety Concept of KR (2007)	This law establishes the basic principles of environmental policy and determines global, national and local environmental issues; priorities in the field of environmental protection at the national level as well as tools to ensure environmental safety.
Law of KR "On Environmental Impact Assessment" (June 16, 1999, No 53) (As all amended including last: May 4, 2015 No. 92)	The main law related to environmental assessment. Its task is to prevent negative impacts on human health and environment occurring as a result of economic or other activities, and to ensure compliance of these activities with environmental requirements of the country
Law of KR “On Environmental Protection” (June 16, 1999 No. 53) (As all amended including last: March 23, 2020 No. 29)	Establishes the basic principles of environmental protection and provides legal authority to establish environmental quality, designate special protected areas, promulgate rules and procedures for the use of natural resources, establish environmental monitoring and control system and reinforce procedures for overcoming emergency situations. Among the standards and norms of environmental quality authorized under this law and related to the project there are: (i) Standards of Maximum Safe Concentration of Hazardous Substances in Air, Water; (ii) Standards of Natural Resources Use; (iii) Standards of Maximum Safe Noise, Vibration Levels and Other Hazardous Physical Impacts. This law establishes the requirements for environmental examination (environmental assessment) intended by economic or other activities to prevent potential adverse environmental impacts. In addition, it prohibits financing or implementation of projects related to the use of natural resources without obtaining approval from the State Environmental Expertise.
Law of the KR ‘Ecological (Environmental) Expertise’, No. 54 dated June 16, 1999 (as amended by the Laws of the Kyrgyz Republic No. 92 of May 4, 2015)	Regulates legal relations in the field of environmental expertise, aims at implementing the constitutional right of citizens to a favorable environment by preventing negative environmental consequences, arising from the implementation of economic and other activities. It is based on the relevant provisions of the Constitution of the Kyrgyz Republic, the Law of the Kyrgyz Republic "On environment protection" and other normative legal acts adopted in accordance with them. Key articles include: Article 3. Objects of ecological expertise Article 4. Principles ecological expertise Article 9. Conducting state ecological expertise

Environmental law/regulation	Summary description
	Article 10. Environmental Impact Assessment (EIA). Under Article 3 Feasibility studies and projects of construction, reconstruction, expansion, technical re-equipment, conservation and liquidation of facilities, other projects, regardless of their estimated cost, departmental affiliation and form of ownership, the implementation of which may have an impact on the environment is subject of State Ecological Expertise.
Annex on the procedure for conducting environmental impact assessment in the Kyrgyz Republic dated February 13, 2015 No. 60	Supports the environmental assessment process through specifying a need for consultations during the Environmental Impact Assessment (EIA) process, and the process for completing the full EIA.
Law of KR "General technical rules and regulations for environmental safety in the Kyrgyz Republic" (2009) (as amended by Law of the KR No. 83 dated July 8, 2019)	One of the main regulatory acts on Environment (i) Defines the main provisions of technical regulation in the field of environmental safety (ii) Establishes general requirements for ensuring environmental safety in the design and implementation of activities at economic and other activities for production, storage, transportation and disposal of products. (iii) Defines general requirements and principles for sanitary and security zones, environmental impact assessment and environmental expertise, standardization, permits, payments for environmental management, monitoring systems and control organizations.
Regulation on procedure for conducting environmental impact assessment in the Kyrgyz Republic (2015)	This regulation establishes the procedure for assessing the environmental impact of the proposed activity (hereinafter EIA). The purpose of EIA is to prevent and/or mitigate the environmental impacts of the proposed activity and other related social, economic and other consequences.
Rules for the protection of surface waters in KR (2016)	These rules govern the protection of surface waters from pollution and depletion, in the implementation of the water users of different types of business activities that have or may have an adverse impact on the status of surface waters, irrespective of their legal form, as well as regulate the procedure for implementation of measures for the protection of surface water.
Law of KR "On Protection of Atmospheric Air" (1999)	This law defines the national policy in production and consumption waste management. It is aimed at preventing negative impacts from production and consumption waste on the environment and human health while handling it and their maximum involvement in the economy as an additional source of raw materials.
Law of KR “On Wildlife” (1999)	Establishes the legal relations in the context of protection, use and reproduction of wildlife
Law of KR “On Protection and Use of Flora” (2001)	Establishes the legal framework for ensuring effective protection, rational use and reproduction of flora resources.
Temporary Instruction on Medical Waste Management No. 719 (2018)	This instruction has been developed to ensure the sanitary epidemiological well-being of the population, to prevent harmful effects on human health and the environment, to improve and systematize the rules of waste management of public health organizations, and is intended for medical organizations, regardless of their form of ownership. Specific requirements include: (i) A person is appointed who organizes the management of medical waste and monitors compliance with the requirements (ii) The volume and classes of generated medical waste are recorded, an inventory is carried out with a regularity of at least once a year (iii) Placement and storage of contaminated and / or decontaminated

Environmental law/regulation	Summary description
	medical waste should be carried out in specially equipped and fenced areas (clause 17) (iv) Personnel undergo mandatory training and briefing on the rules for the safe handling of medical waste (clause 23) (v) Epidemiologically hazardous medical waste (class B waste) is subject to decontamination (disinfection) and / or neutralization (clause 32) (vi) Mercury-containing medical waste and broken medical devices are subject to collection and return for subsequent regeneration of mercury to specialized enterprises. (Clause 58) (vii) It is prohibited to destroy, remove mercury-containing waste to landfills and other places not intended for hazardous waste (clause 65). (viii) Collection, storage, disposal of radioactive medical waste (Class D waste) is carried out in accordance with the Law of the Kyrgyz Republic "Technical Regulations "On Radiation Safety" (clause 72). (ix) Healthcare organizations located in densely populated areas (cities), hazardous and non-hazardous medical waste is not allowed to be destroyed (buried, burned) on site (clause 121).
Governmental Decree No. 885 validating the Regulation on hazardous waste management (2015)	This Governmental Decree sets out the methods and practices for the management, transport and disposal of is hazardous waste. Hazardous waste shall be classified in five categories: (a) extremely hazardous; (b) highly hazardous; (c) moderately hazardous; (d) low hazardous; and (e) practically non-hazardous. The Regulation pays particular attention to mercury containing waste, waste car batteries and waste oils. It deals also with transportation and recycling of hazardous waste and includes provision for handling of used containers and packaging contaminated with chemical substances.
DECISION dated January 15, 2010 No. 9 ((As amended by the Decree of the Government of the Kyrgyz Republic dated December 31, 2012 No. 877, January 22, 2018 No. 38))	This decision is related to approval of the hazardous waste classifier and guidelines for determining the hazard class of waste. The decision states that: (i) Construction and demolition waste, asbestos pollution (hazard class 1) (R) (ii) Contaminated asbestos or ceramic fiber packaging materials (hazard class 2) (A).
Law on Production and Consumption Wastes (November 13, 2001 No. 89 (As amended)	The law regulates relations arising in the process of formation, collection, storage, use, neutralization, transportation, and disposal of production and consumption waste, as well as state administration, supervision, and control in the field of waste management. (i) The law prohibits unlawful waste disposal and specifies hazardous waste can only be placed in a hazardous waste facility. (ii) Legal entities and individuals handling hazardous waste are required to keep records of hazardous waste.
Cultural Resources	**Summary description**
The Law "On protection and use of historical and cultural heritage" (1999)	Establishes legal norms for protection and use of tangible historical and cultural heritage on the territory of the Kyrgyz Republic, which is of unique value for people.
Health and Safety/ Labour	**Summary description**
Act No. 167 of 1 August 2003 on Labor Protection (Occupational Safety and Health) (Text No. 508)	The Act provides for workers' right to work in conditions according to occupational safety requirements, employer's responsibilities (grant of protective equipment, safety training) and State control of the respect of occupational safety legislation.

Environmental law/regulation	Summary description
(as amended)	
Law on the protection of the health of citizens in the Kyrgyz Republic dated January 9, 2005 No. 6 (as amended)	This law sets out provisions for the legal, economic and social basis of protection of public health in the Kyrgyz Republic, obligatory for execution by public authorities and local government bodies, physical persons and legal entities.
Standards / Procedures	**Summary description**
Air Quality, Sampling and Analysis	(i) GN 2.1.6.695-98 “Maximum Permissible Concentrations (MPC) of polluting substances in the atmospheric air of the populated areas”. (ii) GOST17.2.1.03-84. Environmental Protection. Terms and definitions of pollution control. (iii) GOST 17.2.4.02-81. Environmental Protection. General requirements for polluting substance detecting methods. (iv) GOST17.2.3.01-86 Environmental Protection. Atmosphere. Rules to control quality of the air in populated areas. (v) GOST17.2.6.01-85. Environmental Protection. Atmosphere. Instruments for air sampling in the populated areas. (vi) GOST17.2.6.02-85 Environmental Protection. Atmosphere. Automated gas analyzers to control atmospheric pollution. (vii) RD 52.04.186-89 “Guidelines to control atmospheric pollution”.
Water Quality and Sampling	SanPiN 2.1.4.002-03. "Drinking water. Hygienic requirements for water quality of the centralized drinking water supply. Quality control
Noise Levels, Measurement and Protection	(i) MSN 2.04-03-2005 "Noise protection" (ii) SN 2.2.4/2.1.8.562-96 "Noise in the workplace, in residential and public buildings and in the residential area"; (iii) GOST 23337-78 "Methods of noise measurement in the residential area and in residential and public buildings"; (iv) MUK 4.3.2194-07 "Control of noise level in residential areas, residential and public buildings and premises» (v) SNIP 23-03-2003 "Noise protection

Source: TRTA Team

C. Environmental permitting and environmental assessment

53. The permitting approach for the Kyrgyz Republic is conducted on a case-by-case basis and permits for air emissions and wastewater discharges establish maximum allowable emissions (discharges) as the main requirements for individual facilities. The numerical value of maximum allowable emissions is influenced by many criteria, primarily environmental quality standards, technological standards (where they are implemented), site selection requirements and local environmental conditions.

54. There are three types of documents that are considered important for the issuance of environmental permits:

(i) permits for emissions (direct and indirect) of pollutants into the environment;
(ii) licenses for nature management (minerals, soils, waters, forests); and
(iii) licenses to carry out activities related to the environment, such as waste processing, environmental audit, design of environmental facilities, computer modeling to determine the maximum allowable emissions (discharges), etc.

55. There is a requirement in the country that all enterprises with an impact on the environment apply for environmental permits, and the same procedures apply to all enterprises, including small and medium ones. Permits may be reviewed under the following circumstances:

(i) the environmental situation in the region is deteriorating regardless of the operation of the facility;

(ii) if the production technology or production capacity has been changed and this is not subject to the requirements of the old permit; and
(iii) if environmental regulations/standards have been changed.

56. Permits may be revoked if:

(i) decommissioning of the facility; or
(ii) violation of permit requirements, leading to a sharp deterioration of the environment.

57. Territorial control and supervisory environmental authorities issue permits after agreement with the state environmental expertise and health authorities. The Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic in accordance with its functions (Regulations on the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic (Appendix 1 to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic) dated November 15, 2021 No. 263) has the right to issue permits with the subsequent direction of their copy to the regional authority.

58. Construction is not permitted to start without permissions from state bodies being in place. For the Project, the contractor will be required to ensure all relevant permissions are in place prior to start of works.

D. International conventions and agreements

59. Kyrgyz Republic is a signatory of a number of international conventions and agreements, that are relevant to this IEE:

(i) UN Framework Convention on Climate Change, 2000- Combating global climate change and its consequences.
(ii) Aarhus Convention on access to information, public participation in decision, 2001-making and access to justice on environmental issues to support the protection of human rights to a healthy environment and well-being, access to information, public participation in decision making and access to justice on issues related to the environment.
(iii) Agreement on the Application of Sanitary and Phytosanitary Measures, 1995 - Broadly, the sanitary and phytosanitary measures covered by the agreement are those aimed at the protection of human, animal or plant life or health from certain risks.

E. National responsible agencies

60. The functions of the major government bodies relating to environmental protection are summarized in the table below:

Table 6: Relevant Government Bodies with Environmental Protection Functions

Agency Name	Relevant Function
Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic	(i) Sets the state policy on environmental protection; (ii) Promulgates norms of quality and standards of environmental protection; (iii) Establishes special protected areas; (iv) Establishes the environmental monitoring system; (v) Carries out ecological review on project design and performing economic activity.
Technical Supervision Service under the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic	Performs control functions over abidance of users of nature resources by the environmental protection legislation.
Ministry of Health (MOH) Department for Sanitary Epidemiological Supervision	The organization and accomplishment of preventive and anti-epidemic actions for fight against infectious, parasitic and priority noninfectious diseases for ensuring sanitary and

	epidemiologic wellbeing, efficiency evaluation of implementable programs, projects in the field of public health care, ensuring supervision in the sphere of sanitary and epidemiologic wellbeing of the population, safety of goods, products, objects of the environment and conditions, the prevention of harmful effects of factors of the habitat on health of the person.

Source: ADB TRTA Team

F. Project environmental assessment requirements

61. Under the law on Environmental (ecological) Expertise (No. 54) there are no clear criteria for what constitutes environmental impact and there are no clear criteria for how much impact is involved. For the project, the works will be undertaken inside existing buildings and no new construction is required, therefore environmental impacts are not anticipated other than negligible impacts from internal works.

62. Under the Kyrgyz Republic law on Ecological Expertise, Appendix 1, laboratories are not listed amongst the types of activities requiring an environmental impact assessment. Therefore, it is considered, following consultation with national environmental specialists, that the project will not require any further environmental due diligence under national Environmental Impact Assessment law. During preparation of this draft IEE, this is being confirmed through written confirmation with the relevant ministries, facilitated by MOH.

G. ADB policies

63. The ADB's SPS 2009 requires that environmental considerations be incorporated into ADB funded projects to ensure that the project will have minimal environmental impacts and be environmentally sound. Occupational health & safety of the local population should also be addressed as well as the project workers as stated in SPS. A grievance redress mechanism (GRM) to receive application and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's environmental performance is also established.

64. All loans and investments are subject to categorization to determine environmental assessment requirements, using a Rapid Environmental Assessment checklist (Annex 1). Projects are classified into Category A, B or C[6] depending on the scope and significance of the environmental impacts. This project is Category B for Environmental Safeguards: Category B: if a project's potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An IEE is required.

65. The project will also follow other relevant ADB policies, including:

(i) Access to Information Policy, 2018 which provides guiding principles on appropriate disclosure; and

(ii) Accountability Mechanism Policy, 2012 which provides a forum for affected people to find satisfactory solutions to problems from ADB assisted project, increasing ADB's development effectiveness, project quality and transparency.

H. National and international standards comparison

66. The ADB SPS requires application of pollution prevention and control technologies

[6] Financial Intermediary project is classified as category F1.

and practices consistent with international good practice, as reflected in internationally recognized standards. The SPS states that when host country regulations differ from these standards, the EA will achieve whichever is more stringent.

67. In order to select the most stringent standards applicable, a mix of national and international and International Finance Corporation (IFC) regulations have been selected. The IFC Environmental, Health, and Safety (EHS) Guidelines, General EHS Guidelines: Environmental, Noise Management has noise level guidelines for daytime and nighttime, which are applicable. Also, as per IFC Guidelines on ambient noise, in case the baseline ambient noise levels are already exceeding the applicable noise thresholds, then in such a scenario, the project related noise levels will not be allowed to increase the existing levels by 3 dB or more. Furthermore, it shall be ensured that all necessary noise mitigation measures are implemented to minimize the noise levels in the project area.

68. The comparison of Kyrgyz noise standards and IFC guidelines for ambient noise and the most stringent noise standards/guidelines applicable to the project are provided in Table 7. It shows that both standards are aligned for residential settlements with a maximum permissible limit of 55 dB(A) and 45 dB(A) for daytime and nighttime respectively.

Table 7: Noise Standards – IFC and National Standards Comparison

IFC Noise Guidelines in dB(A), Leq	Kyrgyz Noise Standards	Applicable (most stringent) Noise Guidelines/Standards for Project
Residential Area: DT:55 NT: 45 Commercial Area: DT:70 NT: 70 Industrial Area: DT:70 NT: 70 Silence Zone: DT:55 NT: 45	Areas directly adjacent to hospitals and sanatorium: Leq: DT:45 NT:35 Lmax: DT: 60 NT: 50. Areas immediately adjacent to dwellings, polyclinics, dispensaries, rest homes, holiday hotels, libraries, schools, etc.: Leq: DT:55 NT:45 Lmax: DT: 70 NT: 60 Areas immediately adjacent to hospitals and dormitories: Leq: DT:60 NT:50 Lmax: DT: 75 NT: 65 Recreational areas in hospitals and sanitariums: Leq: DT:35 NT:35 Lmax: DT: 50 NT: 50 Rest areas at the territories of micro-districts and building estates, rest houses, sanitariums, schools, homes of aged, etc.: Leq: DT:45 NT:45 Lmax: DT: 60 NT: 60	Residential Area: DT:55 NT: 45 Commercial Area: DT:55 NT: 45 Industrial Area: DT:55 NT: 45 Silence Zone: DT:35 NT: 35 Since IFC Noise Guidelines do not contain Lmax values, thus this gap will be filled by applying the Kyrgyz national Noise Standards for Lmax as follows: Areas directly adjacent to hospitals and sanatorium: Lmax: DT: 60 NT: 50. Areas immediately adjacent to dwellings, polyclinics, dispensaries, rest homes, holiday hotels, libraries, schools, etc.: Lmax: DT: 70 NT: 60 Areas immediately adjacent to hospitals and dormitories: Lmax: DT: 75 NT: 65 Recreational areas in hospitals and sanitariums: Lmax: DT: 50 NT: 50 Rest areas at the territories of micro-districts and building estates, rest houses, sanitariums, schools, homes of aged, etc.: Lmax: DT: 60 NT: 60

Note: DT: Day time, NT: Night time

Source: Government of the Kyrgyz Republic, Mayor's Office of Bishkek City. 2020. *Initial Environmental Examination: Kyrgyz Republic Urban Transport Electrification Project* (prepared for ADB).

69. World Health Organization's (WHO) Community Noise guidelines for Hospital Ward Rooms is 30 dB(A) and for hospital treatment rooms is 'as low as possible'. These standards should therefore not be exceeded within wards/treatment rooms.

70. Table 8 presents IFC workplace/occupational noise standards that are applicable to the construction workers.

Table 8: Occupational Noise Guidance, IFC

Type of Work, workplace	IFC General EHS Guidelines	Applicable Occupational Noise Guidelines for Project Activity
Heavy Industry (no demand for oral communication)	85 Equivalent level Leq,8h	85 Equivalent level Leq,8h
Light industry (decreasing demand for oral communication)	50-65 Equivalent level Leq,8h	50-65 Equivalent level Leq,8h

Source: Government of the Kyrgyz Republic, Mayor's Office of Bishkek City. 2020. *Initial Environmental Examination: Kyrgyz Republic Urban Transport Electrification Project* (prepared for ADB).

71. The Kyrgyz Republic use the following standard for vibration: **Sanitary standards 2.2.4. / 2.1.8.566-96** "Production vibration in premises, residential and public buildings". Following standards are used for vibration measurement:

(a) **GOST Standard: 31192.1-2004**. Vibration. Measurement and evaluation of human exposure to hand-transmitted vibration. Part 1. General requirements.

(b) **GOST Standard: 31192.2-2005**. Vibration. Measurement and evaluation of human exposure to hand-transmitted vibration. Part 2. Requirements for measurement at the workplace.

(c) International standards applied by various ADB financed projects: British Standard **BS 5228-2:2009** Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration.

72. As far as regulations regarding other environmental parameters are concerned such as acceptable effluent disposal parameters, the national regulations take precedence over any other international regulations such as IFC. The Kyrgyz surface ambient water quality standards are provided in Table 9.

Table 9: National Ambient Water Quality Standard

Parameter	Standard
pH	6-9
Dissolved oxygen, DO, mg/l	>4
Sulphate, S, mg/l	<250
Ammonium nitrogen, NH4-N, mg/l	<3.3
Oil and grease, mg/l	<0.05

Source: Government of the Kyrgyz Republic. 1994. The Law of the Kyrgyz Republic On Water.

73. The comparison of Kyrgyz and IFC guidelines for ambient air quality and the most stringent applicable air quality guidelines as shown in Table 10.

Table 10: Air Quality standards – IFC and National Standards Comparison

IFC Air Quality Guidelines	Kyrgyz Air Quality Standards	Applicable (most stringent) Air Quality Guidelines/Standards for Project
SO_2: 24 hr: 20 ug/m^3, 10 min: 500 ug/m^3 NO_2: 1 yr: 40 ug/m^3, 1 hr: 200 ug/m^3 O_3: 8 hrs: 100 ug/m^3 PM_{10}: 1 yr: 20 ug/m^3, 24 hr: 50 ug/m^3 $PM_{2.5}$: 1 yr: 10 ug/m^3, 24 hr: 25 ug/m^3	TSP (PM): Max Conc: 0.15 mg/m^3, 24hr Conc: 0.05 mg/m^3 SO_2: Max Conc: 0.5 mg/m^3, 24hr Conc: 0.05 mg/m^3 CO: Max Conc: 5 mg/m^3, 24hr Conc: 3 mg/m^3 NO_2: Max Conc: 0.085 mg/m^3, 24hr Conc: 0.04 mg/m^3 NO: Max Conc: 0.4 mg/m^3, 24hr Conc: 0.06 mg/m^3	SO_2: 24 hr Conc: 20 ug/m^3, 10 min: 500 ug/m^3 CO: 24hr Conc: 3 mg/m^3 NO_2: 1 hr: 200 ug/m^3, 1 yr: 40 ug/m^3 O_3: 8 hrs: 100 ug/m^3 TSP: 24hr Conc: 0.05 mg/m^3 PM_{10}: 1 yr: 20 ug/m^3, 24 hr: 50 ug/m^3 $PM_{2.5}$: 1 yr: 10 ug/m^3, 24 hr: 25 ug/m^3 Since IFC Air Quality Guidelines do not contain Max Conc values, thus this gap will be filled by applying the Kyrgyz national Air Quality Standards for Max Conc as follows: PM: Max Conc: 0.15 mg/m^3 SO_2: Max Conc: 0.5 mg/m^3 CO: Max Conc: 5 mg/m^3 NO_2: Max Conc: 0.085 mg/m^3 NO: Max Conc: 0.4 mg/m^3

Source: Government of the Kyrgyz Republic, Mayor's Office of Bishkek City. 2020. *Initial Environmental Examination: Kyrgyz Republic Urban Transport Electrification Project* (prepared for ADB).

IV. DESCRIPTION OF THE ENVIRONMENT

A. General

1. Methodology and data sources

74. The description of the affected environment focuses on the immediate subproject areas that could possibly be affected by the investments, or the environmental features that could influence the successful implementation and operation of the completed subprojects. Regional environmental information is included where relevant or where local data are lacking.

75. For this project preparation phase, no primary environmental data collection was conducted. Environmental baseline information was obtained from :

(i) field visits to the project sites and their surroundings;
(ii) desk research including existing reports and published data; and
(iii) consultation with stakeholders, affected people and specialists relevant to the subproject locations.

76. Detailed descriptions of the socioeconomic and demographic profiles of the subproject area are provided in the relevant social and gender due diligence documentation. Selected summarized data from these documents are included in this IEE where relevant to the scope of the IEE.

2. Area of influence

77. According to SPS (2009), the area of influence encompasses:

(i) The primary project site(s) and related facilities that the borrower/client develops or controls. The primary project sites for this project include direct civil works sites, ancillary sites and access roads. No construction camps will be required.
(ii) Associated facilities that are not funded as part of the project whose viability and existence depends exclusively on the project. No associated facilities are anticipated for this project; the existing healthcare facilities, and their operation, are not exclusively dependent on the project.
(iii) Effects from cumulative impacts from further planned development of the project, other sources of similar impacts. No cumulative negative impacts in this regard are anticipated as a result of this or similar projects.
(iv) Effects from unplanned but predictable developments caused by the project that may occur later or at a different location. No negative impacts in this regard are anticipated as a result of this or similar projects.

78. The area of influence i.e., the area which is affected by the project depends on the environmental impact being considered. Local impacts with a narrow area of influence include those impacts arising from traffic, health and safety, noise, dust and amenity issues. A larger area of influence results from impacts which contribute to global issues such as climate change. This results from the embodied carbon associated with the manufacture, supply and use of concrete products, or the carbon emissions associated with material or personnel transport. SPS (2009) requires the assessment to identify potential transboundary effects, such as air pollution, and global impacts, such as emission of greenhouse gases. During the assessment, the IEE considers the area of influence according to the activity / impact discussed.

B. Site specific baseline

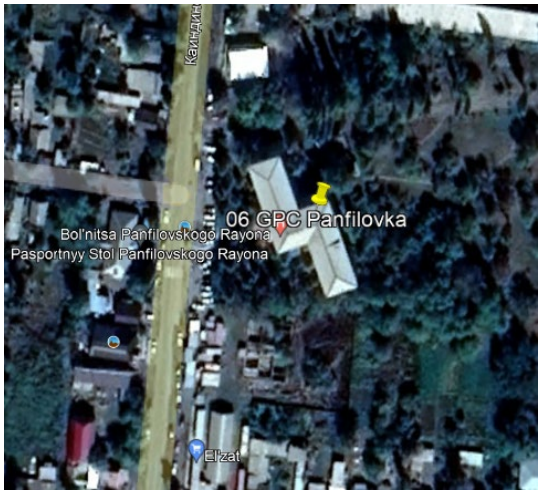
79. All the project sites were visited by the TRTA team during the preparation of the IEE and EMP. This section summarizes the findings from the visits and serves to provide an additional level of detail on the context of the project sites. The TRTA team used a checklist approach to understand potential receptors on the sites as well as the current operational situation in terms of health and safety and waste management in particular.

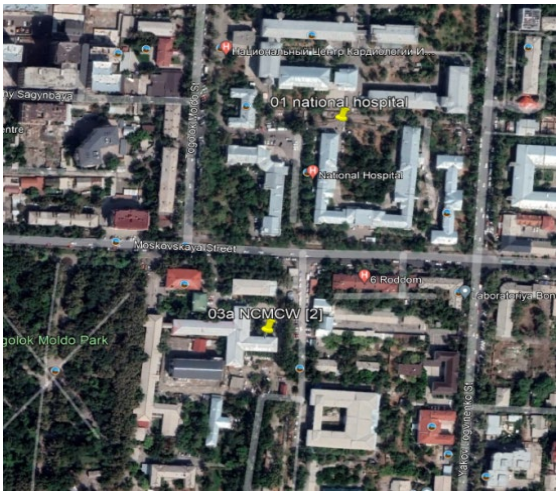
80. In order to identify specific receptors in the vicinity and to understand the environmental context of the sites, the following images show the generally very urbanized nature of the project sites, which are located in developed and highly modified environments.

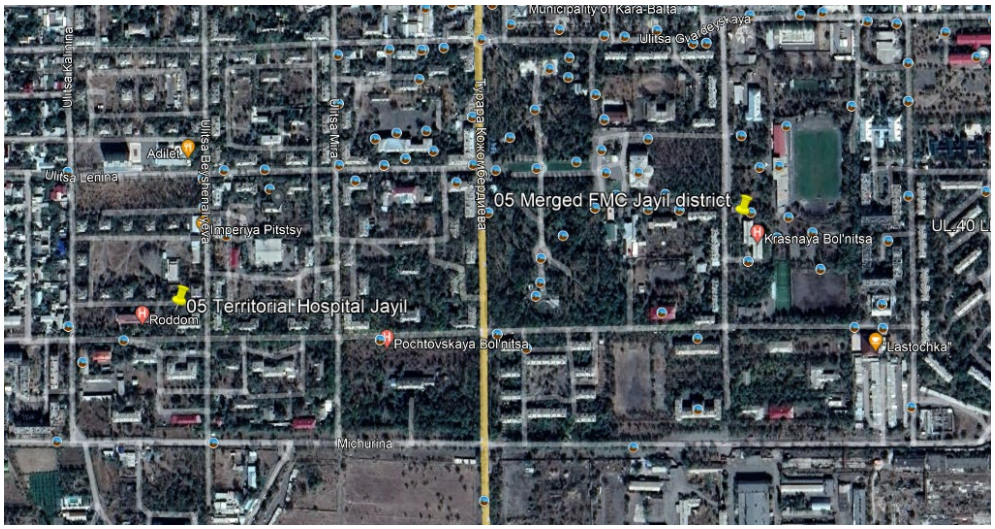
81. **Key Receptors - Civil works phase**. The sites visits show that the key receptors for the project are the contractor's staff which will be close to the civil works. Other sensitive receptors include any patients at the hospital facilities and staff / visitors to the sites. The site visits confirmed that there is very little vegetation on most sites; GPC Panfilkova is a more 'green' campus site located in a less densely urban district. Similarly, the site at Territorial Hospital Jayil is also in a greener and less highly urbanized setting.

82. Site visits confirmed that there are no natural surface water bodies are within the site compounds however site storm flow drainage is present and varies in terms of its management on each site e.g., to municipal drainage or to permeable ground. There is a mixture of business, residential and institutional building use around the facility compounds and no sites, given their urban nature, are immediately to any industrial emissions e.g., a power plant or factory.

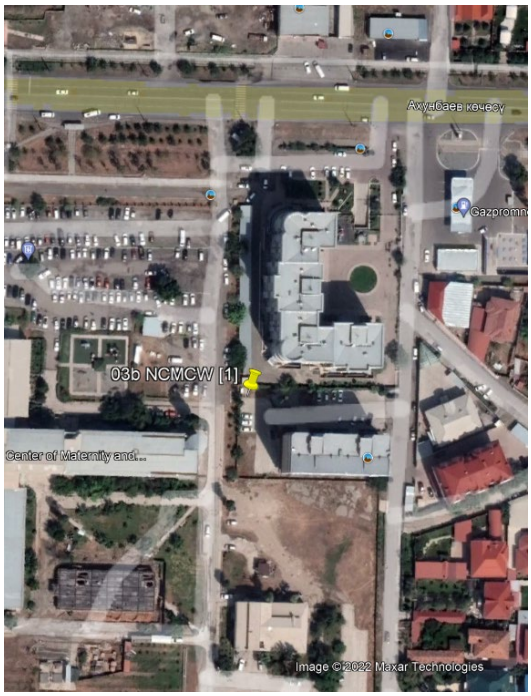
Figure 2: **Chui Oblast Sites, Environmental Context**

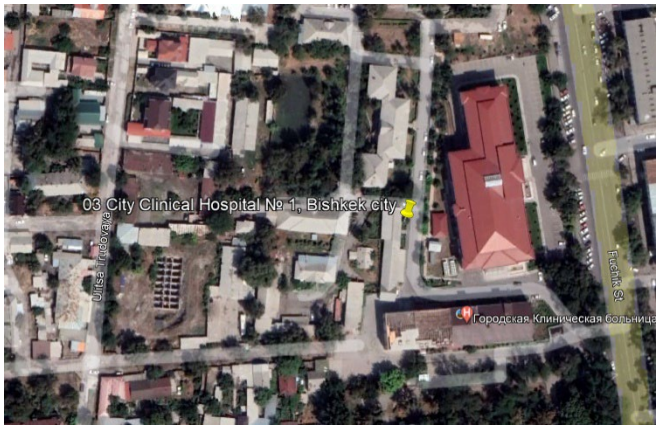

06 GPC Panfilovka
Bol'nitsa Panfilovskogo Rayona
Pasportnyy Stol Panfilovskogo Rayona
Elizat

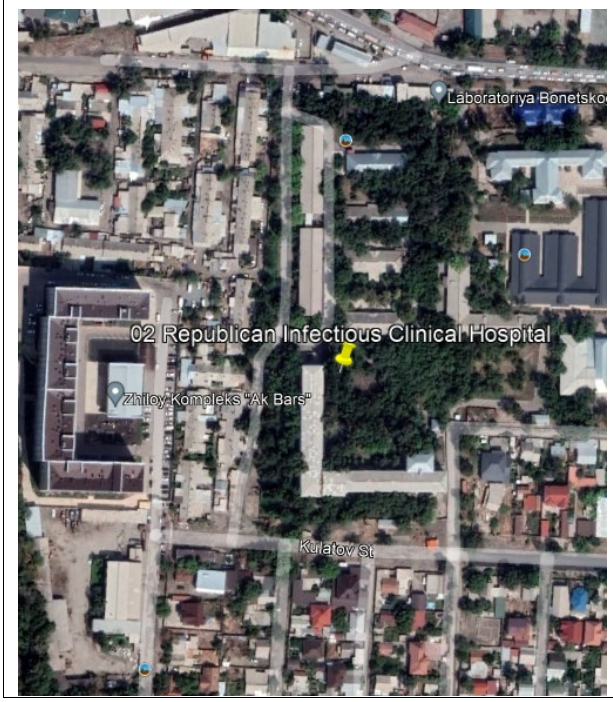

01 national hospital
National Hospital
Moskovskaya Street
6 Roddom
03a NCMCW [2]
golok Moldo Park


Municipality of Kara-Balta
Ulitsa Gagarina
Ulitsa Lenina
Adilet
Imperiya Pitstsy
05 Merged FMC Jayil district
Krasnaya Bol'nitsa
05 Territorial Hospital Jayil
Roddom
Pochtovskaya Bol'nitsa
Michurina


04 FMC Tokmok town
04 TH Tokmok town
DPSSES centre Tokmok







Source: TRTA Team / Google Earth

83. Table 11 summarizes the findings and main trends from the site visits, which were undertaken using a checklist to ensure uniform data collection. The detailed checklists from the site visits are in Annex 3.

Table 11: Site Visit Checklist 1 Summary, Chui Oblast

Environmental Receptor on / near site	Summary descriptions for sites in the Oblast
Neighbourhood/ Land use	Laboratories and hospitals are located primarily in a mixed residential and business area, and use municipal communications (electricity, water, roads, etc.).
Water resources	No streams or rivers are observed within the territory of the facilities.

Ecological Resources	The area adjacent to hospitals and laboratories is inhabited by typical synanthropic urban animal species such as mice (*Mus musculus)*, and birds include house sparrows and rooks (*Passer domesticus, Corvus frugilegus*) and plants include common trees such as elm (*Ulmus parvifolia) white popular (Populus alba)* common juniper *(Juniperus communis ssp.*) , pine and spruce are observed in some areas. In addition, alien species including red squirrel (*Sciurus vulgaris)* and common mynah bird *(Acridotheres tristis*) are observed in the study areas. The facilities do not affect or border protected areas and other ecologically significant territories.
Businesses/Livelihoods	Hospitals and laboratories are located in densely populated areas, in and around which there is a busy street trade. There are grocery stores, pharmacies within a 5-minute reach. Often the territories of hospitals and laboratories border on social institutions (schools, colleges, etc.)
Facility Infrastructure:	
Wastewater Management	Wastewater is generally disposed of centrally and is shared with other wastewater from hospitals and the private sector. There are no additional procedures for detoxification, disinfection, neutralization of wastewater due to the fact that laboratories do not work with especially toxic compounds.
Services	Power supply is centralized. In some cases, there is no backup power. If available, diesel generators are used.
Water supply	The water sources used are centralized, with the supply varying from underground wells (Bishkek, Tokmok), to surface water sources with water treatment. Direct use of river water for the needs of hospitals and laboratories is not observed.
Drainage	Rainwater is not collected in a specialized way, most often it is discharged in drainage channels, onto land or directly used during the growing season to irrigate the adjacent landscaped area.
Waste Management containers, storage, transport, disposal options	Collection and disposal of waste is carried out centrally according to various protocols relevant to the category of waste. Household waste is taken out by waste companies. Medical waste is collected, registered and weighed at waste decontamination stations. After that, part of the waste (B_3) is disposed of as household waste, while the other part (B_2) is accumulated, removed or disposed of according to B2 special requirements under Temporary Instruction on Medical Waste Management No. 719 (2018). For more details see the section below pertaining to waste management in each facility.
Asbestos containing materials on site (roof sheets, board etc)	The roofs of some laboratory buildings are covered with asbestos. Asbestos-containing elements are not known to be used inside the building.

Source: ADB TRTA Team.

84. The following information provides details of each specific site's waste management practices:

85. Diagnostic reference laboratory of the national level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES), Bishkek

(i) Household type waste is collected in a designated area. The area is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation.

(ii) Mercury containing materials are segregated and collected separately by specialized companies with which an agreement has arranged for further specialized disposal.

(iii) Decommissioned equipment: stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste.

(iv) Medical waste management: Generates 7-10kg /day. For medical waste, there is a special container for collection (metal enameled buckets (for B3) with markings and plastic containers (for B2). After collection and delivery of this type of waste to the waste decontamination location, wastes are weighed, recorded, and autoclaved to decontaminate. After this, category B3 waste is disposed of as household waste (in containers with lids), category B2 waste (including sharps) is collected separately, rendered inert (bonded in cement) and disposed of. There is no tissue waste (waste category B1)

(v) Liquid waste: Water from autoclaves and laboratories is drained directly into the sewer system. Biofluids and potentially contaminated fluids are pre-autoclaved and then drained into the sewer system.

(vi) Improvements requested: ventilation systems.

86. Laboratory bacteriological researches of the Tokmok Center of Disease Prevention and State Sanitary and Epidemiological Surveillance

(i) Medical waste: Generates 2-3 kg/day. There is a special container for medical waste: There is a special container for collection (metal enameled buckets) (for B3) with markings and plastic containers (for B2).There is no tissue waste (waste category B1).

(ii) Decommissioned equipment: Collected in a special warehouse, used as spare parts and disposed of in accordance with the existing regulatory documentation governing this type of activity.

(iii) Mercury containing materials are segregated and collected separately by specialized companies with which an agreement has arranged for further specialized disposal.

(iv) Liquid waste: Water from autoclaves and laboratories is drained directly into the sewer system. Biofluids and potentially contaminated fluids are pre-autoclaved and then drained into the sewer system.

(v) Improvements requested: Labeling of containers for waste collection is not always recognizable and needs to be updated, improved household waste storage, recycling, e-waste policy.

87. City Clinical Hospital No. 1, Bishkek

(i) Medical waste: Collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as municipal solid waste (for waste category B3) or disposed of as sharps waste for waste category B2.

(ii) Mercury containing materials are segregated and collected separately by specialized companies.

(iii) Electronic waste: Either disposed of as municipal waste if appropriates or stored for some time as elements for component recycling.

88. General medical practice center (GMPC) Issyk-Ata district

(i) Medical waste: Autoclaved then disposed of as household waste. No sharps waste is generated.

(ii) Wastewater: Water from autoclaves is drained to the street, water from sewerage is drained into a common network (septic tank).

(iii) Improvements requested: Liquid waste inactivation.

89. GMPC in Tokmok

(i) Medical waste. Generates 2-3kg/day. Tissue waste (waste category B1) is disinfected and disposed of on site in pits. There is a special container for medical waste: plastic containers (for B2) with markings, enameled buckets.

(ii) Mercury containing materials are segregated and collected separately by specialized companies.

(iii) Improvements requested: Labeling of containers for waste collection is not always recognizable and needs to be updated, improved household waste storage, recycling, e-waste policy.

90. National Hospital at the MOH

(i) Medical waste. Generates 3-6kg/day. There is a special container for medical waste: plastic containers (for B2) with markings. After collection and delivery of this type of waste to the waste decontamination location, wastes are weighed, recorded, and decontaminated. Sharps B2 waste is separately collected, rendered inert (bonded in cement) and disposed of.

(ii) Mercury containing materials are segregated and collected separately by specialized companies.

(iii) Decommissioned equipment: Stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste.

(iv) Improvements requested: Improved household waste storage, recycling, e-waste policy.

91. Clinical Diagnostic Laboratories (CDL) of the National Hospital (reference lab, national level)

(i) Medical waste. Generates 3-6kg/day. There is a special container for medical waste: plastic containers (for B2) with markings. After collection and delivery of this type of waste to the waste decontamination location, wastes are weighed, recorded, and decontaminated. Sharps B2 waste is separately collected, rendered inert (bonded in cement) and disposed of.

(ii) Mercury containing materials are segregated and collected separately by specialized companies.

(iii) Improvements requested: Improved household waste storage, recycling, e-waste policy.

92. CDL of City Clinical Hospital

(i) Mercury containing materials are segregated and collected separately by specialized companies.

(ii) Household type waste is collected in a central area within the facility.

(iii) Decommissioned equipment: Stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste.

(iv) Medical waste management: Generates 7-10kg /day. For medical waste, (for B3) is decontaminated at a disinfection station, then disposed of as household waste. Category B2 waste (including sharps) is collected managed in

accordance with national laws. Tissue waste is autoclaved before disposal as household waste.

(v) Improvements requested: Improved conditions for the labor of hospital specialists. Containers for the collection and temporary storage of medical waste and labeling should be partially updated.

93. CDL of Republican Infection Diseases Hospital

(i) Household waste is disposed of and removed by the Tazalyk organization in accordance with the existing agreement.

(ii) Medical waste: Generation 2-4kg/day. All separately stored, collected and treated in accordance with national laws.

(iii) Improvements requested: Installation of ventilation and air conditioning systems. Registration and disposal of medical waste needs improvement.

94. CDL of Center of general medical practice of Jayil District

(i) Medical waste: No sharps waste is generated. Waste is decontaminated in an autoclaved and disposed of as household waste. Waste is collected in bags for disposal.

(ii) Wastewater. No separate cleaning, disposal to the sewer.

(iii) Decommissioned equipment: Stored off site waiting to be written off.

(iv) Improvements requested: Labeling of waste containers.

95. CDL of Center of general medical practice Tokmok City

(i) Medical waste: Generation 4-7 kg/day. In some places (medical waste decontamination station) there are information boards describing which type of substance belongs to this type of waste. There is a special container for medical waste: plastic containers (for B2) with markings, enameled buckets. No B1 waste is generated.

(ii) Mercury containing materials are segregated and collected separately by specialized companies.

(iii) Wastewater: Water disposal is centralized, draining to the municipal sewer. There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.

(iv) Improvements requested: Labeling of waste containers and city wide sewage system.

96. CDL of Center of general medical practice Panfilov

(i) Medical waste: It is collected in containers, poured from the containers into a bucket, which is then referred to the medical waste management department.

(ii) Wastewater: Water disposal is centralized draining to the municipal sewerage system.

97. GMPC Issyk-Ata district

(i) Medical waste: Autoclaved for decontamination then disposed of as household waste.

(ii) Liquid waste: Wastewater from autoclaves is drained into the municipal areas.

(iii) Decommissioned equipment: Removed from site to a warehouse.

(iv) Improvements requested: Further liquid waste treatment.

98. National Center for Mather and Child Welfare (child diagnosing)

(i) Medical waste: It is collected in containers, poured from the containers into a bucket, which is then referred to the medical waste management department.

Further treatment for waste with blood residues (tissue waste) includes ultraviolet light treatment.

(ii) Wastewater: Waste contaminated with urine is disinfected and with all other wastewater, disposed of in the municipal sewer.

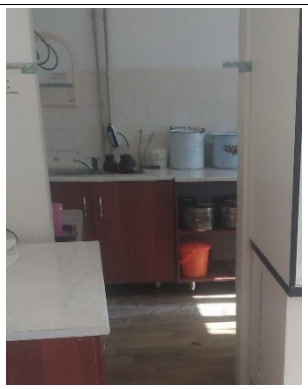
(iii) Improvements requested: Container labeling and new waste containers.

99. In terms of the project's ability to contribute to the improvements needed, the project design does not incorporate all the areas requested for improvements, however it will support the laboratories with some of the requests, such as improvement of ventilation and laboratory staff conditions. These will come from the general laboratory refurbishment. Also issues such as labeling and awareness will be improved through the continual Quality Improvement component of the project. A total overhaul of waste treatment, wastewater and sewage treatment systems are not within the scope of the project design or its initial concept. However, the project will serve to improve waste practices at all sites.

100. Typical photos of the environmental and operational context of the sites are shown in Figure 3:

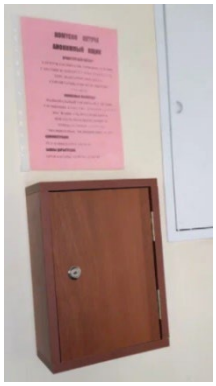
Figure 3: **Site Visit Environmental Context from Chui Oblast**

Biohazard waste storage



Waste disinfection area

Waste management Instructions



Hospital complaints box

External vegetation

Rainwater management

Source: ADB TRTA team

C. Physical resources

1. Topography and geography

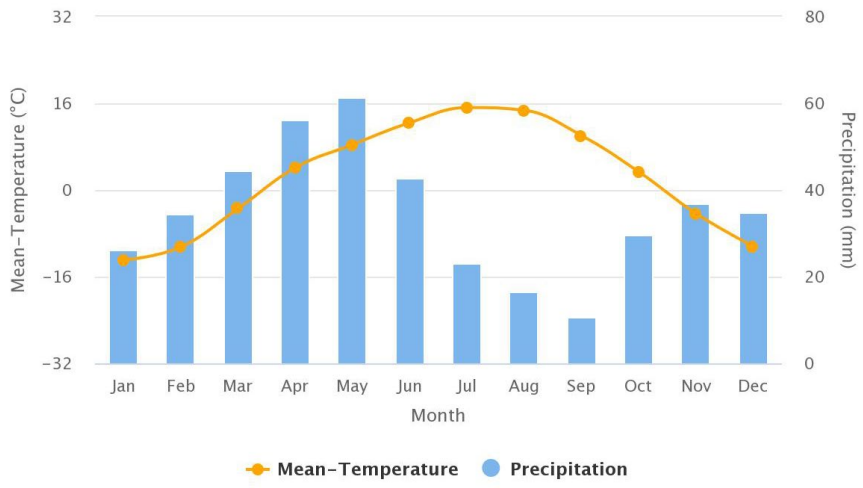
101. The Kyrgyz Republic is a landlocked country located in Central Asia between two major mountain systems, the Tien Shan and the Pamirs. The country is bordered by Kazakhstan to the north, Uzbekistan to the west, Tajikistan to the southwest, and People's Republic of China to the east. Approximately 94% of the country is above 1,000 meters (m) elevation, and 40% is above 3,000 m. Over 80% of the country is within the Tian Shan mountain chain and 4% is permanently under ice and snow. The Kyrgyz Republic had a population of 6.5 million in 2019.[7] Most of this population live in the foothills of the mountains, and is centered around two urban conurbations, the capital Bishkek in the north (Chui oblast), and between Osh (Osh oblast) and Jalal-Abad in the west. The project is located in the two oblasts of Chui and Osh. This IEE refers only to Chui Oblast sites.

2. Climate

102. The key data source for the following section is the World Bank and ADB 2019 Climate Risk Country Profile: Kyrgyzstan[8] and World Bank's Climate Change Knowledge Portal.[9].

103. **Climate.** The Kyrgyz Republic is considered to have an extreme continental climate. The majority of the country is arid, with increased cloudiness and precipitation due to the alpine relief. The country's climate is determined by its location in the Northern Hemisphere, in the center of the Eurasian continent, the remoteness from major water bodies, and the close proximity of deserts. The project key cities of Bishkek and Osh are in lowland regions where temperatures regularly exceed 30°C between June and August, while falling below −5°C between December and February. Figure 4 presents current climate data for precipitation and temperature.

Figure 4: Monthly Mean Temperature and Precipitation in Kyrgyz Republic, 1991-2020



Source: World Bank Group Climate Change Knowledge Portal. Kyrgyz Republic - Summary. (accessed 1 March 2022)

104. Current climate data shows that average annual temperatures in the Kyrgyz Republic

[7] World Bank Group (2021). Data Bank. Country indicators. URL: https://databank.worldbank.org/source/world-developmentindicators

[8] World Bank and ADB. 2021. Climate Risk Country Profile: Kyrgyz Republic. https://www.adb.org/sites/default/files/publication/706596/climate-risk-country-profile-kyrgyz-republic.pdf

[9] World Bank Group Climate Change Knowledge Portal. Kyrgyz Republic - Summary. (accessed 1 March 2022).

have risen approximately 1.1°C between 1960–2010. The rate of warming has accelerated over the period 1990–2010. Warming trends were reported across all of the Kyrgyz Republic's different regions, and at all altitudes. Warming has been most pronounced in winter (November–March) minimum temperatures.

105. Current climate data shows there has been little change in average annual precipitation on a national level between 1920–2010. Some sub-national changes have been reported, including small increases in precipitation in the central and northwestern parts of the country and small decreases in the east, but there is little evidence distinguishing these trends from typical natural variability in the region.

3. Climate change

106. The key data source for the following section is the World Bank and ADB 2019 Climate Risk Country Profile: Kyrgyzstan[10] and World Bank's Climate Change Knowledge Portal.[11]

107. The Kyrgyz Republic has identified its commitment to climate change adaptation through its First Nationally Determined Contribution (2016) and Updated Nationally Determined Contribution (2020). In 2016 the Third National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) was released, directed by the State Agency for Environment Protection and Forestry.

108. **Vulnerabilities.** The Kyrgyz Republic has identified its water, energy, agriculture and infrastructure sectors as the most vulnerable to climate change. The country has identified climate change impacts as a significant challenge to its development goals.

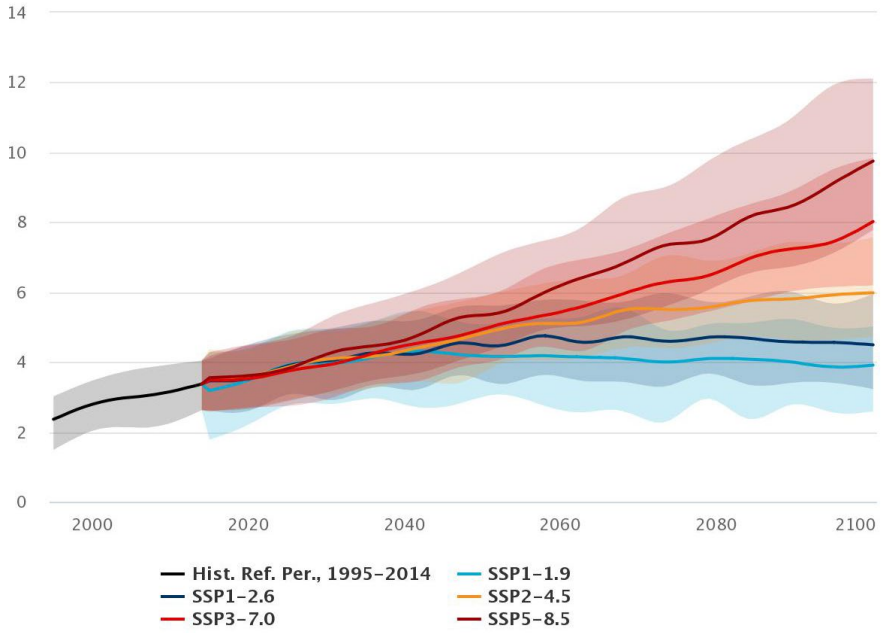
109. Temperature. There is good agreement among model projections that the Kyrgyz Republic will experience rates of warming considerably above the global average. By the 2090s the ensemble projects 5.6°C of warming under the highest emissions pathway (RCP8.5) compared to a global average rise of 3.7°C. The warming projected in maximum and minimum temperatures is typically around 10% higher than the rise in average temperature. Under the lowest emissions pathway (RCP2.6)12 warming peaks in the 2050s period at around 1.6°C above the 1986–2005 baseline and then begins to decline. This highlights the very significant influence potential global emissions reductions could have over warming trends in the Kyrgyz Republic. See figure below for temperature predictions to 2100.

[10] World Bank and ADB. 2021. Climate Risk Country Profile: Kyrgyz Republic. https://www.adb.org/sites/default/files/publication/706596/climate-risk-country-profile-kyrgyz-republic.pdf

[11] World Bank Group Climate Change Knowledge Portal. Kyrgyz Republic - Summary(accessed 1 March 2022).

[12] Representative Concentration Pathways (RCP) is a greenhouse gas concentration trajectory adopted by the IPCC. The pathways describe different climate futures, all of which are considered possible depending on the volume of greenhouse gases emitted in the years to come.

Figure 5: Historical and Projected Average Temperature in the Kyrgyz Republic



Note: SSP = Shared Socioeconomic Pathways (SSPs) i.e., different projected emission scenarios, also known as Representative Concentration Pathways (RCP).
Source: World Bank Group Climate Change Knowledge Portal. Kyrgyz Republic - Summary. (accessed 1 March 2022).

110. **Precipitation**. There is less agreement between models on the impact future climate change will have on precipitation in the Kyrgyz Republic. Although the models do not necessarily agree on the direction or magnitude of the changes, and there is considerable uncertainty, there are some global trends evident in the country; the intensity of sub-daily extreme rainfall events appears to be increasing with temperature, a finding supported by evidence from different regions of Asia. Although great uncertainty surrounds projections, most climate models project increases in the quantity of rainfall deposited during extreme precipitation events, with rises in the range of 5–15% by the 2050s. As this phenomenon is highly dependent on local geographical contexts further research is required to constrain its impact in the Kyrgyz Republic.

111. **Heat waves**. The Kyrgyz Republic experiences an average monthly maximum temperature of around 8.4°C. However, considerably higher temperatures occur during summer months in lowland regions such as the Fergana Valley (the project area). The historical (1986–2005) maximum of daily maximum temperatures is around 30°C when averaging across the country. Maximum temperatures in the Fergana Valley regularly surpass 35°C in summer. Under all emissions pathways this value is projected to increase significantly, potentially reaching a national average of 36°C by the 2090s under the highest emissions pathway, RCP8.5. This highlights the potential for extreme temperatures, potentially over 40°C, to become a more regular occurrence in the low-lying and most densely populated areas.

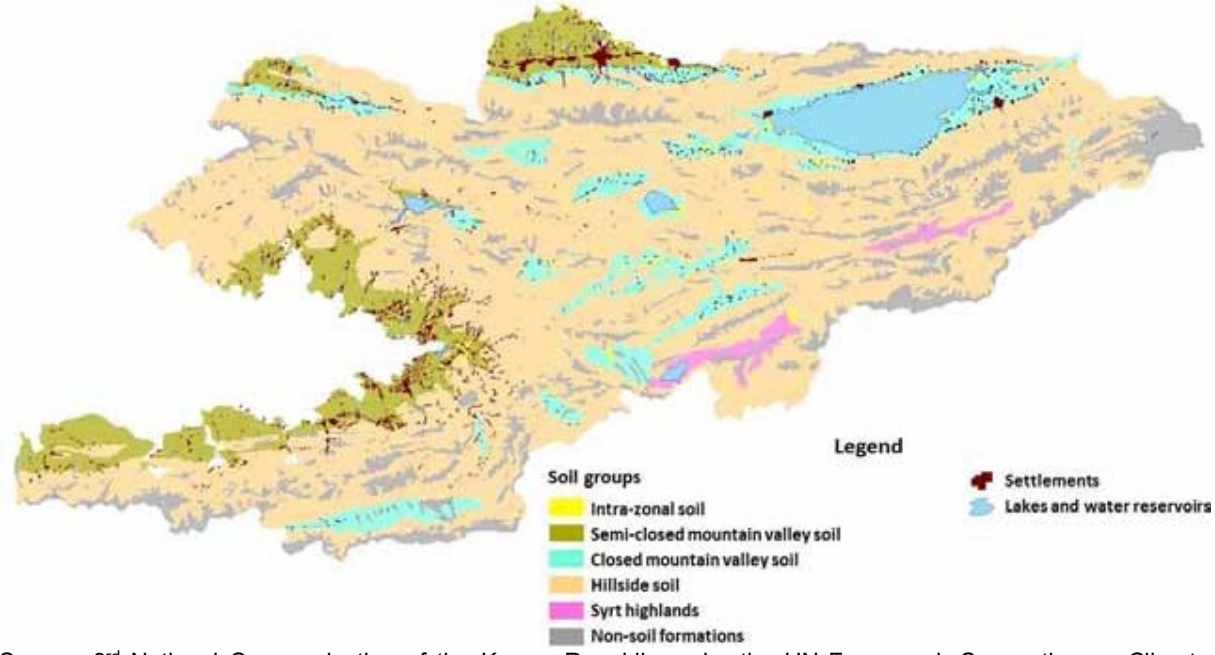
112. **Air quality, noise and vibration**. No secondary air quality, noise and vibration data are available for the project sites. In terms of air emissions, noise and vibration sources, the hospital and laboratory facilities are located generally in urban areas, particularly those in city or town centers such as Bishkek. This will cause some baseline noise and vibration, primarily from traffic and any nearby construction activities, particularly if significant civil works including piling are taking place. These same sources are also likely to cause very localized impact on air quality. Hospital patients will be vulnerable to these impacts if they

are observed significantly within the hospital wards. Also, some sensitive diagnostic health care equipment is sensitive to vibration. This includes MRIs, CT scanners, laboratory or operating microscopes. The vibration impacts on these machines focus on affecting results, rather than damage to the machines themselves.[13]

4. Soil and geology

113. A soil map of the Kyrgyz Republic is shown below. This indicates the broad soil type as semi-closed mountain valley soil underlying the Chui oblast project sites. In general, there has been a steady decline in soil fertility from 1990 to present, across most soil types.

Figure 6: The Kyrgyz Republic Soil Map



Source: 3rd National Communication of the Kyrgyz Republic under the UN Framework Convention on Climate Change (2016) https://unfccc.int/sites/default/files/resource/NC3_Kyrgyzstan_English_24Jan2017_0.pdf

5. Natural hazards

114. A wide variety of natural hazards affect the country. Earthquakes are common and have led to loss of life and significant damage to infrastructure and livelihoods, typically occurring every 5–10 years. Climate related hazards are also common and diverse. These include drought, land and mudslides, flash floods, and glacier lake outburst floods, all of which contribute to significant levels of disaster risk. In the context of high social vulnerability and hazard exposure the emerging impacts of climate change are of potential significance to the country.

115. Floods and landslides are also experienced in the country. UN International Strategy for Disaster Reduction (UNISDR) suggests that flood damages have made a significant contribution to average annual losses in the Kyrgyz Republic – estimated to be $36 million, or 0.5% of GDP, in 2014. However, the reporting mechanisms behind this value are known to neglect smaller-scale hazard events and the actual losses may be higher. The World Resources Institute's AQUEDUCT Global Flood Analyzer can be used to establish a baseline level of river flood exposure. As of 2010, assuming protection for up to a 1 in 25-year event, the population annually affected by flooding in the Kyrgyz Republic is estimated to be 17,000

[13] B. Howe. (undated). HGC Engineering. The Importance of Achieving Good Vibrations in Healthcare Facility Design..

people with an expected annual impact on GDP of $38 million. Adding the impact of flash flooding to this total would likely push it higher than the UNISDR estimate.

116. Historical climate warming has increased the risk of drought in the country. Over the period 1992–2011 rising temperatures were associated with significant loss of 'greenness' in lowland and cropland regions; The Kyrgyz Republic's lowlands are also among the areas already being affected by increased aridity. However, although climate exacerbates drought risk, in general, direct human influences remain the most significant driver of ecosystem degradation locally.

6. Surface and ground water

117. Water resources in the Kyrgyz Republic are used for irrigation, industrial and domestic water supply, as well as energy generation. The country's water resources are concentrated in glaciers, lakes, rivers and groundwater. Water resources are under pressure, with declines in stored water volumes recorded between 2003–2013. While climatic factors have played a role, particularly occurrence of drought and increased rates of evaporation, other human development pressures, such as expansion of irrigation, are often the strongest drivers.[14]

118. In Chui Oblast, none of the project sites are observed to have surface water bodies within the local area of influence; rivers such as Al-archa flow from South to North through Bishkek city, and its 500m east of Bishkek City Clinical hospital No. 1 and 800m south of Bishkek Republican Infections Clinical Hospital. In Jayil district, Kara Balta runs 1.5km to the east of the nearest project site. In the Ysyk-Ata District a stream runs 1.5km south of the project site and a small man-made lake is 500m north. Tomok town has a number of rivers, the closest of which to the project sites is Chu river, on the border with Kazakhstan, 1km from the project sites. GPS Panfilkova site has a small stream running 450m to the east, flowing to the north.

D. Biological resources

1. Protected Areas and Biodiversity

119. The Chui project area was initially screened using the Integrated Biodiversity Assessment Tool (IBAT) Country Profile for the Kyrgyz Republic.[15] This identified where specific reports for the project were needed. IBAT reports were used to assess protected areas, critical habitats and biodiversity risks for the Project. IBAT generated Performance Standard 6 reports identified protected areas and key biodiversity areas (KBA) within 1km, 10km and 5km buffers. IBAT freshwater reports were also developed to identify freshwater species with 1km to 3km buffers up and downstream of the project sites. Two locations were assessed using IBAT, which covers both the main clusters of the project sites in Chui Oblast and Bishkek City, Tokmok town and outlying sites.

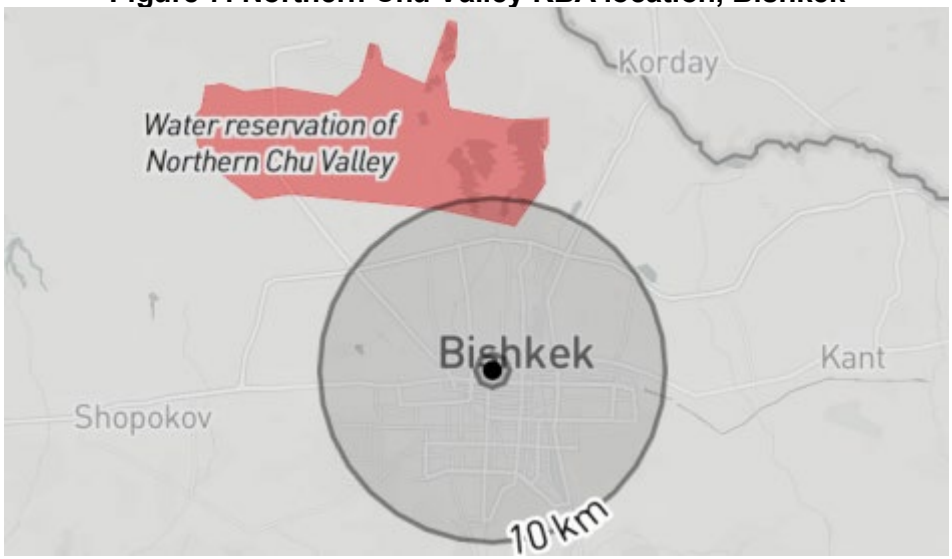
120. The IBAT buffers are wide and therefore as expected, the reports identified a number of International Union for Conservation of Nature (IUCN) Red List terrestrial and freshwater species which may potentially occur within 50km of the project sites.

121. Around Bishkek, one protected area and two KBAs were identified within the 50km buffer. Closer to the project sites, the KBA 'Water reservation of Northern Chu Valley' within 10km was identified. This is designated as an Important Bird Area (IBA); it is a series of artificial reservoirs with unstable water levels, providing staging ground for spring and autumn migrants as well as wintering birds.[16] See the figure below for the KBA proximity to

[14] World Bank and ADB. 2021. Climate Risk Country Profile: Kyrgyz Republic. https://www.adb.org/sites/default/files/publication/706596/climate-risk-country-profile-kyrgyz-republic.pdf
[15] IBAT. Kyrgyzstan. https://www.ibat-alliance.org/country_profiles/KGZ
[16] BirdLife International . Data Zone.

Bishkek.

Figure 7: Northern Chu Valley KBA location, Bishkek



Source: IBAT

122. Around Tokmok, is Tokmok Pheasant Reserve is the only KBA is identified within 10km. The reserve is a designated IBA.[17] This is the only place for many of species waterfowl, water birds, raptors and passerine birds to rest and to feed when crossing the Tian-Shan mountain range. This is also wintering place for raptors, waterfowl and local mountain passerine birds. See the figure below for the IBA proximity to Tokmok.

123. This IEE confirms the project sites are not within environmentally-sensitive areas and has no direct and indirect impacts on protected areas identified in the IBAT report.

Figure 8: Northern Chu Valley KBA Location, Bishkek

Source: BirdLife International. http://datazone.birdlife.org/site/factsheet/tokmak-pheasant-reserve-iba-kyrgyzstan

2. Flora and Fauna

124. The laboratory / hospital compounds are in developed areas and highly disturbed environments. The site visits have confirmed that locally i.e., on the project sites, there is no

[17] BirdLIfe. Data Zone. Tokmak Pheasant Reserve.

significant flora and no indication of the presence of significant fauna on the sites. Flora on site includes some landscaping, shrubs and small trees; the common tree species observed during site visits are elm, birch and coniferous vegetation (pines and spruces) in the grounds of the hospitals in particular.

125. The IBAT reports confirm that the local presence of protected species of flora and fauna is highly unlikely.

E. Socio-economic resources

1. Physical cultural heritage

126. Of international importance, the Kyrgyz Republic has three sites inscribed on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List, one of which is partially in the Chui Oblast: [18]

(i) Sulaiman-Too is a scared mountain dominating the city of Osh.

(ii) Western Tien-Shan mountain range; and

(iii) Silk Road route network which has cultural heritage sites along the trade route, e.g., Burana Tower, south of Tokmok city, Chuy Oblast. The city contains project sites, however the cultural heritage locations associated with the silk road are 10km south of the Tokmok city and will not be impacted by the project. The village of Aravan is also on the silk route but the project site is contained within a healthcare facility.

127. On a local level, local cultural heritage includes places of worship such as mosques and churches which are present in most urban areas, such as Bishkek and Tokmok and the village of Aravan contains ancient petroglyphs. These sites are not in locations which will be impacted by the project.

2. Socio-economic environment

128. Key socio-economic indicators for the country as a whole are shown in the table below. The data in this table is taken from ADB's Climate Risk Profile for the Kyrgyz Republic; the information following the table is derived from the TRTA Team's Social Specialist TRTA output.

Table 12: Socio-economic Indicators

Indicator	Value	Source[19]
Population Undernourished	6.4% (2017–2019)	FAO 2020
National Poverty Rate	22.4% (2018)	ADB 2019
Share of Income Held by Bottom 20%	9.9% (2018)	World Bank 2019
Net Annual Migration Rate	−0.06% (2015–2020)	UNDESA 2019
Infant Mortality Rate (Between Age 0 and 1)	1.6% (2015–2020)	UNDESA 2019
Average Annual Change in Urban Population	2.03% (2015–2020)	UNDESA 2018
Dependents per 100 Independent Adult	59.7 (2020)	UNDESA 2019
Urban Population as % of Total Population	36.4% (2018)	CIA 2018
External Debt Ratio to GNI	103% (2018)	ADB 2020
Government Expenditure Ratio to GDP	28.4% (2019)	ADB 2020

[18] UNESCO. Kyrgyzstan. http://whc.unesco.org/en/statesparties/KG

[19] World Bank and ADB. 2021. Climate Risk Country Profile: Kyrgyz Republic. https://www.adb.org/sites/default/files/publication/706596/climate-risk-country-profile-kyrgyz-republic.pdf

ADB = Asian Development Bank, CIA = Central Intelligence Agency FAO = Food and Agriculture Organization, GDP = gross domestic product, GNI = gross national income, UNDESA = United Nations Department of Economic and Social Affairs.
Source: ADB. Climate Risk Country Profile: Kyrgyz Republic.

129. **Project area characteristics.** Osh and Chui oblasts covered by the Project area are among the largest regions of the country and have specific features: densely populated areas (48 people per 1 km^2),[20] a predominance of the share of the rural population, increased migration,[21] the presence of high traffic flows of international importance, significant transboundary zones (People's Republic of China, Kazakhstan, Uzbekistan). The area also includes the two largest cities of the country: the city of Bishkek (Chui region) and the city of Osh (Osh region).

130. **Migration.** One of the leading cross-border economic corridors, the Almaty-Bishkek Economic Corridor (ABEC), passes through the Chui region. In 2020, the migration outflow in the Chui region amounted to minus 1198 people[22] (the figure for the Kyrgyz Republic was minus 4,861 people). These relatively high levels of mobility along cross-border economic corridors is considered a risk for the Kyrgyz Republic in terms of transmission of infectious diseases and requires sufficient healthcare infrastructure, especially outpatient-diagnostic type laboratories and mobile units that are capable of quickly responding to sudden demands.

131. **Population**. Chui region has a territory of 20,000 km^2 with 975,000 people (urban 18.3%, rural 81.7%), living across seven cities, eight districts and 105 village areas.

132. **Poverty Rates.** In the Kyrgyz Republic, 1,678,000 people lived below the poverty line in 2020, of which 73.7% were residents of rural areas. The poverty rate (% of the population) in Kyrgyzstan amounted to 25.3%. In Chui region these figures were 25.4% (2019 -19.1%), Bishkek 16.8% (2019 -11.9%). Specifically for children, in 2020, 31.8% or 833.9 thousand children aged 0-17 lived in poverty, which is an increase from 25.7% in 2019.[23]

133. **Health care provision.** The Kyrgyz Republic as a member of the Central Asian Regional Economic Cooperation partnership (CAREC),[24] commits to enhance capacity to respond to public health threats, including through efficient and sufficient laboratory infrastructure in the event of a surge in demand. Also, public health must comply with the principles of Universal Health Coverage which implies financial protection and access to medical services, with priority on vulnerable populations, migrants and local communities in border areas.[25]

134. Universal Health Coverage in the Kyrgyz Republic is provided through the system of social standards. [26] The social standard is defined as the minimum level of guarantees for the provision of public, free or preferential social services, and the health care procedures list which is approved by the Government of the Kyrgyz Republic. In the health sector, the minimum social standard is the basic state health insurance to guarantee the provision of quality medical and preventive care under the State Benefits Program.[27]

[20] National Statistical Committee (NSC) of the Kyrgyz Republic. 2021. *Brief Statistical Handbook*. Bishkek.
[21] NSC. 2021. Open data of the Kyrgyz Republic.
[22] NSC. Socio-economic development of the regions of the Kyrgyz Republic.
http://www.stat.kg/ru/publications/socialno-ekkonomicheskoe-razvitie-regionov-kyrgyzskoj-respubliki/
[23] NSC. All News. http://www.stat.kg/ru/news/
[24] CAREC. Health Strategy 2030.
https://www.carecprogram.org/uploads/NFP_Session1.1_Health_Strategy_20211012_RU.pdf
[25] CAREC. Health Strategy 2030.
https://www.carecprogram.org/uploads/NFP_Session1.1_Health_Strategy_20211012_RU.pdf
[26] Government of the Kyrgyz Republic. Law of the Kyrgyz Republic dated May 26, 2009 No. 170 "On Guaranteed State Minimum Social Standards"
[27] Government of the Kyrgyz Republic. Articles 3-1, 3-2 of the Law of the Kyrgyz Republic of October 18, 1999 No. 112 "On health insurance of citizens in the Kyrgyz Republic"

V. ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

A. Introduction

135. This chapter presents the potential environmental impacts related to design, implementation (civil works) and operation phases of the activities under the proposed project. Following is a description of the environmental impacts and the proposed mitigation measures to minimize the negative impacts, if any, and to enhance positive environmental impacts where practicable.

B. Methodology

136. The following discussion on environmental impacts screens the potential impacts according to the following factors and recommends mitigating activities on this basis:

(i) "Receptor": the resource (human/natural environment/economic/social) which is potentially going to receive and have to cope with an impact.

(ii) "Sensitivity": ability to cope with an impact and/or its importance to the country of Kyrgyz Republic. It is generally accepted that human health is always a high sensitivity receptor, however in terms of environmental/natural resources, the sensitivity varies according to the receptor e.g., scrubland with no significant biodiversity is considered less sensitive than a mature forest which supports ecosystems and livelihoods.

(iii) "Magnitude": the size of the potential impact. Impacts may be short term and considered low magnitude (e.g., noise or temporary reduction of income during a short construction project) or high magnitude (e.g. the poor disposal of large quantities of hazardous waste into a water course).

137. **Source-pathway-receptor approach**. Where an impact may occur, if there is no receptor which may potentially receive the impact, then mitigating actions will not be required. This follows the source-pathway-receptor model, whereby in order for there to be an impact, the pollutant or issue (source) needs to be present, the pathway to a receptor is needed (such as fissures in rocks, or water for human consumption) and a receptor must be present to receive the impact, such as humans, flora or fauna.

138. **Impact significance**. Both the potential (without mitigation) and residual (with mitigation) impact significance is assessed. The residual significance of the impact is the potential impact that remains following mitigation. This more accurately describes the impacts of the Project because it is anticipated that the requirements of the EMP will be followed and impacts satisfactorily mitigated. The matrix below is used to anticipate the potential impact significance. If the impact can be mitigated to such an extent it is considered negligible, this is stated in the discussion. The impact is a function of the sensitivity of the receptor, including its importance e.g., international significance, and the magnitude of the impact.

Figure 9: Impact Significance Matrix

Receptor Sensitivity & Importance	Magnitude of Impact: LOW	MEDIUM	HIGH
LOW	Low	Low	Medium
MEDIUM	Low	Medium	High
HIGH	Medium	High	High

Source: TRTA Team

C. Positive impact

139. The project is expected to have positive impacts on the quality of healthcare delivery. Environmentally the project will seek integrate environmentally beneficial features in its design, which will have carbon and greenhouse gas emission benefits.

D. Design/Pre-civil works

140. No specific environmental impacts are identified in the design/pre-civil works phase, however, this section outlines challenges the project may face if the following environment related activities are not conducted in this phase. If suitable planning is not conducted by the contractor to obtain required environmental permits/authorizations, it could lead to delays in commencement of physical works. In addition, delays in recruitment of qualified staff and establishing a grievance redress mechanism by the Executing Agency and project implementation unit (PIU) respectively before civil works starts will pose a risk to the safeguards process. The specific tasks to be conducted and permits to be obtained are as follows:

(i) Obtaining Statutory clearances and permits.
(ii) Development of Site-specific EMP including all requirements for method statements as required in this EMP.
(iii) Recruiting required safeguards consultant
(iv) Establishment of functioning grievance redress mechanism.

141. **Mitigation Measures**. A suitably qualified consultant will be employed by the PIU early in the implementation phase, considering the terms of reference set out in the EMP. The construction supervision consultant will engage 2 environmental safeguards specialists (one for each region) who will be responsible for supporting PIU in compliance with ADB SPS and national laws and regulations, construction health and safety, establishment of monitoring and reporting, and others as to be identified in the Final IEE. Proper planning will be conducted to ensure all required permits/authorizations are obtained in a timely manner by assigning focal staff at the Implementing Agency to follow up in a timely manner until the approvals are in place.

E. Implementation (civil works) phase

1. Noise

142. Noise will be generated through the use of machinery and equipment for the minor civil works. This may include equipment for excavation (for pipes/cables) or for internal works such as partition removal. Noise is also generated by general civil works traffic delivering materials to site.

143. For sites at hospitals with in-patients, the patients will be highly sensitive noise

receptors. The impacts will be short term, localized and intermittent throughout the civil works process and can only be mitigated to an extent i.e. civil works is inherently noisy. The receptors (patients) are highly sensitive, but the magnitude of the noise impact will be low with mitigation; the residual impact significance is MEDIUM. For the management of noise, the minimum recommended mitigation measures are:

(i) Avoidance: (a) prevent equipment /machinery idling when not in use; (b) civil works operation times shall be limited to 7:00 to 18:00 daily, unless facility management instruct otherwise; (c) avoid loading/unloading/fabrication of materials in near any hospital wards with in-patients;

(i) Minimization: (a) high standards of vehicle maintenance e.g., in line with manufacturer maintenance requirements; (b) using mobile noise barriers e.g., for stationary noise emitting equipment e.g., generators; and

(ii) Communication: (a) pre-warn site management on schedule for civil works noise generating activities, train staff in requirements to prevent noise, and limit working hours to 8:00-6:00pm or as the facility directs.

144. The outcome of these measures is that Kyrgyz Republic and WHO noise standards will not be exceeded by project activities. This includes the WHO 30 dB(A) within any hospital ward and Leq. 35 dB(A) at any time in hospital recreation areas.

2. Air quality

145. Air quality will be affected locally by exhaust emissions from machinery and vehicles, and fugitive dust arising from civil works activities including traffic, earthworks or rehabilitation before site hand-over. Drier days, winds, soil type and vehicles tracking in mud from local unmade roads will increase fugitive dust. The emissions from vehicles will contribute to global issues associated with carbon emissions.

146. Calculating like particulate matter (PM) emissions (PM_{10} and $PM_{2.5}$) is significantly affected by the local environmental conditions noted above; silt and moisture content are major considerations in developing PM emission factors of fugitive dust. However, as a broad indication, a South Korean study calculated construction particulate emissions as shown in Table 13. The project civil works sites will be smaller than those cited in this table, therefore the PM emissions are anticipated to be correspondingly lower.[28]

Table 13: Construction Site Particulate Matter Emissions, PM_{10}, $PM_{2.5}$

Site Area (m^2)	PM_{10} Emissions (kg)			$PM_{2.5}$ Emissions (kg)		
	Earthwork	General Construction	Total	Earthwork	General Construction	Total
10,000	1.21×10^4	7.26×10^2	1.28×10^4	6.50×10^3	7.26×10	6.57×10^3
20,000	2.02×10^4	2.05×10^3	2.23×10^4	1.06×10^4	2.05×10^2	1.08×10^4
30,000	2.78×10^4	3.77×10^3	3.15×10^4	1.44×10^4	3.77×10^2	1.48×10^4
40,000	3.35×10^4	5.81×10^3	3.93×10^4	1.70×10^4	5.81×10^2	1.76×10^4
50,000	3.90×10^4	8.12×10^3	4.71×10^4	1.94×10^4	8.12×10^2	2.02×10^4

Source: H. Kim, S. Tae and J. Yang. 2020. Calculation Methods of Emission Factors and Emissions of Fugitive Particulate Matter in South Korean Construction Sites. *Sustainability*. 12(23). 9802.

147. The receptors subject to air quality impacts will be local to the civil works site and along any civil works traffic routes. Carbon emissions will impact globally on environmental receptors. The receptors (potentially visitors) are highly sensitive, but the magnitude of the air quality impacts will be low with mitigation; the residual impact significance is MEDIUM. There is no likely pathway for patients to be affected by air deterioration from the project

[28] The authors note that the table is applicable to the specific conditions for South Korea.

works.

148. For the management of air quality, the minimum recommended mitigation measures are:

(i) Vehicle emissions: (a) high standards of vehicle maintenance e.g., in line with manufacturer maintenance requirements; (b) prevent equipment /machinery idling when not in use;

(ii) Dust: (a) spray water on dry sites where earth is exposed and visible dust is seen; (b) remove mud from roads/site/vehicles when wet; (c) cover loose materials e.g., with tarpaulin during transport, (d) re-vegetate any areas of soil after removal /damage to ground cover; and

(iii) Work Planning: (a) minimize storage of loose materials on site, (b) minimize exposing areas of disturbed soil.

3. Occupational Health and Safety

149. Occupational health and safety (OHS) risks are particularly a concern in civil works sites where heavy machinery and noisy equipment is used and where excavations e.g., for foundations or pipes are required or where working at height e.g. on new building roof is needed. Emergency situations may also occur where accidents and incidents take place.

150. The receptors (civil works contractors) are considered sensitive and the magnitude of an impact would be high, should life changing injury or a fatality occur. Project staff are also at risk from occupational accidents when entering civil works sites for inspections and EMP verification. Accidents can be largely avoided through good practice reducing the residual impact significance to MEDIUM.

151. For the management of OHS, the minimum recommended mitigation measures are: The contractor will develop an **OHS action plan**. The plan will demonstrate how the contractor will take action to:

(i) Ensure an Environment Health and Safety qualified engineer or staff member will be engaged for the contract.

(ii) Ensure that all staff will:

(a) Carry out his/her OHS duties competently and diligently.

(b) Maintain a safe working environment including by:(i) ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health; (ii) ensuring workers wear required personal protective equipment; (iii) using appropriate measures relating to chemical, physical and biological substances and agents; and (iv) following applicable emergency operating procedures.

(iii) Provide a site accident record book which will be maintained where all major or minor accidents and incidents are recorded with actions taken.

(iv) Provide adequate first aid equipment provided on site.

(v) Provide training on civil works hazards, documenting the training for inspection by the project inspection and monitoring staff. Topics may include manual handling, electrical safety, use of power tools, asbestos, use of machinery, personal protective equipment, using chemicals and fuels, slip/trip prevention.

152. The contractor will develop an **Emergency response action plan**. The plan will demonstrate what actions the contractor will take to:

(i) Respond to a worker injury (major and minor).

(ii) Respond to a spillage (major and minor).

(iii) Respond to a fire (on civil works site or storage areas).
(iv) Respond to any other incidents anticipated by the contractor.

153. The contractor will develop a **Civil works training plan**. The plan will show how the contractor will train its staff including laborers and professional staff on:

(i) Occupational Health and Safety including any safe systems of work, toolbox talks or other methods.
(ii) Social and health issues (if workers are international or from outside the local area) including communicable diseases such as HIV and COVID-19.
(iii) GRM for the project and management of complaints.
(iv) Asbestos risks and management.

154. The contractor will develop a **COVID-19 prevention and response action plan**. The plan will demonstrate how the contractor will take action to define and implement COVID-19 protection measures which transmission and prevention.

4. Asbestos management

155. Risks to community health and safety and civil works staff may result from accidental exposure to asbestos during upgrades of existing buildings, or through refurbishment works. Initial discussions with hospital staff indicate asbestos roof sheeting is use, although there is less understanding of whether asbestos-containing materials (ACM) are used inside. It is a possibility that ACM including cement bonded roof sheets, underground/overground pipes, insulation board, floor tiles or other ACM are present at all the sites, depending on their age of construction.

156. There are significant consequences for high levels of exposure to asbestos fibers. Workers are highly sensitive and maybe exposed, but it is not a significant risk to the wider community. The release of asbestos fibers can be avoided through good practice reducing the residual impact significance to MEDIUM.

157. For the management of asbestos risks, the minimum recommended mitigation measures are the following.

158. **Identifying asbestos**. Conduct asbestos survey and register per site – to be submitted prior to physical works:

(i) The contractor will consult hospital management on potential ACM including cement bonded roof sheets, underground/overground pipes, insulation board, tiles or other ACM in the hospital.
(ii) The contractor will visually inspect the site for suspected asbestos and submit an asbestos survey report to project implementation unit (PIU) at least 2 weeks prior to any civil works on a per site basis.
(iii) For any identified ACM, the contractor will define in the asbestos survey how it will be safely removed and disposed using measures such wetting, double bagging and burying in landfill approved by the regulatory authorities.
(iv) If ACM is present, but can remain in place and not affected by physical works, the contractor will complete an asbestos register. A sample register is in Annex 4. The register will contain the following information:
    (a) Date asbestos was identified.
    (b) Specific location (within the structure surveyed).
    (c) Detailed description of material (including surface treatment, colour, purpose e.g., flooring).
    (d) Bonded or unbonded.
    (e) Condition of material (friable, good condition, loose pieces).
    (f) Likelihood of disturbing the material (e.g., during maintenance or using

the building).

159. **Managing asbestos risk**. Manage unplanned ACM discovered during civil works:

(i) Alert the construction supervision engineer, PIU and hospital/facility when ACM is discovered.
(ii) First confirm ACM status. Send a carefully extracted and properly wrapped sample to an approved laboratory for testing. If a laboratory is not available, the assumption must be that the material is ACM.
(iii) Cordon off the area, control access, and provide clear signage of the ACM risk.
(iv) Provide all staff who will be in contact with ACM with correct PPE: (a) clothing —personal protective clothing to prevent skin contact and cover hair, long sleeve (disposable); (b) respirator—min P3 respirator, or N95 dust mask, goggles, gloves and safety boots.
(v) Identify, mark, delineate the ACM that will be removed and do-not mix ACM with non-ACMs.
(vi) Avoid cutting or breaking ACMs if possible. If cutting is required wet, the ACM surface and add duct tape and wet the material with a water spray to reduce the risk of dust generation.
(vii) Make sure all asbestos material has been removed from the designated areas for removal. Ensure the site is free of dust and debris which may contain asbestos e.g., wash with wet cloths and dispose of the cloths as ACM.
(viii) Removed asbestos must be contained, double wrapped and sealed, and placed into removal bags or bins and labelled. Use only durable container: double bag polythene, drum or bin.
(ix) Asbestos waste should not be disposed of with other wastes. If special facilities are unavailable, asbestos waste should be sealed in double lined bags and disposed of at a secured waste site and kept separate from other types of waste. The contractor will work with the local government to identify a suitable and safe site and ensure that a record is kept of the location. If Asbestos is properly contained, buried, and remains undisturbed it will remain safe and pose no further environmental or health risk.
(x) Update the Asbestos Register to show the ACM has been removed. Provide an updated copy to the facility management team.
(xi) Decontaminate equipment after use. A dedicated decontamination area is required close to the work area, separating the contaminated and clean materials and equipment. The contaminated area should have provision of storage of contaminated clothing and footwear in a labeled container. A shower or washing facilities are required for all personnel involved in ACM removal.

160. The contractor will refer to ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks. [29]

161. The contractor will issue a report confirming removal and disposal of ACM to PIU, prior to physical works.

162. No ACM will be used in the civil works.

5. Solid and liquid waste management

163. Wastes will be generated throughout civil works and will impact on resource use associated with waste production. This includes generation of inert wastes e.g., spoil,

[29] ADB. 2022. *Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks*. Manila.

biodegradable wastes such as cleared vegetation from the sites; hazardous wastes such as oily wastes, asbestos containing waste or mercury containing waste from fluorescent lights; and liquid wastes such as wash water. Taking into account a life cycle perspective, any waste has inherent impacts in terms of resource use and the wider emissions from product manufacturing. The impacts of waste generation are further exacerbated in areas with limited waste treatment or waste disposal infrastructure and are therefore unable to manage waste to internationally accepted levels, leading to leakage into the environment.

164. Waste generation will be relatively limited and mostly inert wastes will be produced. However limited quantities of hazardous waste such as fluorescent tubes in existing refurbished buildings or chemical containers will be generated. There are varying capacities for sound waste disposal in the project areas and waste will be generated throughout construction. Some resource wastage can be mitigated but resource use cannot be avoided and waste disposal infrastructure is limited therefore the residual impact significance to MEDIUM/LOW.

165. With adequate waste disposal approaches, including prevention of waste from being generated through recycling, waste generation should not have significant impacts on environmental receptors. The following mitigation measures are recommended: The contractor will:

(i) Manage general solid waste from construction in line with government regulations for hazardous and non-hazardous wastes.
(ii) Ensure all solid waste in kept under control and in covered containers.
(iii) Reduce waste being generated at source.
(iv) Segregate and recycle waste (e.g., inert spoil for reuse elsewhere).
(v) Store, transport and treat or dispose of non-hazardous waste in accordance with national laws and best practice to ensure no escape of waste and will use a disposal site approved by the Regulatory Authorities.
(vi) Store, transport and treat or dispose of hazardous wastes (including asbestos) in accordance with national laws and best practice to ensure no escape of waste and will use a disposal site approved by the Regulatory Authorities.
(vii) Ensure no waste is burned on site.
(viii) Manage contaminated and uncontaminated spoil without it negatively impacting on the environment and its disposal in approved waste disposal sites.

6. Environmental contamination / pollution

166. During the civil works, spills of fuel, lubricants and chemicals can take place while transferring from one container to another or during refueling of construction equipment and vehicles. Also, during maintenance of equipment and vehicles, through leakages from equipment and containers. This may result in localized soil contamination; water pollution is not anticipated given the project sites.

167. The soil in the site-specific context is a low sensitivity receptor; it will be within existing developed sites and is not anticipated to support significant ecology. The risk of spillage is low, with mitigation measures, and the size would be minimal as large quantities of fuel are not required for the project, therefore the residual impact significance is LOW.

168. The following mitigation measures are recommended. The contractor will:

(i) Protect the environment from pollution during maintenance activities e.g., use drip trays for maintenance using machinery fluids.
(ii) Preferentially use commercial filling stations for vehicles, over storage of fuel at any construction laydown areas.
(iii) Store any liquid chemicals or maintenance fluids in robust lidded containers with labels and on hard standing or plastic as a barrier to the environment.

(iv) Include spill response in the **Emergency response action plan**

7. Community health and safety

169. Risks to community health and safety are primarily as a result of civil works vehicles increasing traffic in the area and potential risks to the health care facility staff and visitors of being within the vicinity of an active construction site within the healthcare facility grounds. Humans are highly sensitive receptors, however impacts can be avoided through good practice; therefore the residual impact significance is MEDIUM/LOW.

170. For the avoidance of community health and safety risks, the following mitigation measures are recommended:

(i) For all construction areas the contractor will provide signage giving community dangers / warnings inside and outside the construction areas.
(ii) For all construction areas the contractor will use barriers or tape and appropriate lighting to restrict unauthorized access by healthcare facility visitors.
(iii) For construction traffic management the contractor will:
  (i) Liaise with the healthcare management to ensure any emergency vehicle access is not impeded by construction vehicles.
  (ii) Ensure construction vehicles enter and leave the construction areas to/from the main road safely.
  (iii) Use traffic marshals to direct maneuvering vehicles.
  (iv) Ensure speed limits suitable for the size and type of construction vehicles is maintained by all drivers at all times.
  (v) Ensure construction vehicle safe loading limits are followed for road safety.

8. Rehabilitation and repair

171. At the end of the civil works, construction sites and any other ancillary areas may contain waste, spoil and other debris. Also, the use of public highways may cause unforeseen damage from heavy vehicles and equipment, e.g., damage to road surfaces, or construction close to existing health care facilities may cause accidental damage. The works contracts will include a requirement to undertake rehabilitation and repairs, however is also included in the EMP for consistency.

172. The likely need for repair is low, but all sites will require clean-up prior to handover. The residual impact significance is LOW.

173. The recommended mitigation measures to deliver rehabilitation and repair are:

(i) All areas affected by construction including the hospital compounds, and any storage areas will be cleared of waste, spoil and any contaminated land e.g. oils spills, will be removed and disposed of in approved sites prior to site handover.
(ii) Accidental damage will be repaired to the quality specified in the bill of quantities/construction contract.

9. Flora and fauna

174. The baseline showed very little flora and fauna within the project area of influence, and that the impacts from construction are anticipated to be negligible on the existing flora and fauna. The IBAT assessment confirmed that no KBAs or protected areas are within the project area of influence. During civil works, the project will not necessitate the removal of any areas of vegetation, therefore no specific mitigation measures are required. The impact significance is NEGLIGIBLE.

10. Visual impact

175. The visual impact of the project is not anticipated to be an issue due to the location of the project sites in an existing healthcare compound and the small scale of the works, the majority of which will be internal. Therefore, no specific measures are required during construction, to mitigate this impact during operation. The impact significance is NEGLIGIBLE.

11. Socio-Economic Factors

176. The baseline showed that there will be a number of neighboring houses and businesses which may potentially be affected by civil works noise, dust and construction vehicles entering the sites, but this will be very limited in scope, given the size of the project and the internal nature of the works. There is no evidence to suggest that women will be adversely impacted by the project. Vulnerable groups including people with physical disabilities and patients could be adversely affected by the close proximity to a construction site, considering issues of noise, dust, and site access; these impacts will be addressed through the good construction practices described in the mitigation measures set out elsewhere in this assessment. In addition, the consultation process and the project level GRM will be implemented as feedback mechanisms for affected people. Therefore, no specific mitigation measures are required during the civil works. The impact significance is LOW.

12. Natural hazards

177. Natural disasters include windstorms, earthquakes or extremes of temperature may be experienced during the civil works phase. However, the likelihood of such events is low and the effect on the project in the case of an occurrence of such a natural calamity on the health and safety of the workers and affected population can be minimized through general OHS measures and following national guidance. The impact significance is negligible.

F. Operation phase

1. Occupational health and safety (OHS)

178. Risk associated with biomedical laboratories may be biological, chemical, radioactive, mechanical, physical, fire and electrical. A risk management system will help to prevent accidents and improve overall workplace safety. Laboratory safety is a combination of appropriate risk management system, engineering controls and technical facilities, administrative controls and safety procedures and practices. Laboratory safety culture must be developed so that exposure to hazards for laboratory personnel, community and environment will be minimized or eliminated.[30]

179. The laboratory upgrades are taking place in existing facilities which have existing levels of risk management and controls for OHS. Following good OHS practice, the residual impact significance is LOW.

180. **Mitigation measures.** The project will support a continuous quality improvement (CQI) program that covers enhancing capacity of laboratory and health workers of these facilities in occupational health and safety protocols. All requirements for medical waste management as set out in National Law and the facility site policies and protocols should be followed.

[30] T. Tun. 2017. Biomedical Laboratory: Its Safety and Risk Management. *Biomed Sci Letters*. 23. 155-160. The Korean Society For Biomedical Laboratory Sciences. https://www.bslonline.org/journal/view.html?doi=10.15616/BSL.2017.23.3.155

181. The scope of works for the CQI firm is clearly defined by the project. Among others, the CQI consulting firm will support the MOH/PIU in updating the basic quality and safety standards which includes waste management, and will be decreed as the National Quality and Safety Standards. The consultant firm will research existing regulatory framework governing health laboratories, reveal deficiencies and suggest needed changes. Consultants will consider and choose the most suitable mechanism to ensure compliance of laboratories with the national quality and safety standards (licensing, certification or accreditation). The process should be conducted in close interaction with Coordination Laboratory Council, MOH, Kyrgyz Center for Accreditation and World Health Organization (WHO). In addition, the consultant firm will review the existing postgraduate training curricula for laboratory staff of different levels in both branches of Kyrgyz State Medical Institute for Retraining and Advanced Training, including waste management for laboratories.

2. Biomedical waste management and biosafety

182. Waste that may be generated from laboratories requires special handling and awareness, as it may pose an infectious risk to healthcare workers in contact with or handling the waste or cause an environmental issue if the waste is mis-managed. The waste could include liquid contaminated waste (e.g., blood, other body fluids, and contaminated fluid) and infected materials, waste water, laboratory solutions and reagents and other chemicals, personal protective equipment and sharp wastes such as syringes. The increase in capacity and throughput of laboratory work will indicate that an increase in laboratory waste will be expected, once the new facilities are operational. Following good waste management practice, including compliance with national laws, the residual impact significance is LOW.

183. **Mitigation measures**. As part of the CQI program, the OHS and environmental risks caused by generation of medical waste will be mitigated as far as practicable by strengthening the waste management procedures in the facility. This includes developing a Medical Waste Management Plan that aligns with existing WHO Guidance on Safe Management of Wastes from Healthcare Activities with respect to:

(i) Waste generation, prevention, reuse, and recycling.
(ii) Waste segregation at the point of care, packaging, collection, storage and transport.
(iii) Suitability and capacity of onsite disinfection and waste handling equipment such as autoclave. Onsite treatment facilities may include small-scale incinerator and wastewater treatment works. Their adequacy and compliance shall be assessed, and proper measures proposed as necessary. Any thermal treatment facility used by the laboratory or hospital should be compliant with good international practice standards.
(iv) Suitability and capacity of off-site disposal facilities, where healthcare wastes will be transported and disposed off-site. The adequacy and compliance with transport and disposal regulations and licensing for the transport vehicles and the offsite disposal facilities shall be assessed.

184. A person should be appointed responsible for medical waste management at the facility. An outline of a potential Medical Waste Management plan, to be adapted to site specific conditions, is provided Annex 5.

185. Material Safety Data Sheets should be retained in the laboratory for all chemicals and reagents used on site and their advice on safe handling and disposal should be followed.

186. All requirements for medical waste management as set out in National Law and the facility site policies and protocols should be followed.

3. Carbon emissions / resource use

187. The project laboratory improvements will require additional energy and resources for

their operation. This will lead to carbon / greenhouse gas emissions which is a trans-boundary global issue. The contribution to this global issue from the laboratory energy use is LOW.

188. In the design of the new facilities, more environmentally benign technologies will be used where practicable such as the installation of energy efficient air conditioning and ventilation units.

4. Cumulative, indirect and unanticipated impacts

189. The project sites are all small and in already built-up areas. The impacts arising from civil works or operation are not contributing cumulatively to existing baseline issues. No specific indirect impacts are anticipated. Any unforeseen impacts arising during project design or implementation will require the IEE and EMP to be updated as appropriate and relevant stakeholders such as ADB and the Executing Agency to be informed. In addition the mechanism for feedback and adjustment is described in the EMP which can accommodate unanticipated impacts.

VI. PUBLIC CONSULTATION AND DISCLOSURE

A. Consultations during project preparation

190. ADB's SPS (2009) requires any project to carry out meaningful consultation with affected people and facilitate their informed participation. Following analysis of (i) site specific locations, including proximity of the sites to livelihoods/businesses; and (ii) scale and scope of the works including potential impact on residential properties and educational establishments and potential health service delivery disruptions, the TRTA team concluded that 'affected people' in the context of the project are primarily those staff working in and around the laboratories which will be subject to construction impacts from civil works and operational impacts. The site visits showed that there are no particular other sensitive receptors or affected people such as water supplies, traffic flows, schools or businesses that will be affected by the project and service delivery will remain uninterrupted.

191. As a result of this analysis, during the preparation of this IEE in the TRTA phase, the consultations focused on the laboratory and hospital staff, in order to understand the impacts of the project on the patients and service delivery and to understand any relevant operational issues.

192. Consultations helped to inform the project, including the baseline receptors, the impact assessment and the identification of necessary mitigation measures. Consultations were held between 14 February and 29 March, 2022 across 13 sites. The following people were consulted by the field teams during IEE preparation:

Table 14: Consultation Meetings

Facility Name	Consultee name/role	Date Consulted
Diagnostic reference laboratory (AMR) of the national level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES), Bishkek	Abdykadyrov Sultan Abdyldaevich/ Director, Raisa Tolobekova / head of laboratory	14.02.22
City Clinical Hospital No. 1, Bishkek (CDL)	Musaev Akylbek / director, Ainura Adenova - chief accountant Shygaeva Kunduz Temirbekovna / head of laboratory	15.02.22
Republican Infection Diseases Hospital (CDL)	Aaliev Gulzhigit / director, Sadykova Sadykova Buukhan Saitkulovna - head of	16.02.22

	the bacteriological laboratory, Zhanuzakova Klara Musaevna Head of Clinical Diagnostic Laboratory	
Republican Scientific and Practical Center for Quality Control of Laboratory Diagnosis of Infectious Diseases in the NGO "Preventive Medicine" (CDL)	Kasymov Omor Tilegenovich / director, Kuchuk Tatyana / head of the laboratory	17.02.22
National Hospital at the MoH (reference lab, national level) (CDL)	Maanaev Toktobai Israilovich / director, Sulaimanova Saltanat - head of the laboratory	18.02.22
GMPC Issyk-Ata district, Chui region (CDL)	Mukaeva Roza / director, Djoldoshova Kunduz / leading specialist	21.02.22
Center of Disease Prevention and State Sanitary and Epidemiological Surveillance of Sokuluk District	Baiganaev N.Sh. - chief physician	22.02.22
GMPC in Tokmok, Chui region (CDL)	Dyikanaliev Ulan / director, Sydykbekova Mira / Head of TB laboratory, Kadyrkulova Tursun / Checheevna Head of the laboratory of the CSM	24.02.22
Center of Disease Prevention and State Sanitary and Epidemiological Surveillance of Sokuluk District	Dzhanarbekov Emilbek / director,	25.02.22
Center of general medical practice of Jail District (CDL)	Ainura Imasheva / director,	02.03.22
Center of general medical practice Panfilov district, Chui oblast (CDL)	Abdykalykov Jalil / director, Dzhumakaziyeva Dilbara / head of the laboratory	25.03.22
Laboratory bacteriological researches of the Tokmak Center of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES)	Bekturganov Ulukbek / Chief physician	29.03.2022
National Center for Mather and Child Welfare (child diagnosing) (CDL)	Maimerova Gulzat / Director, Nazaralieva Saltanat Bolsunbekovna / deputy director for obstetrics, Abdykeeva Zamira / head of the laboratory	28.03.2022

Source: ADB TRTA team.

193. Annex 6 gives notes taken at the consultation meetings. A summary of consultee responses is below as in general the participants responses showed that similar views on the project impacts and mitigation measures were raised at all the consultation meetings:

Table 15: Consultation Discussion and Responses

Consultation theme/question	Consultee comments and concerns (combined for all consultations in Oblast)	Project response (to concerns)
Climate Hazards: What (if any) climate/natural hazards affect the healthcare/laboratory facility?	No specific climate risks specific to laboratories and hospitals mentioned by consultees	None required
Construction impacts/ concerns on people/ patients/ staff/ community)?	Impact of noise, dust on people during reconstruction and repair.	The EMP includes measures to manage and monitor noise and dust

Construction impacts/ concerns on the environment?	(i) Disposal of construction debris (especially asbestos containing); (ii) Cutting and demolition of trees and shrubs, especially large-sized (for where it is planned to add to existing buildings)	No landscaping will be required as the project does not require vegetation removal as no construction will take place Asbestos management including disposal is in the EMP with measures including: (i) double bagging and burying in landfill approved by the regulatory authorities; and (ii) disposal of asbestos waste in accordance with national laws and best practice to ensure no escape of waste and use of a disposal site approved by the Regulatory Authorities
Any **operational impacts**/ concerns?	Positive impacts only (i) Increased access to laboratory services; and (ii) The quality of management, emergency response in the work of laboratories and hospitals will increase.	No action needed
Mitigation measures suggested?	(i) Development of procedures for the organization of work within the framework of the project (ii) Carrying out additional landscaping (where necessary) (iii) Informing specialists, patients about the planned and ongoing work on the project. (iv) Monitoring the opinions of specialists, patients in the process of performing work on the project.	(i) Improvements to working practices will be supported through the continuous quality improvement programme (ii) The project includes a stakeholder engagement and communication plan and consultation to ensure facilities and their patients are informed (iii) Monitoring and consultation will be conducted during the civil works.

Source: TRTA team field visits

B. Consultations during project design and implementation

1. Stakeholder engagement and communication Plan

194. The project requires a clear stakeholder engagement and communication plan during implementation. This will be developed by the environmental safeguard specialist, contracted by the construction supervision company. An outline is in Annex 10. It will set out:

(i) How the project will identify who needs information about the project, including hospital management, affected people around the civil works sites, GRM members, local authorities.

(ii) How the project will identify people who should be consulted during implementation;

(iii) When information is to be issued, including at what stage of the project development and implementation.

(iv) How and what type of information is to be issued, including project designs, civil works schedule.

(v) Methods, timing and participants of consultation, including the information

below on implementation consultation.

2. Consultation

195. When the detailed design is being prepared, it is proposed some further limited environment-specific consultation is undertaken. In line with the limited scope of civil works, this will focus on consulting hospital staff and other affected people and relevant non-governmental organizations or civil society organization of concern. The consultation will cover potential concerns including noise, dust, waste, water and climate related hazards, during civil works and operation. Consultation during detailed design can include face to face meetings or telephone calls as appropriate to the facility. Consultation during implementation of civil works should be conducted on site with staff and include hospital users.

196. This consultation will be repeated during implementation in accordance with the EMP Monitoring Plan (see monitoring plan for details). The results of the consultation will be reported in the project quarterly reports and within the annual environmental monitoring report submitted to ADB by the executing agency.

197. **Inclusive consultation.** Consultation will ensure the inclusion and representation of stakeholders including concerned non-governmental organizations relevant to the environmental impacts of the projects and affected people of all genders, all ages, people with disabilities and vulnerable groups as appropriate to the scope of the project.

C. Information disclosure

198. As a Category B project, the draft IEE report should be available to interested stakeholders before project approval and posted on the ADB's website upon Board approval of the project, in compliance with the SPS (2009) and the Access to Information Policy (2018). The project team will also make the draft IEE report available to interested stakeholders before project approval by the Board on request. The PIU will ensure a copy of the Executive Summary of the IEE and the Environmental Management Plan's Mitigation Measures is translated into an appropriate local language to be held at the PIU office and on each hospital site/facility.

VII. GRIEVANCE REDRESS MECHANISM

199. The project will establish a grievance redress mechanism (GRM) that is available and accessible to the community, officials from the government and non-government organizations and all citizens directly or indirectly affected or influenced by the project interventions. In addition, a grievance redress mechanism is required for addressing grievances related to the environment and social issues related to the project. A well-defined and managed grievance redress process will benefit the project implementing teams as well as the communities directly and indirectly influenced or affected by the project. It will help to address minor disputes before they are elevated to formal dispute resolution methods by complainants including to the legal system, mediation bodies or members of parliament.

200. The project defines a grievance as any complaint, concern, injustice, wrongdoing, accusation or queries, suggestions and comments related to the project's design, the environment and social impacts and implementation. A complainant can be a community member, a community organization or a government or non-government organization or any other individual or body. A GRM is a set of specified processes and procedures for revealing, assessing, addressing grievances or complaints and resolving disputes and monitoring, as well as strengthening grievance redress during the implementation of the project.

201. The GRM mechanism will be in accordance with the Law of the Kyrgyz Republic "On the Procedure for Considering Citizens' Appeals" and ADB's SPS 2009. The purpose of the GRM is to promptly and fairly consider registered complaints and appeals from the population that may arise during the implementation of the project. The GRM is intended to form a procedure within the existing institutional, legal and socio-cultural framework for responding to complaints in the form of a completed procedure for preparing a response that will fully satisfy the complainant. The GRM is available to all interested parties for filing appeals and complaints, regardless of national, ethnic, religious, gender, other views and affiliations. Complaints can be filed during the entire duration of the project in the state (Kyrgyz) or official (Russian) language and can be in any format: oral, written, or electronic. The PIU will provide transcription services for illiterate people who cannot write and support those with hearing and vision problems. A sample complaint form is in Appendix 9.

202. An applicant concerned about the impacts of the project may apply to the local or central level, or to the court. The PIU is the responsible body in the functioning of the GRM during the entire duration of the project for the effective management of the entire procedure for considering received complaints or applications of a social or environmental nature. The PIU specialists will accompany the complainant at all stages of the consideration of complaints.

A. Project level GRM

203. The GRM under the project will operate at two levels (Figure 10).

204. **Level-1 (Local GRM)**. The applicant may contact the local government (*aiyl okmotu*) or health organization of the project area about their concerns about the environmental or social impacts of the project. To consider an appeal or complaint at the local level, a commission is created consisting of:

(i) Deputy head of the *aiyl okmotu* or district administration;
(ii) Director of the district health organization;
(iii) Representative of the PIU;
(iv) Representatives of local structures of sanitary and epidemiological supervision and territorial administration of the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic; the State Agency for Architecture, Construction and Housing; and Communal Services of the Cabinet of Ministers of the Kyrgyz Republic;

(v) Representatives of local communities, and local non-governmental organizations.

205. The received complaint is registered in the appeal log of the *aiyl okmotu* or health organization in accordance with the current regulations, and transferred to the office of the PIU, which also registers the complaint in its log, and creates the above commission at the local level.

206. Within 14 calendar days, the applicant must receive a final response in the language of the application. In cases where a special verification (examination) is necessary to resolve the appeal, and additional materials, the time frame for resolving the complaint may be extended as an exception, but not more than 30 calendar days. The decision on this is communicated to the applicant in written (electronic) form.

207. In preparing the response, the PIU works closely with the above commission, in fact being the secretary of this temporary body. If the answer satisfies the applicant, such procedure is considered completed. Otherwise, the complaint is referred to the central level or to the court.

208. **Level-2 (Central GRM)**. In case of failure to complete the GRM at the local level, the central level of the GRM is involved, which consists of a commission consisting of:

(i) A representative of the Ministry of Health of the Kyrgyz Republic;
(ii) A representative of the Ministry of Finance of the Kyrgyz Republic;
(iii) Director of PIU;
(iv) A representative of the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic;
(v) Representative of the State Agency for Architecture, Construction, Housing and Communal Services of the Cabinet of Ministers of the Kyrgyz Republic;
(vi) PIU consultant for construction and supervision;
(vii) PIU specialist for safeguards; and
(viii) PIU specialist for social protection and gender.

209. The procedure of the central level commission and the deadlines for completing the complaint are similar to the local level and comply with national legislation.

210. The affected persons have the right to appeal to the court of law at any time if they wish to do so.

211. The MOH/PIU will maintain the complaint register. This will include a record of all complaints about regular monitoring of grievances and results of the GRM for periodic review by the ADB.

212. GRM proceedings may need one or more meetings for each complaint and may require field investigations by specific technical or valuation experts. Grievance cases shared by more than one complainant may be held together as a single case.

213. For appeals lodged directly to the MOH, the National grievance redress committee (GRC) at PIU will review the case together with the respective Local GRC at the district level and attempt to find a resolution together with the aggrieved person. The GRC decisions will be made by a majority of members and will be publicized among the local communities and directly to the complainant(s). If the complainants are not satisfied with the National GRC decisions, they can always file their cases in court.

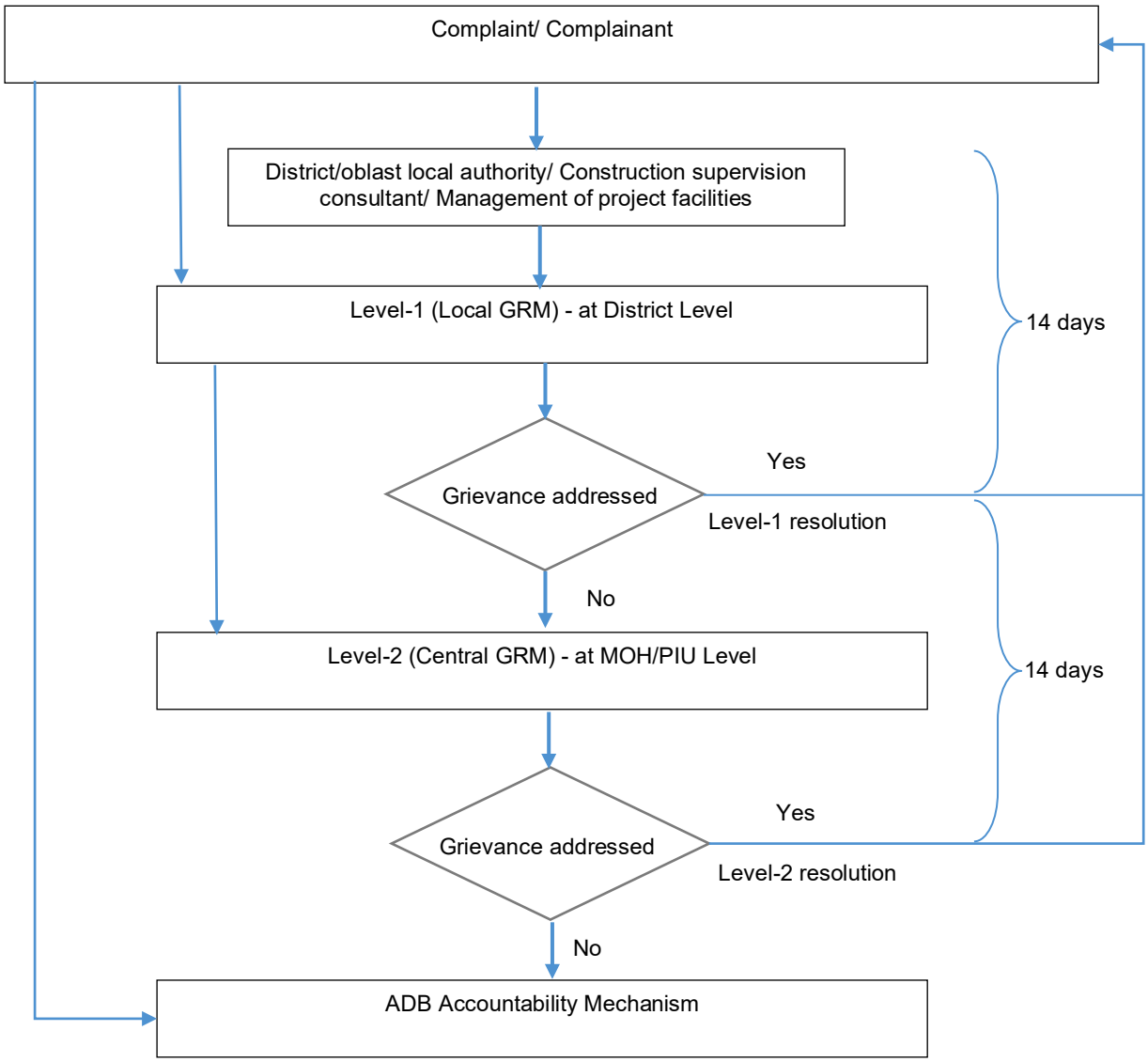
214. All grievances will be properly recorded with personal details unless otherwise requested. Details on the focal person and the process of filing complaints will be posted in strategic areas at the construction site and at the project office. Complaints filed/resolved will be included in the semi-annual environmental monitoring report submitted to ADB and will be disclosed to the ADB website as required by SPS 2009.

215. If the affected persons want to register a complaint with the ADB, the Focal Person

will provide the complainants with the following contact information:

ADB National Environmental or Social Safeguards Specialist
Resident Mission of Asian Development Bank in Kyrgyz Republic
Orion Business Center, 21 Erkindik Prospect, 6th Floor, 720040 Bishkek, Kyrgyz Republic
Tel +996 312 626611

Figure 10: Grievance Redress Mechanism



216. **ADB intervention.** If efforts to resolve disputes using the grievance procedures remain unresolved or unsatisfactory, affected people have the right to directly discuss their concern/complaint with ADB. If a resolution is not found, affected people should be encouraged to contact the ADB Kyrgyz Republic Resident Mission or the Central and West Asia Department of ADB in Manila. Finally, the accountability mechanism of the ADB can be used. The affected person should contact the Complaints Receiving Officer of the ADB via the following addresses:

Complaints Receiving Officer, Accountability Mechanism
Asian Development Bank, ADB Headquarters, 6 ADB Avenue, Mandaluyong City 1550, Metro Manila, Philippines

(+632) 632-4444 loc. 70309
(+632) 636 2086
amcro@adb.org
Instructions available here: http://www.adb.org/site/accountability-mechanism/how-file-complaint .

217. **Judicial System.** The project's GRM should not impede access to the country's jurisdiction or administrative remedies. Accessing the country's legal system and GRM can be done at the same time.

B. GRM Costs and Documentation

218. Costs. All costs involved in resolving complaints (meetings, consultations, communication and reporting/information dissemination) will be borne by the EA. In cases where affected people do not have the writing skills or are unable to express their grievances verbally, they may seek third-party assistance.

219. Documentation. The PIU Safeguard Specialist (PIU-SS) will document all GRM complaints. The information will be included in progress reports and semi-annual monitoring reports to ADB.

C. GRM Establishment

220. The PIU-SS will establish the GRM, with support from the construction supervision company specialists where required, and ensure it functions. This includes contacting GRM members, explaining the process, their role in the GRM and the purpose of the GRM. This will be conducted prior to commencing civil works.

D. GRM Dissemination

221. During the project detailed design phase the GRM may be updated to ensure it remains appropriate and will be disseminated to key stakeholders; details of the GRM system posted at the facility adjacent to the site of any civil works, and contact details of the facility and PIU will be included.

222. **Training and awareness**. GRM entry points will be given training as part of the project budget in how to manage GRM issues. The contractor will also be included as a key public facing GRM participant.

VIII. ENVIRONMENTAL MANAGEMENT PLAN

A. Environmental Management Plan (EMP) Objectives and Cost Summary

223. The EMP aims to avoid impacts where possible and mitigate those impacts which cannot be eliminated to an acceptable and minimum level. The EMP includes detailed requirements for:

(i) Mitigation and monitoring measures
(ii) Institutional arrangements and project responsibilities
(iii) EMP budget for implementation
(iv) Capacity building and training requirements.

224. The following table summarizes the costs related to environmental, health and safety management for the project. The costs are indicative and cover both Osh and Chui Oblasts because the two locations will share PIU and consulting resources. The costs may be adjusted based on findings and recommendations in the Final IEE:

Table 16: Indicative Environment Management Plan Implementation Costs

Item	Comment	Cost $ USD	Cost occurrence
PIU-SS	24 months' inputs intermittently during the 5-year project period. Budget source: PIU	$28,800	Once
CSC-ESS Fees	9 months' intermittent input during construction phase (one CSC-ESS per Oblast) Budget source CSC	$28,800	Once
Contractor EHS officer	Costs as part of contractor's bid response. Budget source: Civil works contractor		
Grievance redressal	Costs associated with the GRM such as travel, holding meetings, printing for information dissemination, raising awareness, are part of operational budget under CSC and PIU		
Environmental and EMP Monitoring	Observation monitoring including travel costs part of operational budget under CSC and PIU		
	Environmental quality analysis CSC budget	$10,000	As needed (to be determined by PIU-SS and CSC-ESS)
Environmental mitigation measures	Integral to good construction practice including obtaining necessary permits and asbestos check pre-construction Contractor budget	Part of civil works contract budget Indicative figure of up to 2% of contract value (ranges from $200,000 to $1million contract value)	During construction phase
EMP monitoring PPE	Indicative cost. Included in CSC firm Project will provide PPE for all project staff visiting civil works sites CSC budget	$2,000	During construction phase

Environmental safeguards training	Included in CSC firm budget	$8,000	As needed (to be determined by PIU-SS and CSC-ESS)
TOTAL		**$77,600** (excluding costs of civil work contractors and GRM)	

CSC = construction supervision consultant (a firm), EHS environmental safeguards health and safety, ESS= national environmental safeguard specialist, PIU = project implementation unit, PPE = personal protective equipment SS = safeguard specialist.
Source: ADB TRTA Team.

225. Operational waste management training will be integrated into the continuous quality improvement (CQI) work . This will include waste management expertise in order to support the sites with H&S and waste related training. This CQI budget is outside the IEE and therefore is not specified in this IEE.

B. Implementation arrangement and safeguard responsibilities

226. The project's implementation arrangements, as defined in the Project Administration Manual, are as summarized below.

227. The **Ministry of Health (MOH)** will be the executing agency (EA) of the proposed project. The MOH will be responsible for overall strategic planning, guidance, and management of the project, and ensuring compliance with the loan and grant covenants.

228. A **project implementation unit (PIU)** will be established within the MOH to support with planning, implementation, monitoring and supervision, and coordination of all activities under the project. The PIU will be managed by a project director who is a senior MOH official. The PIU will engage a consultant to be designated as safeguards specialist (PIU-SS) (24 months).

229. **Project steering committee**. The project steering committee (PSC) will be the MOH high-level committee, which will monitor and supervise the program. The PSC comprises the MOH official (chair), director of the SSES, director of the Department of Laboratory Services, director general of Department of Medical Services, director of the Department of Organization of Medical Care and Public Health, director of the E-Health Center (which is also involved in cross-border information sharing), representative of the Coordination Laboratory Council, and representative of the Ministry of Economy and Finance. Other officials may be invited as and when needed. The PSC will meet every 3 months.

230. The MOH will recruit a **Construction Supervision Consultant (CSC) firm**. The firm will be responsible for ensuring the quality and timely delivery of civil works for each project site. The firm will also engage a part time (9 months, intermittent) Environment Safeguard Specialist (CSC-ESS) who will support the PIU-SS in ensuring compliance with ADB SPS and national laws requirements, monitoring of contractor's implementation of SSEMP, reporting, grievance redressal, and reporting among others.

231. The overall responsibility for EMP implementation and compliance with loan assurances lies with the Executing Agency, the Ministry of Health through the PIU. A summary of the key functions for project implementation and environmental safeguards are presented in Table 17. This will be reviewed and may be revised in the Final IEE.

Table 17: Safeguard Functions and Roles Summary

Institution or Organization	Overall Function	Role in Environmental Safeguards
ADB	Review project progress,	(i) Review, clear and disclose IEE and EMP and their updates if required.

	compliance with covenants and advise on corrective actions	(ii) Check any environmental loan covenants are in place and followed during implementation. (iii) Conduct safeguard missions and advise on any corrective actions required. (iv) Reviews Semi-annual Environmental Monitoring Reports and disclosure at ADB website Reports and disclosure at ADB website on behalf of the borrower.
Ministry of Health (MOH)	Executing Agency	(i) Responsible for ensuring the implementation of the mitigation in the EMP and for ensuring compliance with loan covenants. (ii) Recruit a suitable PIU Safeguard Specialist.
Project Steering Committee – led by MOH	Oversee implementation in conformity with the Project's development objectives and scope	Ensure coordinated and efficient project implementation activities including EMP implementation.
Project Implementation Unit (PIU) / PIU Safeguard Specialist (PIU-SS)	Locally based staff for project implementation support determined by MOH	PIU-SS will conduct project safeguard activities covering environment, health and safety, esettlement and indigenous people (IP)/ethnic group safeguard requirements with the support of the CSC-ESS as required, including: (i) Responsible for compliance with ADB SPS and national laws requirements. (ii) Overall focal for safeguard matters. (iii) Act as a GRM focal point. (iv) Conduct necessary consultation with affected people and stakeholders. (v) Conduct site visits to monitor contractor performance in line with ADB SPS and national laws, and, (vi) Contribute to project monitoring and reporting including preparing semi-annual environmental monitoring report during construction, and annually thereafter until project completion. See Terms of Reference below for details.
Construction Supervision (CSC) firm – National Environmental Safeguard Specialist (CSC-ESS)	CSC-ESS will deliver the safeguards requirements during project implementation	CSC-ESS will provide technical assistance and support to the PIU in carrying out their responsibilities for EMP implementation, monitoring and reporting and safeguard documentation in terms of: (i) Establish reporting and monitoring and documentation systems for environmental safeguards. (ii) On site monitoring and reporting including checking GRM is functioning. (iii) Environmental document reviews and delivery (iv) Consultation and communication. (v) Training/capacity building/awareness raising on environmental safeguard issues and requirements. (vi) Arrange the completion of environmental monitoring as required. (vii) Health and safety monitoring and advice. See Terms of Reference below for details.
Contractors	On the ground project delivery	(i) Appoint a qualified Environment Health and Safety staff member to be responsible for EMP implementation and reporting. (ii) Submit a site specific Environmental Management Plan (SSEMP) which includes the Borrower EMP requirements, mitigation measures and Action Plans as a minimum.

		(iii) Implement mitigation and monitoring measures specified in the EMP / SSEMP (iv) Contribute to project reporting. (v) Participate in GRM as required.
TRTA team	Detailed Design	(i) The TRTA team will develop the detailed design and this will be integrated into the IEE and EMP when available. (ii) The updated IEE and EMP will be submitted to ADB for clearance.

Source: TRTA Team

1. Indicative terms of reference:

232. A National Environment Safeguard Specialist (CSC-ESS) will be engaged by the CSC to cover environmental safeguard requirements for Chui project sites. The specialist, who will be engaged for 9 months in total, will be required to travel to all sites in Chui. The CSC-ESS will provide technical assistance, capacity building and support to the PIU in carrying out their responsibilities for EMP implementation, monitoring and reporting and safeguard documentation. The role will include reviewing health and safety on site and therefore will require some experience in supervising or monitoring health and safety in a similar context. The role will include but not be limited to:

Support the PIU directly with delivery of the Project and ADB safeguard requirements including:

(i) Safeguard systems: Establish reporting and monitoring and documentation systems for environmental safeguards and share with PIU.
(ii) Safeguard documents: Ensure the IEE and EMP are kept updated during implementation with any relevant design changes or future variation orders in order to meet ADB SPS (2009) requirements.
(iii) Procurement: Ensure EMP from the Final IEE is part of bidding documents.
(iv) Document Reviews: Review and clear any contractor response to bidding document environmental requirements on behalf of the EA including site specific EMP, ensuring the contractors' response to the bidding documents is fully responsive to the project environmental safeguard requirements.
(v) Permits: Ensure the contractor and/or project owner has requisite permits and permissions are in place for all works prior to start of works.
(vi) Supervision and Monitoring: Ensure contractor's site-specific EMP (SSEMP) is reviewed, verified and cleared prior to start of works. Prepare monitoring checklists (daily, weekly, etc.) based on SSEMP. Ensure PIU-SS is provided will all necessary support to monitor construction activities and contractor is implementing all measures as presented in the cleared SSEMP. Inform PIU-SS on non-compliances and assist in preparation of corrective action plan (CAP) and in ensuring completion of actions according to the CAP. Arrange for the conduct of environmental quality monitoring (sampling) if required under the Monitoring Plan. Support PIU-SS-in addressing grievances per project GRM. Support PIU-SS in addressing environment, health and safety issues/concerns. Support PIU-SS in preparation of the semi-annual environmental monitoring reports and all others as may be required during implementation.
(vii) Health and Safety. Review community and occupational health and safety practices on site, including asbestos management and emergency procedures. Provide advice to the contractor as required and with PIU, ensure corrective actions are issued if non-compliance is found.
(viii) Consultation. Monitor impacts on the hospital patients, staff and local

community through conducting consultation with Affected People during civil works. Support PIU-SS with conducting consultations.

(ix) Communication and disclosure. Develop a communication and stakeholder engagement plan to identify who needs information about the project, including hospital management, affected people around the civil works sites, GRM members, local authorities, when information is to be issued, including at what stage of the project development and implementation. Identify how and what type of information is to be issued, including project designs, civil works schedule. Ensure the IEE executive summary and the EMP, as a minimum, are disclosed in an appropriate local language locally.

(x) Reporting: Ensure contractor submits required reports on EHS and EMP implementation to an acceptable level of quality. Contribute as needed to other environmental reports. Develop a project tracking system to record reports and disclosures and other key documents for the project.

(xi) Training: Conduct orientation training for the contractors on EMP requirements including site specific Environmental Management Plan expectations to ensure that any ADB and national environmental compliance requirements are understood. Training to be conducted within one month of contractor engagement. Conduct training and mentoring for PIU-SS on site based safeguards activities including EMP monitoring and consultation.

(xii) Grievance Redress Mechanism and disclosure: Ensure GRM is established by PIU-SS and it functions during implementation. Support PIU-SS to record all GRM complaints and resolutions. Confirm that the EMP and IEE executive summary as a minimum are translated into an appropriate local language, and disclosed locally.

2. PIU Safeguard specialist indicative terms of reference

233. The PIU will engage a consultant safeguard specialist (PIU-SS) for 24 person months who will be full time during the construction period. The Safeguard Specialist will cover environment, resettlement and indigenous people /ethnic group safeguard requirements. For environmental safeguards the national safeguard consultant will provide technical assistance and support to the PIU in carrying out their responsibilities for environmental management plan (EMP) implementation, monitoring and reporting and safeguard documentation. The PIU safeguard specialist will have:

(i) Preferred postgraduate degree in environmental science, environmental engineering, urban planning or equivalent.

(ii) Experience in preparing or monitoring the implementation of environmental safeguards of donor-funded projects.

(iii) Ability to write and read in English.

234. The role for environmental safeguards will include but not be limited to:

(i) Responsible for day-to-day project management and field-level supervision.

(ii) Act as point of contact for the construction supervision firm particularly its national environmental safeguard specialist.

(iii) Conduct early ADB Safeguards Policy Statement (2009) orientation training for MOH with CSC collaboration.

(iv) Reviews the reports submitted by project management, construction supervision consultants (CSC) with respect to detailed design, costs, safeguards, financial, economic, and social viability.

(v) Prepare, with the support of CSC-ESS, requirements related to environmental safeguards, health and safety, conditions from government clearance and permits, core labor standards and include in bidding and contract documents.

(vi) Review and clear any contractor response to bidding document environmental

requirements e.g. Construction site specific EMP if required.

(vii) Ensure request for proposals and bid evaluation reports include environmental safeguards considerations.
(viii) Ensure the contractor and/or project owner has requisite permits and permissions are in place for all works.
(ix) Prepare the Environmental Monitoring Report for submission to ADB, semi-annually during construction and annually thereafter.
(x) Disclose environmental safeguard documents in language and form understandable by local people and stakeholders. As a minimum the IEE Executive Summary and the EMP will be translated and disclosed.
(xi) Act as a Grievance Redress Mechanism (GRM) focal point and establish the GRM including dissemination of the GRM in local language(s).
(xii) Conduct necessary consultation with affected people and stakeholders.
(xiii) Conduct site visits to monitor contractor environmental performance in line with EMP and prepare follow up reports. Include site visit for post-construction audit to confirm quality of site conditions on hand over.
(xiv) Contribute to any other required project reporting as required.

3. Civil works Contractor EHS officer scope of works

235. The civil works contractor(s) will engage a full-time qualified Environment Health and Safety (EHS) officer (or equivalent) for implementation of EMP and site specific construction (SSEMP), community liaising, reporting and grievance redressal on day-to-day basis. The EHS officer should have a national or internationally recognized health and safety qualification and at least 5 years' experience of EHS management on construction sites. The contractor will ensure the role of the EHS officer will:

(i) Ensure no civil works will commence until PIU has approved the SSEMP.
(ii) Ensure a copy of the EMP/SSEMP is be kept on site all times.
(iii) Comply with contract provisions on environmental safeguards. Health and safety, core labor standards, etc.
(iv) Conduct all activities in a manner that minimizes disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment.
(v) Provide briefing to staff about the requirements of ADB SPS and applicable government regulations.
(vi) Ensure any subcontractors/suppliers, who are utilized within the context of the contract, comply with the SSEMP, ADB SPS and applicable government regulations. The contractor will be held responsible for non-compliance on their behalf.
(vii) Provide environmental, health and safety and core labor standards awareness training to staff;
(viii) Ensure that staff or engineers are informed in a timely manner of any foreseeable activities that will require input from the environment and safety officers (or equivalent).
(ix) Report to PIU any complaint/grievance received from the public and implement remedial measures in line with GRM.
(x) Complete required project reporting including recording and reporting on any accidents or incidents and regular EMP progress reports stipulated in the EMP.

4. Civil works Contractor Site-specific EMP requirements

236. The civil works contractor(s) will submit a site specific EMP (SSEMP) within 30 working days of contract signature. The CSC-ESS and PIU will approve the SSEMP before

physical civil works starts. The SSEMP will include: (i) the mitigation measures identified in this EMP, which the contractor will implement; and (ii) Action Plans where detail on the contractor's methodology is required.

237. Table 18 confirms the contractor mitigation measure requirements for the SSEMP; this can be used as a Checklist by the contractor to ensure implementation of relevant EMP requirements, and used by the CSC-ESS to confirm the SSEMP is adequate before it is approved. The Action Plans listed below must be combined with the detailed requirements of the Mitigation Plan which are set out in Table 20 (Civil works Phase Mitigation Measures). The table may be revised according to the detailed engineering l requirements of the Mitigation Plan which are set out in Table 21 (Civil works Phase Mitigation Measures). The table may be revised according to the detailed engineering design and Final IEE.

Table 18: Site-Specific Environmental Management Plan Contents Checklist for Contractor(s)

SSEMP Section		SSEMP Content	Additional Information for Contractor
A. Introduction		• Purpose of SSEMP	Introduction to company if required
B. Scope of work		• Scope of the civil works covered by this SSEMP	Include location maps of all relevant sites in the Project including: Borrow sites, camp sites, civil works sites, preparation/staging areas, civil works traffic routes.
C. Environmental roles and responsibilities		• Details of people responsible for: implementing EMP Mitigation Measures, environmental monitoring, environmental reporting	
D. Preparation Activities			
1	Asbestos survey	• Details of how the contractor will undertake the Asbestos Survey to PIU at least 2 weeks prior to any physical civil works	
E. Civil works Impacts			
1	Noise generation	• EMP Mitigation Measures	
2	Air quality	• Action Plan responding to EMP requirements	
3	Solid and liquid waste management	• EMP Mitigation Measures	
4	Environmental contamination / pollution	• EMP Mitigation Measures	
F. Health and Safety			
1	Occupational health and safety	• Action Plan responding to EMP requirements	
2	Emergency response	• Action Plan responding to EMP requirements	
3	COVID-19 prevention and response	• Action Plan responding to EMP requirements	
4	Training Plan	• Action Plan responding to EMP requirements	Covers all staff training including Health and Safety
5	Asbestos management	• Action Plan responding to EMP requirements	Asbestos survey needed before physical civil works
6	Community health and safety	• EMP Mitigation Measures	
G. Post-civil works			

1	Rehabilitation and repair	• EMP Mitigation Measures	Will follow civil works contract requirements for site commissioning / hand-over
H. Environmental Permits		• List of required licenses or environmental permits • Evidence of licenses/permits	Agreement for effluent disposal Agreement for waste management Agreement for borrow sites Any other required permit
I. Communication, monitoring and reporting		• EMP implementation monitoring /reporting • Communication with Project Team and affected people under GRM	EMP defined monitoring and reporting requirements Clarify communication approach with the Project and GRM stakeholders
J. Annex			
	As needed		Can include: Environmental Management Systems Certificates Company documentation on EHS

COVID-19 = coronavirus disease, EHS = environmental, health, and safety, EMP = environmental management plan, GRM = grievance redress mechanism, PIU = project implementation unit, SSEMP = site-specific environmental management plan.
Source: ADB TRTA Team.

5. Institutional and capacity review and training needs

238. Within the MOH, there is recent experience of managing existing ADB projects, such as emergency COVID-19 related health projects, which are also required to follow ADB's SPS (2009). The tracked record of the EA (MOH) in implementing ADB-funded projects, and demonstrated capacity in managing the renovation of 17 health facilities in the COVID-19 Pandemic Emergency Project. The civil work activities have been completed on time and below the given budget. However, in terms of regulatory enforcement of environmental or health and safety legislation, there are gaps, and also further support for MOH in terms of awareness of ADB's Environment Category B project requirements is needed.

239. Table 19 sets out a training program which addresses the safeguard reporting and implementation requirements during civil works. The training is commensurate with the environmental risks. The training budget covers a one-year civil works period within the five year implementation period. However, although the civil works are to be implemented within a 12 month period, the works on each site will be far shorter, therefore the training plan reflects this, i.e. refresher training is not required for the people based only at a particular site but is needed for the contractor.

240. Based on experience of the TRTA team, the successful contractor will also benefit from training, in terms of understanding ADB and the Project's reporting and monitoring requirements. This includes the need for a robust Site-Specific Environmental Management Plan (SSEMP) and accompanying Action Plans, as required in this IEE.

241. Training under the CQI program is costed under that programme, separate to the IEE.

Table 19: Project Delivered Training and Awareness

Training /Awareness subject area	Participants (#)	Trainer	Frequency, timing	Days per event	Cost ($) total
ADB Safeguard Requirements a. Monitoring b. Reporting c. GRM	MOH PIU-SS GRM access points (#25)	CSC-ESS	Once within 1 month of consultant engagement	1	5000

Site Specific EMP Implementation a. Roles and responsibilities b. (SS)EMP monitoring (site visits) c. Reporting d. GRM	PIU-SS/ Contractors (#6)	CSC-ESS	Once before and once 3 months after physical works starts Refresher training after 4 months	1	3000
Total					$8,000

Source: ADB TRTA Team.

C. Mitigation Measures

242. The **pre-civil works phase** mitigation measures (Table 20)

Table 20: Mitigation Measures – Pre-civil works

Environmental Aspect	Objectives	Minimum Mitigation Measures	Responsibility	
			Implement	Supervise
Pre-Civil works				
All	Implement ADB and national safeguard requirements	Recruit qualified CSC-ESS under the CSC contract	EA	-
All	Local support for EMP implementation	Engage Safeguards Specialist within PIU	EA	
All	Implement ADB and national safeguard requirements	Ensure final EMP is part of bidding documents	EA	
Occupational health and safety	Avoid occupational health and safety incidents throughout civil works	Ensure an Environment Health and Safety qualified engineer or staff member will be engaged for the contract	Contractor	EA
All	Legal environmental compliance	Obtain required permits for civil works	Contractor	PIU/CSC
All	EMP compliance	Submit Site specific EMP to EA	Contractor	EA
All	Project has a functioning GRM for affected people	Establish project level GRM before civil works	PIU	CSC
Vibration	Identify vibration sensitive equipment	Establish the location of any equipment liable to be affected by any vibrations resulting from the works. Collaborate with facility to staff to identify preventative measures including temporarily re-locating the equipment, and timing of vibrating inducing activities in relation to medical equipment use.	PIU	EA

243. The **civil works phase** mitigation measures are in Table 21. The **key actions** in this phase are implemented by the civil works contractor.

Table 21: Mitigation Measures – Civil works Phase

Environmental Aspect	Objectives	Minimum Mitigation Measures	Responsibility	
			Implement	Supervise
Civil works phase				
Noise generation	Reduce civil works noise to as low as reasonably possible	Avoidance: • Prevent equipment /machinery idling when not in use • Civil works operation times shall be limited to 07:00 to 18:00 daily, unless facility management instruct otherwise • Avoid loading/unloading/fabrication of materials in near any hospital wards with in-patients Minimization: • High standards of vehicle maintenance e.g. in line with manufacturer maintenance requirements • Using mobile noise barriers e.g. for stationary noise emitting equipment e.g. generators Communication: • Pre-warn site management on schedule for civil works noise generating activities • Train staff in requirements to prevent noise • Limit working hours to 8am-6pm or as the facility directs	Contractor	PIU/CSC
Air quality	Reduce fugitive dust and engine emissions to as low as reasonably possible	Vehicle emissions: • High standards of vehicle maintenance e.g. in line with manufacturer maintenance requirements • Prevent equipment /machinery idling when not in use Dust: • Spray water on dry sites where earth is exposed and visible dust is seen • Remove mud from roads/site/vehicles when wet • Cover loose materials e.g. with tarpaulin during transport • Re-vegetate any areas of soil after removal /damage to ground cover Work Planning: • Minimize storage of loose materials on site • Minimize exposing areas of disturbed soil	Contractor	PIU/CSC

Environmental Aspect	Objectives	Minimum Mitigation Measures	Responsibility	
			Implement	Supervise

Occupational health and safety	Avoid occupational health and safety incidents throughout civil works	The contractor's Occupational health and safety (OHS) action plan ensures the contractor will:
		• Ensure All staff carry out his/her OHS duties competently and diligently;
		• Maintain a safe working environment including by:
		  • ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
		  • ensuring workers wear required personal protective equipment;
		  • using appropriate measures relating to chemical, physical and biological substances and agents; and
		  • following applicable emergency operating procedures.
		• Provide a site accident record book which will be maintained where all major or minor accidents and incidents are recorded with actions taken.
		• Provide adequate first aid equipment provided on site.
		• Provide training on civil works hazards, documenting the training for inspection by the Project's team as required. Topics may include, manual handling, electrical safety, use of power tools, asbestos, use of machinery, personal protective equipment, using chemicals and fuels, slip/trip prevention.
			Contractor	PIU/CSC

Occupational health and safety and Environment	Appropriately respond to emergencies	The contractor's provide an Emergency response action plan. The plan will demonstrate how the contractor will: • Respond to a worker injury (major and minor). • Respond to a spillage (major and minor). • Respond to a fire (on civil works site or storage areas). • Respond appropriately to any other incidents anticipated by the contractor	Contractor	PIU/CSC

Environmental Aspect	Objectives	Minimum Mitigation Measures	Responsibility	
			Implement	Supervise
Occupational health and safety	Prevention and management of COVID-19 risk amongst workers and community	The contractor's provide COVID-19 prevention and response action plan. The plan will demonstrate how the contractor will: • Define and implement COVID-19 protection measures which transmission and prevention • Follow the outline mitigation measures shown provided in a supplementary table in the EMP in line with international best practice and following national requirements as they change	Contractor	PIU/CSC
Occupational health and safety	Reduction of risk from asbestos fibre exposure Identifying Asbestos Managing Asbestos	Identifying Asbestos and Managing asbestos: • The contractor will follow the supplementary measures provided in this EMP for ACM as a minimum (Table 22) In addition: • The contractor will conduct asbestos survey and register per site – to be submitted prior to physical works starting • The contractor will issue a report confirming removal and disposal of ACM to PIU/CSC-ESS, prior to physical civil works • No ACM will be used in the civil works • The contractor will include procedures for managing asbestos risk and a template for an asbestos survey in the Site Specific EMP	Contractor	PIU/CSC
Occupational health and safety, community health and safety and environmental protection	Provide training to staff to ensure the EMP is followed	The contractor's Civil Works Training Plan ensures the contractor will train staff on: • Occupational Health and Safety including any safe systems of work, toolbox talks or other methods • Social and health issues (if workers are international or not from the local area) including training on preventing communicable diseases such as HIV and COVID-19; • GRM for the project and management of complaints • Asbestos risks and management	Contractor	PIU/CSC

Environmental Aspect	Objectives	Minimum Mitigation Measures	Responsibility	
			Implement	Supervise
Solid and liquid waste management	Manage solid and liquid waste to prevent harm to the environment or human health	The contractor will: • Manage general solid waste from civil works in line with Government regulations. • Ensure all solid waste in kept under control and in covered containers • Reduce waste being generated at source through good civil works and materials planning • Segregate and recycle waste (e.g. inert spoil for reuse elsewhere). • Store, transport and treat or dispose of non-hazardous waste in accordance with national laws and best practice to ensure no escape of waste and will use a disposal site approved by the Regulatory Authorities • Store, transport and treat or dispose of hazardous wastes including asbestos waste in accordance with national laws and best practice to ensure no escape of waste and will use a disposal site approved by the Regulatory Authorities • Ensure no waste is burned on site • Manage contaminated and uncontaminated spoil without it negatively impacting on the environment and its disposal in approved waste disposal sites.	Contractor	PIU/CSC
Environmental contamination / pollution	Prevent soil pollution from accidental releases of contaminants	The contractor will: • Protect the environment from pollution during maintenance activities e.g. use drip trays for maintenance using machinery fluids. • Preferentially use commercial filling stations for vehicles, over storage of fuel at any civil works laydown areas. • Store any liquid chemicals or maintenance fluids in robust lidded containers with labels and on hard standing or plastic as a barrier to the environment • Include spill response in the Emergency response action plan and follow it as needed	Contractor	PIU/CSC

Environmental Aspect	Objectives	Minimum Mitigation Measures	Responsibility	
			Implement	Supervise

Community health and safety		• For all civil works areas the contractor will provide signage giving community dangers / warnings inside and outside the civil works areas
		• For all civil works areas the contractor will use barriers or tape and appropriate lighting to restrict unauthorized access by healthcare facility visitors.
		• For civil works traffic management the contractor will:
		  • Liaise with the healthcare management to ensure any emergency vehicle access is not impeded by civil works vehicles.
		  • Ensure civil works vehicles enter and leave the civil works areas to/from the main road safely.
		  • Use traffic marshals to direct manoeuvring vehicles.
		  • Ensure speed limits suitable for the size and type of contractor's vehicles is maintained by all drivers at all times.
		  • Ensure vehicle safe loading limits are followed for road safety
			Contractor	PIU/CSC

Rehabilitation and repair		• All areas affected by civil works including the hospital compounds, and any storage areas will be cleared of waste, spoil and any contaminated land e.g. oils spills, will be removed and disposed of in approved sites prior to site handover. • Accidental damage will be repaired to the quality specified in the bill of quantities/civil works contract	Contractor	EA

Table 22: Supplementary Approach to Managing ACM Risk

1) Identifying Asbestos

Conduct asbestos survey and register per site – to be submitted prior to physical works starting:

- the contractor will consult hospital management on potential asbestos-containing materials (ACM) including cement bonded roof sheets, underground/overground pipes, insulation board, tiles or other ACM in the hospital.
- the contractor will visually inspect the site for suspected asbestos, and submit an Asbestos Survey report to Project Implementation Unit (PIU) at least 2 weeks prior to any civil works on a per site basis.
- for any identified ACM the contractor will define in the Asbestos Survey how it will be safely removed and disposed using measures such wetting, double bagging and burying in landfill approved by the regulatory authorities.

If ACM is present, but can remain in place and not affected by physical works, the contractor will complete an Asbestos Register. A

sample register is in Annex 4.

2) Managing asbestos risk - unplanned ACM discovered during civil works:

(i) Alert the Construction Supervision engineer, PIU and hospital/facility when ACM is discovered.
(ii) First confirm ACM status. Send a carefully extracted and properly wrapped sample to an approved laboratory for testing. If a laboratory is not available, the assumption must be that the material is ACM.
(iii) Cordon off the area, control access, and provide clear signage of the ACM risk.
(iv) Provide all staff who will be in contact with ACM with correct PPE:
Clothing - personal protective clothing to prevent skin contact and cover hair/ long sleeve + disposable.
Respirator - min P3 respirator, or N95 Dust mask.
Goggles and gloves.
(v) Identify, mark, delineate the AC materials and equipment.
(vi) Avoid cutting or breaking ACMs if possible. If cutting is required wet the ACM surface and add duct tape and wet the material with a water spray to reduce the risk of dust generation.
(vii) Remove all fibres from the designated area and ensure the site is free of dust and debris which may contain asbestos e.g. wash with wet cloths and dispose of the cloths as ACM.
(viii) Removed asbestos must be contained, double wrapped and sealed, and placed into removal bags or bins and labelled. Use only durable container: double bag polythene, drum or bin.
(ix) Asbestos waste should not be disposed of with other wastes. If special facilities are unavailable, asbestos waste should be sealed in double lined bags and disposed of at a secured waste site and kept separate from other types of waste. The contractor will work with the local government to identify a suitable and safe site and ensure that a record is kept of the location. If Asbestos is properly contained, buried, and remains undisturbed it will remain safe and pose no further environmental or health risk.
(x) Update the Asbestos Register to show the ACM has been removed. Provide an updated copy to the facility management team.
(xi) Decontaminate equipment after use. A dedicated decontamination area is required close to the work area, separating the contaminated and clean

The contractor will also refer to ADB's Good Practice Guidance for the Management and Control of Asbestos (March 2022) available here: https://www.adb.org/publications/good-practice-management-control-asbestos

244. The **operation phase** mitigation measures are in Table 23. The **key actions** in this phase are implemented by the individual facility's management team and their staff.

Table 23: Mitigation Measures – Operation

Environmental Aspect	Objectives	Minimum mitigation measures	Responsibility	
			Implement	Supervise
Operation				
Occupational health and safety and environmental pollution	Biomedical waste management and biosafety which prevents risk to human or environmental	• National protocols and legislation for all types of waste management will be followed. This includes: - Temporary Instruction on Medical Waste Management No. 719 (2018) - Law on Production and Consumption Wastes (November 13, 2001 No. 89 (As amended) • National protocols and legislation for occupational health and safety and labour standards will be followed. This includes: - Act No. 167 of 1 August 2003 on Labour Protection (Occupational Safety and Health) (Text No. 508) (as amended) • The Operator and its staff will participate in the continuous quality improvement program to improve and maintain standards for occupational health and safety and solid and liquid waste management.	Operator	MOH
Occupational health and safety and environmental pollution	Biomedical waste management and biosafety which prevents risk to human or environmental	• A person should be appointed responsible for medical waste management at the facility. • The chemical supplier's Material Safety Data Sheets should be retained in the laboratory for all chemicals and reagants used on site and their advice on safe handling and disposal should be followed • All requirements for medical waste management as set out in National Law and the facility site policies and protocols should be followed • Develop a Medical Waste Management Plan that aligns with existing WHO Guidance on Safe Management of Wastes from Healthcare Activities with respect to: (i) waste generation, prevention, reuse, and recycling; (ii) waste segregation at the point of care, packaging, collection, storage and transport; (iii) Suitability and capacity of onsite disinfection and waste handling equipment such as autoclave. Onsite treatment facilities may include small-scale incinerator and wastewater treatment works. Their adequacy and compliance shall be	Operator	MOH

		assessed, and proper measures proposed as necessary; and (iv) suitability and capacity of off-site disposal facilities, where healthcare wastes will be transported and disposed off-site. The adequacy and compliance with transport and disposal regulations and licensing for the transport vehicles and the offsite disposal facilities shall be assessed.		

D. Monitoring Plan

245. Monitoring determines the effectiveness of the impact mitigations and documents any unexpected positive or negative environmental impacts of the project.

246. As the contractually binding document, this EMP will be the basis for the project EMP monitoring; complying with IEE and EMP requirements is part of the standard ADB loan covenants. However, the SSEMP is required to add detail to the civil works methodologies, but this EMP contains the minimum expectations that the successful bidder is contractually obliged to follow.

1. Ambient environmental quality monitoring

247. The monitoring approach for the ambient environment within and around the civil works site matches the minor works within the project scope. It is based on:

(i) physical observations on site; and
(ii) consulting sensitive receptors at the site e.g. hospital staff representing patient welfare on impacts from the project.

248. Only if there are complaints upheld by the PIU/facility management or unacceptable levels of noise or air quality pollutants will sampling for air quality and noise take place. The environmental baseline in the IEE showed that water quality will not be impacted during civil works and will not be monitored routinely.

Table 24: Ambient environment monitoring (construction phase)

Environmental Indicator	Location	Standard	Method	Frequency	Performed by:	Budget Source or Cost	Verified by:
Noise	Noise and Vibration sensitive receptor inside the hospital, and within the site grounds	MSN 2.04-03-2005 "Noise protection'' GOST 23337-78 "Methods of	Consultation with staff / residents and physical observation For complaints/ observed issues /spot check monitoring throughout construction:	Monthly consultation during active site civil works period or when a complaint Once per site	Normal conditions: CSC-ESS/PIU-SS	Included in project operational costs $10,000 (total) CSC budget for technical	EA
Ambient Air Quality	Air quality sensitive receptor inside the				If there is a complaint		EA

	hospital, and within the site grounds	noise measurement in the residential area and in residential and public buildings";	Use noise /air monitoring equipment for national technical standard	using monitoring equipment during construction or following a complaint	/observed issue, use approved contractor specialist including accredited laboratory	monitoring	

2. EMP compliance monitoring

249. For the EMP to be effective, all mitigation measures in the EMP must be monitored to ensure they are implemented.

250. The contractor will provide a monthly monitoring report focusing on Health and Safety and EMP implementation, identifying any potential issues with future EMP compliance. (Annex 9 includes a template)

251. The CSC-ESS will be the key person who will verify the contractor's report through conducting independent site visits to verify that the contractor is implementing the EMP as required, and to identify any adjustments in the EMP if unacceptable or unpredicted impacts are seen. The proposed EMP verification is based on visual inspection and site visits shown in the Table 25 below. The CSC-ESS will also conduct joint monitoring visits with the PIU-SS.

252. **Budget**. The transport budget to / from site will be part of the relevant budget e.g., PIU or CSC. A separate allowance of $2,000 under the CSC firm contract is provided to cover PPE for any project member visiting site, covering both Oblasts. This may include: hard hats, high visibility vest, site boots and ear defenders, as necessary for the site.

253. No project staff member will enter any civil works site without appropriate PPE.

Table 25: EMP Implementation Monitoring (construction phase)

No.	Environmental Aspect	Objectives for mitigation measures	Proposed monitoring
Civil Works			
1	Noise generation	Reduce civil works noise to as low as reasonably possible	Check maintenance schedule Visual inspection: • Noise barriers • No idling

2	Air quality	Reduce fugitive dust and engine emissions to as low as reasonably possible	Check maintenance schedule for vehicles Visual inspection: • Trucks and stockpiles covered • Areas of exposed ground • Visible dust
3	Solid and liquid waste management	Manage solid and liquid waste to prevent harm to the environment or human health	Visual inspection: Waste prevention and recycling • Waste under control, stored, disposed of • No burning • Contaminated spoil/wastes segregated • Disposal sites approved
4	Environmental contamination / pollution	Prevent soil pollution from accidental releases of contaminants	Check spill response in emergency response plan Ask workers on awareness Check for pollution evidence on site Identify how environment is protected during maintenance
5	Rehabilitation and repair	Site left is in the same or better condition	Visual Inspection: • Site condition • No waste, spoil • No contamination visible • Accidental damage repaired
Health and Safety			
6	Community health and safety	Avoid community health and safety accidents	Visual Inspection: • Mud on roads • Warning signs • Use of barriers/lights • Accessibility for hospital vehicles • Traffic marshals • Speed limits
7	Occupational health and safety	Avoid occupational health and safety incidents throughout civil works	Check OHS Plan Visual inspection: • H&S engineer on site • Safety measures • PPE quality and use • Accident book • Water and sanitation and first aid
8	Occupational health and safety	Appropriately respond to emergencies	Check emergency response plan Ask workers on awareness

9	Occupational health and safety	Prevention and management of COVID-19 risk amongst workers and community	Check COVID-19 plan Measures for prevention Measures for managing cases
10	Occupational health and safety	Reduction of risk from asbestos fibre exposure	Check asbestos report Check procedures for managing risks
Training			
11	Occupational health and safety, community health and safety and environmental protection	Provide training to staff to ensure the EMP is followed	Check training plan Ask workers on awareness Evidence of training provision (e.g. photo

3. Affected People monitoring (consultation)

254. The CSC-ESS and PIU-SS will verify the EMP is performing the function of impact mitigation by consulting affected people to check on the actual impacts on people of the project and identify any adjustments in the EMP required. This is particularly important in a healthcare environment when patients may be adversely affected by noise, vibration or dust.

Table 26: EMP compliance affected people monitoring- civil works phase

Subject for discussion	Location	Method & Frequency	Performed by:	Verified by:	Budget Source or Cost
Community and Social Issues Environmental impacts of civil works (e.g., solid & liquid waste, erosion, local flooding, pollution). Any unforeseen impacts caused by accidentally e.g. through spillages Civil nuisance (e.g., noise, disrupted business & farming activity, social issues, community health and safety). Impaired use of access roads (e.g. traffic issues and access). GRM and its procedures & key contacts	Within health care facility Around civil works site(s)	Consultation interview with Affected People Using the form in Annex 7 and site observations. Include healthcare facility management, residents, business owners and other affected groups. 4 weeks after civil works starts Every 4 to 8 weeks until end of civil works	CSC-ESS with PIU-SS	EA	PIU/CSC budget

4. Reporting

255. Table 27 gives reporting requirements. The report content will reflect the monitoring requirements set out in this EMP. Examples of the monitoring reports below are provided in Annex 11 which gives indicative reporting content.

Table 27 Environmental reporting requirements

No.	Report	Frequency	Purpose	From	To
1	Contractors' Environment Health and Safety and EMP Progress Report	Monthly	EHS and EMP Progress	Contractor	CSC-ESS / EA
2	Site Visit Report on EMP Implementation and Consultation	Quarterly	Verify EMP implementation Confirm EMP and GRM are working (consultation and observation)	CSC-ESS	EA/PIU-SS/Hospital management
3	Ambient Environmental Monitoring Report	Variable - as per monitoring table in EMP	Relevant environmental parameters	CSC-ESS / Authorized specialist	EA/PIU-SS/Hospital management
4	Environmental Safeguards Monitoring Report	Semi-Annual Environmental Monitoring Report during construction, annual thereafter Submission to ADB 31st July and 31st January	Full EMP Implementation and Adherence to Environmental Covenants/Conditions Include details of EMP implementation, staffing, GRM, disclosure, consultation and corrective actions and all other information in the example report template Annex 11	EA/PMU	ADB

5. Key Performance Indicators

256. Key performance indicators designed to check the environmental safeguards performance of the project are set out in Table 28. The indicators are primarily for the civil works phase. They are not onerous and are commensurate with the environmental and social risks of the project. The results of the indicators will be integrated into the project reporting e.g. semi-annual environmental monitoring reporting by PIU, and are not stand alone requirements.

Table 28: Environmental key performance indicators

Area	Indicator	Monitoring/Reporting Frequency
Pre-Civil works		

SSEMP	1. SSEMP approved prior to any civil works starting	Once before civil works starts
Contractor permits	2. Contractor obtained and maintains all necessary permits, licenses, certificates.	Once before civil works starts
Civil works		
Environmental Performance	3. Number of EMP breaches identified during monitoring	Semi-Annual
Contractor Performance	4. Number of environmental and Health and Safety incidents or accidents reported by contractor	Semi-Annual
Training	5. Training and capacity building plan is followed	Semi-Annual
GRM	6. GRM is established and functioning	Semi-Annual
Environmental and social impact	7. Number of issues raised through GRM	Semi-Annual

E. Mechanisms for Feedback and Adjustment

257. Based on environmental monitoring and reporting systems in place, the CSC-ESS/PIU-SS shall assess whether further mitigation measures are required as corrective action, or improvement in environmental management practices are required. The effectiveness of mitigation measures and monitoring plans will be evaluated by a feedback reporting system. The CSC-ESS/PIU-SS will play a critical role in the feedback and adjustment mechanism. If the CSC-ESS/PIU-SS identifies a substantial deviation from the EMP, or if any changes are made to the project scope that may cause significant adverse environmental impacts or increase the number of affected people, then the PIU shall immediately consult the Executing Agency and ADB to get approval and identify EMP adjustment requirements or update the IEE.

IX. CONCLUSION AND RECOMMENDATIONS

A. Project risk

258. The risks to the environment are considered to be minor for the project. Overall, the project impacts during civil works are anticipated to be short term, and can be adequately managed by good construction practice which will include clear and regular communication with the hospital management relating to any disturbance of patients, staff or visitors resulting from noise, vibration or dust.

259. The operational impacts will be those regularly experienced by a functioning hospital laboratory including generation of medical waste, chemical and biological waste and wastewater which may pose environmental and occupational safety and health (OHS) risks. These can be managed by improving existing OHS and waste management practices at the facility, through support by the project with a continuous quality improvement program.

B. Mitigation measures

260. The Environmental Management Plan (EMP), if implemented as directed, will mitigate impacts on the natural environment and affected people to an acceptable level. The EMP includes measures to minimize any potential impacts due to the proposed civil works activities. The implementation of mitigation measures during civil works will be the responsibility of the Contractor. Therefore, the required environmental mitigation measures will have to be clearly defined in the bidding and contract documents, and appropriately qualified environmental staff retained by the contractor to supervise the implementation process.

261. The operator will be responsible for mitigation measures to be taken during operation. This includes ensuring all waste generation at the facility is managed to reduce risk to the environment and human health, and to ensure practices within the facility follow sound OHS practices, commensurate with the risks presented.

C. Recommendations

262. Table 29 outlines the key actions required for environmental safeguard compliance. For more detail, the implementation arrangements and safeguard responsibilities section of the EMP should be consulted. This table will be revised further in the Final Initial Environmental Examination (IEE).

Table 29: Recommendation Action Plan

Project Phase	Responsible Entity	Environmental safeguards activities	Output
Detailed design/ pre-construction	MOH	Establish PIU	PIU functioning
		Recruit qualified consultant as Safeguard Specialist	Staffing / resourcing complete
		Engage qualified construction supervision consultant 2 environmental safeguard specialists (one in each of the two regions)	
		Establish Grievance Redressal Mechanism and ensure the Grievance Redressal Committee members are equipped with knowledge to address project-related grievances	GRM
	TRTA firm	Complete detailed design	Final detailed design

		Conduct further consultation	Consultation completed up to detailed design
		Update draft IEE and EMP with detailed design for ADB clearance of a final IEE and EMP	Final IEE cleared and disclosed by ADB
Construction/project implementation	CSC	Establish reporting and monitoring and documentation systems for environmental safeguardsy, health and safety (EHS).	Project systems for environmental safeguards monitoring, reporting and recording (including health and safety)
		Develop a communication and stakeholder engagement plan	Communication and stakeholder engagement plan
		Undertake site visits for monitoring, consultation, and reporting and provide EHS advice	Project in compliance with EMP including health and safety
		Update IEE and EMP should project change or corrective actions needed	Up to date IEE and EMP
		Review and approve contractor site specific EMP	Approved site specific EMP
	PIU	Establish GRM and disseminate	A functioning GRM
		Facilitate translation and dissemination of local language IEE executive summary and EMP	Local language safeguards documents held in each site and disseminated
		Safeguard Policy Statement (2009) orientation training for MOH	MOH deeper understanding on ADB's Safeguard Policy Statement requirements
		Include EMP in bidding documents	Bidding documents issued with EMP
		Undertake site visits for monitoring, consultation, and reporting	Project in compliancee with EMP
		Conduct semi-annual environmental monitoring reports until Project Completion Report is issued	ADB cleared Semi-annual environmental monitoring report
		Post-construction audit for site conditions	Sites in acceptable environmental condition for hand-over
	Contractor	Permits and other requirements obtained prior to start of works	Project contractor is in legal compliance
		Develop site specific EMP (SSEMP) in response to EMP requirements prior to start of works	Site specific EMP is approved
		Undertake asbestos survey prior to finalization of SSEMP	Asbestos survey and register for each site
		Implement SSEMP requirements	Site is in compliance with project environment health and safety requirements
		Implement corrective actions for non-compliances	Corrective Action Plan

263. In addition to the measures in the EMP, the following recommendations are made to reduce the risk of negative environmental impact from the project:

(i) Engage the people to fulfill the environmental safeguards functions early in the project to ensure that all pre-civil works measures are implemented; and
(ii) Ensure clear and frequent communication is maintained between the Project teams involved in implementation and the laboratory or hospital management team to

ensure that all concerns about patient welfare are addressed.

Annex 1 Rapid Environmental Assessment

Screening Questions	Yes	No	Remarks
A Project Siting ▪ Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site		X	Not applicable. The project sites are not located in environmentally sensitive areas. Civil works will be in based within existing hospital/laboratory sites and works will be within the site compounds/boundaries.
▪ Legally protected Area (core zone or buffer zone)		X	
▪ Wetland		X	
▪ Mangrove		X	
▪ Estuarine		X	
▪ Special area for protecting biodiversity		X	
▪ Potential Environmental Impacts ▪ Will the Project cause…			
▪ impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to physical cultural resources?		x	Not applicable. The project sites are neither within nor adjacent to physical cultural resources. Civil works will be on or adjacent to existing buildings. Minor excavation e.g. for a water supply pipe may be required thus the EMP will include measures for chance finds, although this is unlikely given the site location i.e. within an existing hospital compound.
▪ disturbance to precious ecology (e.g. sensitive or protected areas)?		x	Not applicable. The project sites are not within nor adjacent to sensitive or protected areas
▪ alteration of surface water hydrology of waterways resulting in increased sediment in streams affected by increased soil erosion at construction site?		x	Not applicable. Based on preliminary information of the sites, there are no waterways/surface waterbodies adjacent to the sites. Civil works will be in or adjacent to existing buildings and expected to be small-scale and short-term.
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		x	Not applicable. Worker camp will not be required during construction period. Civil works are small-scale and confined in existing buildings. Generation of silt run-off is not expected and no surface water bodies are in the project site.
▪ increased air pollution due to project construction and operation?	x		Anticipated during construction phase. Renovation and upgrade work will cause temporary and site specific air emissions from fugitive dust and construction vehicles. Mitigation measures (e.g. use of dust masks, covering stockpiles, vehicle maintenance) will be identified to minimize the adversity of this impact. Operational air pollution is not anticipated.
▪ noise and vibration due to project construction or operation?	x		Anticipated during construction phase. Renovation and upgrade work will cause temporary and site specific noise from construction machinery and vehicles. Mitigation measures (e.g. mobile noise barriers) will be identified to minimize the adversity of this impact. Good communications will be required with the hospital management to identify noise sensitive receptors at the hospital e.g. post-operative wards. Operational noise is not anticipated.

Screening Questions	Yes	No	Remarks
▪ involuntary resettlement of people? (physical displacement and/or economic displacement)		x	Not anticipated. Any resettlement impacts will be re-confirmed prior to construction in alignment with the final detailed design.
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		x	Not anticipated. All people are anticipated to benefit from the improved public health service delivery.
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?	x		Construction waste will generated in small quantities at the work site. This will be managed through the EMP which will apply the waste hierarchy to construction related waste and will ensure worker sanitation requirements are adequately met. Communicable diseases such as HIV are not anticipated as local workers will preferentially be hired, but COVID-19 remains a risk and prevention measures will be included in the EMP.
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?		x	Not anticipated.
▪ social conflicts if workers from other regions or countries are hired?		x	Not anticipated. The works are small scale and engagement of significant numbers of workers from outside the locality is not anticipated.
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		x	Not anticipated. The works are small scale and engagement of significant numbers of workers burdening the social infrastructure is not anticipated. Similarly during operation, the project will not cause an influx of staff.
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	x		During construction, workers will be exposed to risks from regular construction activities such as using heavy machinery, manual handling, dust/noise exposure. The EMP will ensure a qualified EHS staff member is engaged for the construction sites and appropriate occupational health and safety measures such as use of Personal Protective Equipment are put in place. During operation, the facilities are anticipated to handle materials of a biological and infectious nature, as well as a range of chemicals/reagents used for analysis. The project will support a continuous quality improvement (CQI) program that covers enhancing the facility workers' capacity in terms of occupational health and safety protocols and risk management. The Project will define the scope of the CQI program commensurate with the operational risks identified in the EMP.

Screening Questions	Yes	No	Remarks
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?		x	Not anticipated. Explosives will not be used during construction and operation. Fuels for vehicles and other chemicals (for paint works) during construction will be minimal and will be managed following good construction practices. During operation very small quantities of chemicals will need to be transported to the site. Protocols for managing these risks will be included in quality improvement program as these issues are linked to Occupational Health and Safety as well.
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	x		During construction there will be minor risks of any construction works and construction vehicle movements taking place in sites to which the public e.g. hospital visitors have access. The EMP will identify good construction practices to protect the public from risk of construction sites and construction traffic.
▪ generation of solid waste and/or hazardous waste?	x		Hazardous and non-hazardous waste will be generated in small quantities at the work site. This will be managed through the EMP which will apply the waste hierarchy to construction related waste and will ensure worker sanitation requirements are adequately met. During operation, the facilities will generate biomedical and chemical waste. The capacity for implementation of relevant laws and regulations for proper waste disposal and management will be assessed. Where appropriate measures will be identified and included in the environmental management plan and integrated into the CQI program as required.
▪ use of chemicals?	x		During construction, contractor may use small quantities of paints and thinners as part of the works. Risks will be mitigated in the EMP through identifying good construction practices around storage, use of Personal Protective Equipment and waste disposal, During operation, the facilities will use a range of chemicals as part of their analyses. These will be managed by good Occupational Health and Safety practices and integrated into the CQI program as required.

Screening Questions	Yes	No	Remarks
▪ generation of wastewater during construction or operation?	x		During construction, contractor may generate small quantities wastewater from washing of equipment, handwashing of workers and cleaning/sanitizing work areas. The EMP will identify measures to ensure wastewater does not cause harm to the environment or human health. During operation, the facilities will generate wastewater from laboratory cleaning. Wash water management capabilities of the facility will be identified and the impacts managed by implementation of relevant laws and regulations for proper wastewater disposal in the EMP.

Annex 2 Preliminary Climate Risk Screening Checklist

Country/Project Title: Kyrgyz Republic/Strengthening Regional Health Security Project

Sector : Health

Subsector: Health

Division/Department: CWSS

Screening Questions		Score	Remarks
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	Project civil works are limited to minor renovations and upgrades on existing laboratory and hospital facilities in urban areas and are not considered at particular risk from current or future climatic conditions.
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?	0	
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High):____LOW_____

Other Comments: The final project design will include climate change adaptation or climate change mitigation measures where applicable.

Annex 3 Site Visit Notes

Introduction

As part of the project, field trips were organized for the Environmental Baseline and Impact Assessment to the following medical institutions:

List of sites in Chu oblast and Bishkek city:

Unique code HO	*Full name*	*Standardized name*
PHL-01	Diagnostic reference laboratory (AMR) of the national level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES), Bishkek	Bacteriology SSES lab, Bishkek (AMR testing) – national reference lab
PHL-03	Laboratory bacteriological researches of the Tokmak Center of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES)	Bacteriology SSES lab (AMR testing) Tokmok
H-01-(CDL-03)	City Clinical Hospital No. 1, Bishkek	City Clinical Hospital #1
H-02-(CDL-06)	GMPC in Tokmok, Chui region	Hospital Tokmok
H-03-(CDL-10)	GMPC Issyk-Ata district, Chui region	Hospital Issyk-Ata
H-06-(CDL-01)	National Hospital at the MoH	National Hospital
CDL-01	CDL of the National Hospital (reference lab, national level)	CDL/National Hospital – national reference lab
CDL-03	CDL of City Clinical Hospital # 1	CDL/City Clinical Hospital #1
CDL-04	CDL of Republican Infection Diseases Hospital	CDL/RIDH
CDL-05	CDL of Center of general medical practice of Jail District	CDL/GMPC Jail
CDL-06	CDL of Center of general medical practice Tokmok City	CDL/GMPC Tokmok
CDL-09	CDL of Center of general medical practice Panfilov district, Chui oblast	CDL/GMPC Panfilov
CDL-010	Center of general medical practice Issyk-Ata district, Chui oblast	CDL/GMPC Issyk-Ata
CDL-011	National Center for Mather and Child Welfare (child diagnosing)	CDL/NCMCH

Facility Name	PHL-01 Diagnostic reference laboratory (AMR) of the national level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES), Bishkek
Location / GPS	N 42°52'54.88" / E 74°35'26.83" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	The site is located on the territory of Bishkek
Water Resources	The water supply system of the territory of Bishkek is used
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	the territory adjacent to the site is landscaped with large-sized trees (elm (*Ulmus parvifolia*), ash (*Fraxinus*), oak (*Quercus robur*)), there are bush plantings. Irrigation is carried out with tap water, partly with irrigation ditches. The laboratory is located within the boundaries of the city, does not border on the territory of any protected areas, does not affect the habitats of valuable species, protected (endangered) species of animals, plants, or fungi. The soils are represented by gray soils (northern, dark) in some areas - closer to the northern macroslope of the Kyrgyz Range - light chestnut.
Cultural resources – Mosque, archaeology, church	These types of sites are not observed in the immediate vicinity at a distance of about 600 m. in the northeast direction there is a church.
Businesses/Livelihoods - Roadside vendors, businesses requiring access	Street trading is practically non-existent. The nearest shops and cafes are located along the highway within 8 - 140 meters. Opposite the site across the road there are car washes.
Educational - Schools nearby	Within 30 meters to the east and 130 meters to the west are research and educational institutions.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	There is no separate wastewater management system. The facility has a centralized sewerage system. Laboratory wastewater is discharged together with domestic wastewater.
Services Power source, fibre cables etc	Energy supply is centralized.
Water supply	centralized water supply
Drainage- for rainwater on site	The roofs are equipped with a rainwater collection system and drains. In the future, rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation.
Waste Management containers, storage, transport, disposal options	*Household waste management: (category A)* On the territory (at a distance from the laboratory at a distance of 150 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation. *Medical waste management: (category B_2, and B_3)* At all levels of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. For medical waste, there is a special container for collection (metal enameled buckets (for B_3) with markings and plastic containers (for B_2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and decontamination (by autoclaving). Further, category B_3 waste is disposed of as household waste (in containers with lids), category B_2 waste (stabbing and cutting waste) is collected separately, cemented and disposed of. *Mercury containing materials, equipment, lamps.*

	This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal. *Electronic trash. Equipment and other decommissioned equipment.* Waste of this type (decommissioned equipment) is stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste. The total amount of waste produced by the laboratory: MSW - 15-20 kg per day. Medical waste - 3-6 kg. The territory adjacent to the laboratory is equipped with litter bins.
Asbestos containing materials on site (roof sheets, board etc)	There are buildings whose roofs are covered with asbestos slate. There is no information about the presence and/or use of asbestos inside the building.

Facility Name	H-01-(CDL-03) City Clinical Hospital No. 1, Bishkek (CDL)
Location / GPS	N 42°52'33.87" / E 74°33'41.69" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	The site is located in the territory of Bishkek
Water Resources	Centralized water supply system
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	Landscaping is represented by large-sized trees, small-leaved elm (*Ulmus parvifolia*), and spruce. There is landscaping with shrubs. To the west of the building there is a park area. There are no sites of significant ecological value on the territory. Flora and fauna are represented by typically ruderal and synanthropic species.
Cultural resources	There are no sites of cultural and historical value.
Businesses/Livelihoods	There is no street trading in the immediate vicinity. There are pharmacy kiosks, and street trading at a distance of 150-200 meters.
Educational - Schools nearby	At a distance of 160 meters to the northwest there is an evening shift secondary school No. 10, at a distance of 190 meters to the southwest there is a building of a preschool educational institution.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	The runoff, collection and treatment of wastewater generated on the territory of the hospital is carried out centrally by the citywide sewer system. There is no separate dedicated wastewater management system for the hospital.
Services	Power supply is centralized.
Water supply	Water supply is centralized. Partially worn in some areas.
Drainage- for rainwater on site	Rainwater is discharged to adjacent green areas. There is no system for storing, treating and reusing rainwater.
Waste Management containers, storage, transport, disposal options	The system of collection, temporary storage and disposal of solid waste is integrated into the overall waste management system of the city. The collection is carried out in containers and exported centrally. Collection, storage and disposal of medical waste is carried out in accordance with the relevant regulations for all medical facilities presented in the given territory. Medical waste is collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as MSW (for waste category B3) or disposed of in a special way (for waste category B2) as stabbing and cutting waste. Containers for the collection and temporary storage of medical waste and their labeling should be partially updated. The production of medical waste by a medical institution per day is about 7-10 kg.

	Mercury-containing waste is collected and stored separately in a special room. If necessary, a specialized company carries out their export. Electronic waste is either disposed of as MSW or stored for some time as elements for component recycling.
Asbestos containing materials on site (roof sheets, board etc)	The roof of the building is covered with asbestos-containing slate. Determining the use of asbestos inside a building is not possible.

Facility Name	SDL-011 National Center for Mather and Child Welfare (child diagnosing)
Location / GPS	N 42°52'6.75" / E 74°35'42.13" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use – around the site e.g. Residential, business, Amenity	Bishkek city territory
Water Resources - Groundwater, springs, boreholes, surface water rivers/streams	central water supply
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	On one side of the building adjoins a park with poplars, elms, ash and other trees. There are shrubs. The fauna is represented by synanthropic species.
Cultural resources – Mosque, archaeology, church	There are monuments in the park.
Businesses/Livelihoods - Roadside vendors, businesses requiring access	In the immediate distance from the building (300 - 500 m) there are shops, cafes, pharmacies.
Educational - Schools nearby	Not in close proximity.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	Liquid waste is discharged into the central sewer.
Services Power source, fibre cables etc	Electricity supply is centralized.
Water supply	Centralized water supply
Drainage- for rainwater on site	Rainwater is not collected, but discharged directly onto green areas adjacent to buildings or into a system of ditches.
Waste Management containers, storage, transport, disposal options	Household waste is taken out centrally. Collected in containers. Medical waste is collected in separate containers, then poured into buckets designed for this purpose and transferred to the disinfection station. Vacutainers with blood residues are collected in a bucket and transferred to the decontamination station. Urine is disinfected, drained into the sewer into the central sewer. Unused equipment is stored. Not utilizing.
Asbestos containing materials on site (roof sheets, board etc.)	The roof is covered with an asbestos coating. There is no information on the use of asbestos-containing materials in the building.

Facility Name	PHL-03 Laboratory bacteriological researches of the Tokmak Center of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES)
Location / GPS	N42°50'36.69" / E75°18'36.39" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use –	Lands of the city of Tokmok. The laboratory is located on the

around the site e.g. Residential, business, Amenity	territory of the hospital campus.
Water Resources - Groundwater, springs, boreholes, surface water rivers/streams	Centralized water supply and sanitation is used. The system is worn out. All laboratories have centralized water supply.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The adjacent territory of the laboratory is landscaped, there is a park area, flora and fauna is represented by a variety of typical synanthropic species (including ruderal ones). Dominants of woody vegetation (*Ulmus parvifolia, Betula pendula*, coniferous vegetation (pines and spruces)). The laboratory is located within the boundaries of the city, does not border on the territory of any protected areas, does not affect the meta-habitats of especially valuable, protected species of animals, plants or fungi. Soils typical for the lower part of the plateau and the lower part of the foothill plume of the northern macroslope of the Kyrgyz Range. Irrigation is provided by tap water. The ditches system is practically destroyed and most often performs the function of storm water drainage. Irrigation is carried out with tap water and, partially, through a ditch system.
Cultural resources – Mosque, archaeology, church	There are no socio-cultural facilities in the immediate vicinity.
Businesses/Livelihoods - Roadside vendors, businesses requiring access	There is no street trading on the territory of the medical campus. There are kiosks outside the hospital.
Educational - Schools nearby	Tokmok Medical College is located about 400 m to the east. There are no other sites of socio-cultural educational type.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	There is no dedicated wastewater management system. Storm water is directly discharged into the landscaped adjacent territory. Wastewater is discharged to the municipal wastewater treatment plant in Tokmok.
Services Power source, fibre cables etc	There is an organized electricity supply connected to the city's power grids. There is no backup power supply system. Heating is centralized.
Water supply	Water supply is centralized. The system is in a deplorable state and needs major repairs. According to an expert assessment (Vashneva N.S. DPZiGSES MOH KR, 2011) there is a high level of bacterial contamination of tap water[31]
Drainage- for rainwater on site	The roofs are equipped with a rainwater collection system and drains. In the future, rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation.
Waste Management containers, storage, transport, disposal options	*Household waste management: (category A)* On the territory of the hospital (at a distance of 50 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation and human access. Perhaps there is a problem of access to the garbage of dogs and other pets. Laboratory have no his own waste containers. *Medical waste management: (category B_2, and B_3)* At all points of collection, storage and disposal of this type of waste, there are information plates describing which type of

[31] The highest level of bacterial contamination of tap water was noted in the settlements of Alamudun (33%), Keminsky (20.2%) districts and the city of Tokmok (13.2%), with an average for the republic of 9.9% (Vashneva N.S. Preliminary Analysis of the Problems of the Chu River Basin that are Subject to the Protocol on Water and Health November 2011 (https://unece.org/fileadmin/DAM/env/water/meetings/NPD_meetings/KG_SC_2011-11-28_Vashneva_presentation.pdf))

	substances belongs to this type of waste. For medical waste, there are special containers for collection (not always properly marked metal enameled buckets (for B3) with markings and plastic containers (for B2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and disfigured. Further, category B3 waste is disposed of as household waste (in containers with lids), category B2 waste (stabbing and cutting waste) is collected separately, stored on the territory of the hospital and removed when accumulated by a household waste disposal company. The territory for the storage and disposal of medical waste is fenced and marked with information signs. In this area there are biothermal Beccari pits. *Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies export these substances for further specialized disposal. The total volume of waste produced by all laboratory: MSW - 1-5 kg per day. Medical waste – 0,5-1 kg.
Asbestos containing materials on site (roof sheets, board etc)	The roofs building covered with asbestos. Asbestos-containing elements are not used inside the building.

Facility Name	CDL-01 CDL of the National Hospital
Location / GPS	N42°52'0.70" / E74°35'42.98" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use – around the site e.g. Residential, business, Amenity	Lands of the Bishkek city. The laboratory is located on the territory of the hospital campus, surrounded by administrative, medical and other buildings, there is a landscaped park area.
Water Resources - Groundwater, springs, boreholes, surface water rivers/streams	Centralized water supply and sanitation is used. The system is worn out, the risk of accidents increases.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The territory adjacent to the laboratory is landscaped, there is an adjacent park area, flora and fauna are represented by a variety of typical synanthropic species (including ruderal ones). Dominants of woody vegetation (*Ulmus parvifolia, Populus alba*). The laboratory is located within the boundaries of the city, does not border on the territory of any protected areas, does not affect the habitats of valuable species, protected (endangered) species of animals, plants, or fungi. The soils are represented by gray soils (northern, dark) in some areas - closer to the northern macroslope of the Kyrgyz Range - light chestnut. Greening is carried out by laboratory workers. According to the interviewee, during the irrigation period, the water supply with irrigation water is at the proper level. Irrigation is carried out according to the ditch system (aryk). The ditch system at the time of the visit was not in proper condition, missing in some places, it needs to be cleaned or repaired.
Cultural resources – Mosque, archaeology, church	No sites, socio-cultural type. The laboratory is located on the territory of the medical campus.
Businesses/Livelihoods - Roadside vendors, businesses requiring access	Street trading is carried out on the territory of the hospital campus. There are no retail outlets in close proximity to the laboratory. At a distance of 15-20 m there is a pharmacy kiosk.
Educational - Schools nearby	No sites, socio-cultural educational type.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.

Services Power source, fibre cables etc	There is an organized electricity supply connected to the city's power grids. There is no backup power supply system. Currently, work is underway to connect the hospital buildings to backup power generators, in the future it is planned to connect laboratories to backup power supply. Heating is centralized, connected to the city power supply.
Water supply	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs.
Drainage- for rainwater on site	The roofs are equipped with a rainwater collection system and drains. In the future, rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation.
Waste Management containers, storage, transport, disposal options	*Household waste management: (category A)* On the territory (at a distance from the laboratory at a distance of 150 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation. *Medical waste management: (category B_2, and B_3)* At all levels of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. For medical waste, there is a special container for collection (metal enameled buckets (for B_3) with markings and plastic containers (for B_2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and decontamination (by autoclaving). Further, category B_3 waste is disposed of as household waste (in containers with lids), category B_2 waste (stabbing and cutting waste) is collected separately, cemented and disposed of. *Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal. *Electronic trash. Equipment and other decommissioned equipment.* Waste of this type (decommissioned equipment) is stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste. The total amount of waste produced by the laboratory: MSW - 15-20 kg per day. Medical waste - 3-6 kg. The territory adjacent to the laboratory is equipped with litter bins.
Asbestos containing materials on site (roof sheets, board etc.)	The building was built in 69. The roof is covered with asbestos. A visual inspection of the condition of the asbestos roof covering for its destruction, breakage, and deformation allows us to assess its condition as satisfactory. Asbestos-containing elements are not used inside the building (according to the interviewee).

Facility Name	H-02-(CDL-06) GMPC in Tokmok, Chui region
Location / GPS	N42°50'36.07" / E75°18'40.41" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use –	Lands of the city of Tokmok. The laboratories are located on the territory of the hospital campus.

Water Resources -	Centralized water supply and sanitation is used.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The territory of the laboratory is landscaped. The flora and fauna is represented by a variety of typical synanthropic species (including ruderal ones). Dominants of woody vegetation (*Ulmus parvifolia, Betula pendula*, coniferous vegetation (pines and spruces)). The laboratory is located within the boundaries of the city, does not border on the territory of any protected areas, does not affect the meta-habitats of especially valuable, protected species of animals, plants or fungi. Soils typical for the lower part of the plateau and the lower part of the foothill plume of the northern macroslope of the Kyrgyz Range. Irrigation is provided by tap water. The ditches system is practically destroyed and most often performs the function of storm water drainage. Irrigation is carried out with tap water and, partially, through a ditch system.
Cultural resources –	There are no socio-cultural facilities in the immediate vicinity.
Businesses/Livelihoods - Roadside vendors, businesses requiring access	There is no street trading on the territory of the medical campus. There are kiosks outside the hospital. the private sector is localized around hospital territory private sector.
Educational - Schools nearby	Tokmok Medical College is located about 100 m to the east. There are no other sites of socio-cultural educational type.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	There is no dedicated wastewater management system. Storm water is directly discharged into the landscaped adjacent territory. Wastewater is discharged to the municipal wastewater treatment plant in Tokmok city.
Services Power source, fibre cables etc	There is an organized electricity supply connected to the city's power grids. There is no backup power supply system. Heating is centralized.
Water supply	Water supply is centralized. The system is in a deplorable state and needs major repairs.
Drainage- for rainwater on site	The roofs are equipped with a rainwater collection system and drains. In the future, rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation.
Waste Management containers, storage, transport, disposal options	*Household waste management: (category A)* On the territory of the hospital (at a distance from the laboratory - 50 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation and human access. Perhaps there is a problem of access to the garbage of dogs and other pets. *Medical waste management: (category B_2, and B_3)* At all points of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. For medical waste, there are special containers for collection (not always properly marked metal enameled buckets (for B3) with markings and plastic containers (for B2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and disfigured. Further, category B3 waste is disposed of as household waste (in containers with lids), category B2 waste (stabbing and cutting waste) is collected separately, stored on the territory of the hospital and removed when accumulated by a household waste disposal company. The territory for the storage and disposal of medical waste is fenced and marked with information signs. In this area there are biothermal Beccari pits. *Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized

	warehouse. When filled to a certain level, specialized companies export these substances for further specialized disposal. The total volume of waste produced by all laboratories: MSW - 2-6 kg per day. Medical waste - 1-2 kg.
Asbestos containing materials on site (roof sheets, board etc)	Visual inspection of the roof revealed no coverage. Asbestos-containing elements are not used inside the building.

Facility Name	H-03-(CDL-010) GMPC Issyk-Ata district, Chui region
Location / GPS	N42°54'9.80" / E74°50'50.42" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	The hospital is located on the territory of Kant
Water Resources	Centralized water supply.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	Landscaping of the territory is represented by coniferous plant species and deciduous trees (poplar, elm, etc.). The area is planted with bushes. The fauna is represented by synanthropic species.
Cultural resources	There are no cultural sites in the immediate vicinity.
Businesses/Livelihoods -	There is no street trading close to the hospital.
Educational	To the east at a distance of 120 m. is the Asian Medical University.
Facility Infrastructure:	
Wastewater Management	Water from autoclaves is drained to the street, water from sewerage is drained into a common network (septic tank). Liquid lab waste inactivation is needed. Collected in a septic tank, taken out by cars.
Services	Centralized power supply system.
Water supply	From the centralized water supply. Has its own well, artesian for irrigation of the site, and as a backup source of water.
Drainage	There is no rainwater system. Ditch network, for outflow, water collection is not carried out.
Waste Management containers, storage, transport, disposal options	Municipal waste management is provided at the level of the city municipality. Medical waste is collected and disinfected according to the procedures, after disinfection it is disposed of as household waste. lab equipment: Written off, after the write-off is in the warehouse. Disposal is hindered by regulations
Asbestos containing materials on site (roof sheets, board etc.)	The roofs of the building are covered with asbestos-containing materials. The presence of asbestos-containing materials in the building is not observed.

Facility Name	CLD-010 Center of general medical practice Issyk-Ata district, Chui oblast
Location / GPS	N42°54'9.80" / E74°50'50.42" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	The hospital is located on the territory of Kant
Water Resources	Centralized water supply.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	Landscaping of the territory is represented by coniferous plant species and deciduous trees (poplar, elm, etc.). The area is planted with bushes. The fauna is represented by synanthropic species.
Cultural resources	There are no cultural sites in the immediate vicinity.
Businesses/Livelihoods	There is no street trading close to the hospital.
Educational	To the east at a distance of 120 m. is the Asian Medical University.

Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	Water from autoclaves is drained to the street, water from sewerage is drained into a common network (septic tank). Liquid lab waste inactivation is needed. Collected in a septic tank, taken out by cars.
Services	Centralized power supply system.
Water supply	From the centralized water supply. Has its own well, artesian for irrigation of the site, and as a backup source of water.
Drainage- for rainwater on site	There is no rainwater system. Ditch network, for outflow, water collection is not carried out.
Waste Management containers, storage, transport, disposal options	Municipal waste management is provided at the level of the city municipality. lab equipment: Written off, after the write-off is in the warehouse. Disposal is hindered by regulations Lab Waste is not registered. There are no sharp sites and biomaterials are not taken. The medical waste after collecting pass decontamination procedure in an autoclave, pressed and thrown into household waste.
Asbestos containing materials on site (roof sheets, board etc)	The roofs of the building are covered with asbestos-containing materials. The presence of asbestos-containing materials in the building is not observed.

Facility Name	H-06-(CDL-01) National Hospital at the MoH
Location / GPS	N42°52'14.77"/ E74°35'49.46" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use – around the site e.g. Residential, business, Amenity	Lands of the Bishkek city. The laboratory is located on the territory of the hospital campus, surrounded by administrative, medical and other buildings, there is a landscaped park area.
Water Resources	Centralized water supply and sanitation is used. The system is worn out, the risk of accidents increases.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The territory adjacent to the laboratory is landscaped, there is an adjacent park area, flora and fauna are represented by a variety of typical synanthropic species (including ruderal ones). Dominants of woody vegetation (*Ulmus parvifolia, Populus alba*). The laboratory is located within the boundaries of the city, does not border on the territory of any protected areas, does not affect the habitats of valuable species, protected (endangered) species of animals, plants, or fungi. The soils are represented by gray soils (northern, dark) in some areas - closer to the northern macroslope of the Kyrgyz Range - light chestnut. Greening is carried out by laboratory workers. According to the interviewee, during the irrigation period, the water supply with irrigation water is at the proper level. Irrigation is carried out according to the ditch system (aryk). The ditch system at the time of the visit was not in proper condition, missing in some places, it needs to be cleaned or repaired.
Cultural resources – Mosque, archaeology, church	No sites, socio-cultural type. The laboratory is located on the territory of the medical campus.
Businesses/Livelihoods - Roadside vendors, businesses requiring access	Street trading is carried out on the territory of the hospital campus. There are no retail outlets in close proximity to the laboratory. At a distance of 15-20 m there is a pharmacy kiosk.
Educational	No sites, socio-cultural educational type.
Facility Infrastructure:	
Wastewater Management	There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.
Services	There is an organized electricity supply connected to the city's

Power source, fibre cables etc	power grids. There is no backup power supply system. Currently, work is underway to connect the hospital buildings to backup power generators, in the future it is planned to connect laboratories to backup power supply. Heating is centralized, connected to the city power supply.
Water supply	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs.
Drainage- for rainwater on site	The roofs are equipped with a rainwater collection system and drains. In the future, rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation.
Waste Management containers, storage, transport, disposal options	*Household waste management: (category A)* On the territory (at a distance from the laboratory at a distance of 150 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation. *Medical waste management: (category B_2, and B_3)* At all levels of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. For medical waste, there is a special container for collection (metal enameled buckets (for B_3) with markings and plastic containers (for B_2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and decontamination (by autoclaving). Further, category B_3 waste is disposed of as household waste (in containers with lids), category B_2 waste (stabbing and cutting waste) is collected separately, cemented and disposed of. *Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal. *Electronic trash. Equipment and other decommissioned equipment.* Waste of this type (decommissioned equipment) is stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste. The total amount of waste produced by the laboratory: MSW - 15-20 kg per day. Medical waste - 3-6 kg. The territory adjacent to the laboratory is equipped with litter bins.
Asbestos containing materials on site (roof sheets, board etc)	The building was built in 69. The roof is covered with asbestos. A visual inspection of the condition of the asbestos roof covering for its destruction, breakage, and deformation allows us to assess its condition as satisfactory. Asbestos-containing elements are not used inside the building (according to the interviewee).

Facility Name	CDL-03 CDL of City Clinical Hospital # 1
Location / GPS	N 42°52'33.87" / E 74°33'41.69" (wgs84)
Environmental Receptor	Description and Photo
Neighbourhood/ Land use	The site is located in the territory of Bishkek
Water Resources	Centralized water supply system

Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	Landscaping is represented by large-sized trees, small-leaved elm (*Ulmus parvifolia*), spruce. There is landscaping with shrubs. To the west of the building there is a park area. There are no sites of significant ecological value on the territory. Flora and fauna are represented by typically ruderal and synanthropic species.
Cultural resources	There are no sites of cultural and historical value.
Businesses/Livelihoods -	There is no street trading in the immediate vicinity. There are pharmacy kiosks, and street trading at a distance of 150-200 meters.
Educational - Schools nearby	At a distance of 160 meters to the northwest there is an evening shift secondary school No. 10, at a distance of 190 meters to the southwest there is a building of a preschool educational institution.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	The runoff, collection and treatment of wastewater generated on the territory of the hospital is carried out centrally by the citywide sewer system. There is no separate dedicated wastewater management system for the hospital.
Services	Power supply is centralized.
Water supply	Water supply is centralized. Partially worn in some areas.
Drainage	Rainwater is discharged to adjacent green areas. There is no system for storing, treating and reusing rainwater.
Waste Management containers, storage, transport, disposal options	The system of collection, temporary storage and disposal of solid waste is integrated into the overall waste management system of the city. The collection is carried out in containers and exported centrally. Collection, storage and disposal of medical waste is carried out in accordance with the relevant regulations for all medical facilities presented in the given territory. Medical waste is collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as MSW (for waste category B3) or disposed of in a special way (for waste category B2) as stabbing and cutting waste. Containers for the collection and temporary storage of medical waste and their labeling should be partially updated. The production of medical waste by a medical institution per day is about 2-4 kg. Mercury-containing waste is collected and stored separately in a special room. If necessary, a specialized company carries out their export. Electronic waste is either disposed of as MSW or stored for some time as elements for component recycling.
Asbestos containing materials on site (roof sheets, board etc)	The roof of the building is covered with asbestos-containing slate. Determining the use of asbestos inside a building is not possible.

Facility Name	CDL-04 CDL of Republican Infection Diseases Hospital
Location / GPS	N42°51'42.68" / E 74°35'41.49" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use –	The laboratory is located on the territory of Bishkek
Water Resources	Water supply is central. There is no system for collecting, storing and reusing rainwater.
Ecological Resources	The territory is landscaped. The landscaping area is about 40%. Elm (*Ulmus parvifolia*), silver poplar (*Populus alba*), English oak (*Quercus robur*), etc. grow on the adjacent territory. Shrubs grow on the territory. Fauna species represented by synanthropic species typical of the northern Tien Shan, including invasive species (*Acridotheres tristis*).
Cultural resources	There are no sites in the immediate vicinity of these sites.
Businesses/Livelihoods - Roadside vendors, businesses	There is no street trading on the territory of the hospital campus. To the northwest, at the entrance to the territory there are several

requiring access	grocery stores and a pharmacy.
Educational	There are no educational institutions in the immediate vicinity. In the direction to the north-west, about 170-200 meters, there is the Morphological building of the International School of Medicine of the International University of Kyrgyzstan.
Facility Infrastructure:	
Wastewater Management	Sewerage is central. Requires a major overhaul. There is no specific system for the management of laboratory liquid waste.
Services Power source, fibre cables etc	Power supply is central. There is backup power from the generator. Heating is central, water. There is no alternative system for providing the laboratory with hot water or energy. The air conditioning system is only partly present in some rooms. There is no centralized air ventilation system.
Water supply	Cold and hot water supply is central. Requires a major overhaul.
Drainage	There is no rainwater collection system. The roofs are not equipped with a drain, which in winter can be dangerous for visitors. Rainwater is discharged directly into the adjacent landscaped area.
Waste Management containers, storage, transport, disposal options	The waste collection process is organized at the level of the entire hospital. Household waste is disposed of and removed by the Tazalyk organization in accordance with the existing agreement. In the laboratory, about 2-4 kg is formed. household waste per day. Medical waste is collected separately. All materials, including medical waste, are disposed of in accordance with national regulations. Storage collection system. Registration and disposal of medical waste needs improvement.
Asbestos containing materials on site (roof sheets, board etc)	Type of roofing - asbestos-cement sheets. It was not possible to establish the presence of asbestos-containing materials in the premises.

Facility Name	CDL-05 CDL of Center of general medical practice of Jail District
Location / GPS	N42°47'53.36" / E73°51'23.37" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	The laboratory is located on the territory of Kara-Balta city
Water Resources	Water supply is centralized.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The area of adjacent landscaping is about 40%. Landscaping is represented by such species as Elm (*Ulmus parvifolia*), *Robinia pseudoacacia*, etc. Fauna species represented by synanthropic species typical of the northern Tien Shan.
Cultural resources	there are no sites of cultural and historical value on the territory adjacent to the laboratory
Businesses/Livelihoods	At a distance of 50 m. to the northeast there is a grocery store.
Educational Schools nearby	There are no schools or other educational institutions in the immediate vicinity of the property. The laboratory building is located in close proximity to the sports football club (stadium and sports ground).
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	The lab has a central water supply for drinking and cleaning and sanitation. The lab uses the shared sinks. Central sewerage, without additional cleaning/disinfection
Services Power source, fibre cables etc	Centralized power supply. It is in a deplorable state and needs major repairs. Have no backup power supply from the generator. The heating is centralized and needs a general overhaul.
Water supply	Water supply is centralized. Requires a general overhaul.
Drainage- for rainwater on site	In the territory of the ditch network, for outflow present. Rainwater collection is not carried out.

Waste Management containers, storage, transport, disposal options	What happens to lab health care waste (tissue waste) inactivated in an autoclave. Solid waste is disposed of as general waste, liquid waste is discharged into the sewer. Sharp sites are not used. Waste in bags is taken out manually by laboratory staff. The lab equipment during disposing of transported by the organization (on hand or in a car, depending on the size). lab equipment with no longer used is in the warehouse of the organization, waiting for write-off. The laboratory does not have its own warehouse. Lab waste generation Is not recorded.
Asbestos containing materials on site (roof sheets, board etc)	The roof is covered with asbestos-containing material.

Facility Name	CDL-06 CDL of Center of general medical practice Tokmok City
Location / GPS	N42°50'36.07" / E75°18'40.41" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	Lands of the city of Tokmok. The laboratories are located on the territory of the hospital campus.
Water Resources	Centralized water supply and sanitation is used.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The territory of the laboratory is landscaped. The flora and fauna is represented by a variety of typical synanthropic species (including ruderal ones). Dominants of woody vegetation (*Ulmus parvifolia, Betula pendula*, coniferous vegetation (pines and spruces)).
Cultural resources	There are no socio-cultural facilities near site.
Businesses/Livelihoods	There is no street trading on the territory of the medical campus. There are kiosks outside the hospital. the private sector is localized around hospital territory private sector.
Educational	Tokmok Medical College is located about 100 m to the east. There are no other sites of socio-cultural educational type.
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	There is no dedicated wastewater management system. Storm water is directly discharged into the landscaped adjacent territory. Wastewater is discharged to the municipal wastewater treatment plant in Tokmok city.
Services Power source, fibre cables etc	There is an organized electricity supply connected to the city's power grids. Heating is centralized.
Water supply	Water supply is centralized. The system is in a deplorable state and needs major repairs.
Drainage- for rainwater on site	Rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation. Also irrigation is provided by tap water. The ditches system is practically destroyed and most often performs the function of storm water drainage. Irrigation is carried out with tap water and, partially, through a ditch system.
Waste Management containers, storage, transport, disposal options	*Household waste management: (category A)* On the territory of the hospital (at a distance from the laboratory - 50 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation and human access. Perhaps there is a problem of access to the garbage of dogs and other pets. *Medical waste management: (category B_2, and B_3)* At all points of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. For medical waste, there are special containers for collection (not always properly marked metal enameled buckets (for B3) with markings and

	plastic containers (for B2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and disfigured. Further, category B3 waste is disposed of as household waste (in containers with lids), category B2 waste (stabbing and cutting waste) is collected separately, stored on the territory of the hospital and removed when accumulated by a household waste disposal company. The territory for the storage and disposal of medical waste is fenced and marked with information signs. In the hospital area there are biothermal Beccari pits. *Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies export these substances for further specialized disposal. The total volume of waste produced by all laboratories: MSW - 1-6 kg per day. Medical waste – 0,5-1kg.
Asbestos containing materials on site (roof sheets, board etc)	Visual inspection of the roof revealed no coverage. Asbestos-containing elements are not used inside the building.

Facility Name	CDL-09 CDL of Center of general medical practice Panfilov district, Chui oblast
Location / GPS	N42°47'35.02"/ E73°40'43.53" (wgs84)
Environmental Receptor on / near site	Description and Photo
Neighbourhood/ Land use	the laboratory is located in the village of Panfilovka
Water Resources	Centralized water supply.
Ecological Resources - Trees, Vegetation, habitats, protected areas, fauna, soil	The territory is landscaped with coniferous (pine, etc.) and deciduous trees (elm, ash, etc.) trees. Landscaping is about 70%. To the east of the laboratory building there is a park area (2.6 - 3 ha). The faunistic composition is represented by typical synanthropic species. The territory of the laboratory does not border on any specially protected natural areas.
Cultural resources	No
Businesses/Livelihoods	Street trading is practically non-existent. In the direction of 100 m. To the south there is a grocery store.
Educational	No
Facility Infrastructure:	
Wastewater Management -sewage treatment/ lab wastewater treatment	Household water, including water formed in the laboratory, is discharged into the local sewer system (septic tank). No pre-treatment of laboratory wastewater.
Services	Power supply is centralized. Heating is local.
Water supply	Water supply is centralized
Drainage- for rainwater on site	There is no rainwater collection. There is no drainage system. Rainwater is discharged directly to the adjacent green areas.
Waste Management containers, storage, transport, disposal options	Household waste is collected and systematically removed by the relevant specialized organization from the village of Panfilovka. Medical waste is collected in containers, poured from the containers into buckets and transferred to the medical waste management with subsequent registration and disinfection. Vacutainers are sent to the medical waste management along with the contents, the rest of the biomaterials are filled with disinfectants, then drained into the sewer (septic tank). The system of collection and storage of household and medical waste needs to be improved.
Asbestos containing materials on site (roof sheets, board etc)	The roof is covered with asbestos-containing materials. The presence of asbestos-containing materials in the building during a visual inspection could not be detected.

Annex 4 Example Asbestos Register

The following information is recommended for an asbestos register:

Asbestos Register for:	**[Facility/site name]**				
Date asbestos was identified	**Specific location**	**Detailed description of material** (including surface treatment, colour, purpose, size)	**Bonded or Unbonded**	**Condition of material** (friable, good condition, loose pieces)	**Likelihood of disturbing the material?** (during maintenance or site use)
21-June-22	Building X Roof	Corrugated roof sheets, unpainted	Bonded	Poor condition, crumbling in places	Low during WTP maintenance and site use
21-June-22	Insulation board behind main generator on wall	Insulation board, $2m^3$ sheet	Unbonded	Good condition	High likelihood of damage during generator repair
21-June-22	Water pipe leading to X	Pipe estimated 300m long, 80mm diameter	Bonded	Mostly good, some deterioration in places	High during network maintenance

Annex 5 Medical Waste Management Plan Suggested Outline

1. Introduction

- Describe the healthcare facility/vaccination point(s);
- Describe functions and requirement for the level infection control, e.g. biosafety levels;
- Provide information on location and associated facilities, including access, water supply, power supply;
- Provide information on availability and description of on-site medical waste management facilities e.g. autoclave. Include photographs.

2. Medical Waste Arisings, Flows and Management

Waste arisings:

- Type, source, estimated volume, and classification of medical waste to be generated including solid, liquid and air emissions (if significant). Special attention shall be given to the identification, classification, and quantification of solid and liquid medical wastes
- Provide a flow chart of waste streams

Describe in detail the medical waste management measures:

- Waste segregation, packaging, color coding and labeling – The facility shall strictly conduct waste segregation at the point of generation. Internationally adopted method for packaging, color coding and labeling the wastes shall be followed.
- Waste minimization, reuse, and recycling – The facility shall consider practices and procedures to minimize waste generation, without sacrificing hygiene and safety considerations.
- Delivery and storage of specimen, samples, reagents, pharmaceuticals, and medical supplies – The facility shall adopt practice and procedures to minimize risks associated with delivering, receiving and storage of hazardous medical goods.
- Onsite collection and transport – The facility shall implement practices and procedures to timely remove properly packaged and labeled wastes using designated trolleys/carts and routes. Disinfection of pertaining tools and spaces shall be routinely conducted. Hygiene and safety of involved supporting medical workers such as cleaners shall be ensured.
- Waste storage – The facility shall have multiple waste storage areas designed for different types of wastes. Their functions and sizes are determined at design stage. Proper maintenance and disinfection of the storage areas shall be carried out. Infectious wastes shall be removed from facility's storage area for disposal within 24 hours.
- Onsite waste treatment and disposal (e.g. an incinerator) – The medical facilities may have their own on-site waste incineration facilities. Due diligence of an existing incinerator shall be conducted to examine its technical adequacy, process capacity, performance record, and operator's capacity. In case any gaps are discovered, corrective measures shall be recommended. Any incinerator used by the facility should be compliant with good international practice standards.
- Transportation and disposal at offsite waste management facilities – Not all medical facilities have adequate or well-performing incinerator onsite. Not all medical waste

are suitable for incineration. An onsite incinerator produces residuals after incineration. Hence offsite waste disposal facilities provided by local government, or the private sector are probably needed. Due diligence of such external waste management facilities shall be conducted to examine its technical adequacy, process capacity, performance record, and operator's capacity. In case any gaps are discovered, corrective measures shall be recommended and agreed with the government or the private sector operators.

3. Emergency Preparedness and Response

- Prepare procedures for potential emergency incidents that may occur in the facility such as but not limited to spillage, breakage, failure of on-site solid waste treatment facilities, and fire.

4. Implementation Arrangement, Roles and Responsibilities

Roles and responsibilities:

- Describe institutional arrangement, roles, and responsibilities in the facility for infection control and waste management. Ensure adequate and qualified staff are in place, including those in charge of biosafety and medical waste management
- Describe applicable performance levels and/or standards
- Provide contact details of third-party medical waste management service providers, if any.

5. Monitoring and Reporting

- Information management system to track and record the waste streams from the point of generation, segregation, packaging, temporary storage, transport carts/vehicles, to treatment facilities.
- Internal reporting and filing system.
- External monitoring and reporting.

Annex 6 Consultation Notes Taken During IEE Preparation

PHL-01 Diagnostic reference laboratory (AMR) of the national level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES), Bishkek

Name/Location of Health Facility/Lab	Diagnostic reference laboratory (AMR) of the national level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES), Bishkek. N 42°52'54.88" / E 74°35'26.83" (wgs84)
Person/People Interviewed (Name/Role)	Abdykadyrov Sultan Abdyldaevich (director), Raisa Tolobekova (head of laboratory)
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	*Household waste management: (category A)* On the territory (at a distance from the laboratory at a distance of 150 meters) there is a place for collecting household waste. The territory is fenced, there is access to special vehicles for the removal of household waste. The site is not protected by precipitation. *Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal. *Electronic trash. Equipment and other decommissioned equipment.* Waste of this type (decommissioned equipment) is stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste. The total amount of waste produced by the laboratory: MSW - 15-20 kg per day. Medical waste - 3-6 kg. The territory adjacent to the laboratory is equipped with litter bins
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	*Medical waste management: (category B_2, and B_3)* At all levels of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. For medical waste, there is a special container for collection (metal enameled buckets (for B_3) with markings and plastic containers (for B_2). After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and decontamination (by autoclaving). Further, category B_3 waste is disposed of as household waste (in containers with lids), category B_2 waste (stabbing and cutting waste) is collected separately, cemented and disposed of.
What happens to lab **health care waste** (**tissue waste**)	Medical waste of category B_2 (tissue waste) not collected.
What happens to **lab wastewater?**	Water from autoclaves and laboratories is drained directly into the sewer system. Biofluids and potentially contaminated fluids are pre-autoclaved and then drained into the sewer system.
What happens to **lab equipment** no longer used?	Decommissioned equipment is collected in a special warehouse, used as spare parts and disposed of in accordance with the existing regulatory documentation governing this type

	of activity.
What **improvements**	It is necessary to expand the laboratory, install the ventilation system and carry out other work on creating favorable working conditions for laboratory specialists.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	centralized water supply,
4. Site Drainage and Sewage	
On site drainage: storm water	The roofs are equipped with a rainwater collection system and drains. In the future, rainwater is not collected in a special way, but is discharged into the adjacent park area as an additional source of irrigation.
Sewage (toilets):	Waste water enters the central sewer system
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	no
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	There are buildings whose roofs are covered with asbestos slate. There is no information about the presence and/or use of asbestos inside the building.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	No
Mitigation measures:	No
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	Both at the level of the Ministry of Health and at the level of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES) there is a system for collecting complaints and suggestions. These suggestions and complaints are collected in a specialized box and are further reviewed weekly at meetings with senior management of the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance.

PHL-03 Laboratory bacteriological researches of the Tokmok Center of Disease Prevention and State Sanitary and Epidemiological Surveillance (SSES)

Name/Location of Health Facility/Lab	Infectious Diseases Hospital lab (lab IDH) N42°50'47.60" / E75°18'40.39"
Person/People Interviewed (Name/Role)	Dyikanaliev Ulan Kubanychbekov (director) Sydykbekova Mira Zarylbekovna Head of TB laboratory Kaliyeva Bubuaisha Zhusupovna - head of the tuberculosis laboratory
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation Is waste volume/kg recorded by type? If yes, any data available?	The total amount of waste produced by the laboratory: MSW - 5-7 kg per day. Medical waste - 1-2kg. Waste categories: A, B_2, and B_3 The territory adjacent to the laboratory is equipped with litter bins.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	In some places (medical waste decontamination station) there are information boards describing which type of substance

How is it managed? Where is it disposed? How is it transported?	belongs to this type of waste. There is a special container for medical waste: plastic containers (for B_2) with markings, enameled buckets. Labeling of containers for waste collection is not always recognizable and needs to be updated.
What happens to lab **health care waste** (**tissue waste**)	There is no waste of this type (waste category B_1).
What happens to **lab wastewater?** How is it treated? Where is it disposed?	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs. There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.
What happens to **lab equipment** no longer used? How is it managed? Where is it disposed? How is it transported?	*Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal.
What **improvements** to laboratory waste management are needed?	Organization of a place for storage of household waste Implementation of a system of collapsible waste collection and recycling (if there is a recycling system in Tokmok) Development of a policy and system for the disposal of e-waste.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Centralized water supply. The water supply system needs repair. It is possible to supply water that does not meet the necessary requirements.
4. Site Drainage and Sewage	
On site drainage: storm water How is it collected? How is it treated? Where does it go?	The roofs of the building are equipped with drainage and storm drain systems. There is no stormwater collection system, from treatment and storage for later reuse. Rainwater is discharged directly into the park area for irrigation.
Sewage (toilets): How is it collected? How is it treated? Where does it go?	For the TBC laboratory are located in the yard and do not have access to the city sewer. Toilets of other laboratories are located directly in the buildings. The system requires evaluation and repair.
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service? E.g. Flooding, Snow, landslide, earthquake. When/ how severe?	There is no specialized policy, program to respond to climate hazards. There are general safety protocols for emergencies (e.g. fire, earthquake, etc.)
6. Asbestos	
Is **Asbestos** used in the construction of the buildings? If yes, where? E.g. Asbestos cement roof sheets	The roofs of some laboratory buildings (TTN, TBC) are covered with asbestos. It was not possible to conduct a visual inspection of the condition of the asbestos roof covering. Asbestos-containing elements are not used inside the building.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Operational management: Yes Major overhaul: No
8. Project impacts	
Impacts (people/ patients/ staff/ community):	some influence of noise during repair work is possible
Impacts (environment):	No
Mitigation measures:	Reduction of dust and noise levels during repair work
Other **issues/concerns**	The quality of management, emergency response in the work of laboratories and hospitals will increase.
9. Grievance Redress	
How are complaints by people or staff	There is an organized system for collecting complaints and

currently managed at the site? Management/Committee/Complaints box etc?	suggestions. At the level of laboratory and hospital: there are special boxes for anonymous collection of complaints and suggestions. Consideration of complaints takes place at the medical council. In addition, meetings are held with the head doctor, at which some complaints and suggestions are also discussed.

H-01-(CDL-03) City Clinical Hospital No. 1, Bishkek

Name/Location of Health Facility/Lab	City Clinical Hospital No. 1, Bishkek, N 42°52'33.87" / E 74°33'41.69" (wgs84)
Person/People Interviewed (Name/Role)	Musaev Akylbek Inoyatovich (Director), Shygaeva Kunduz Temirbekovna (Laboratory Head)
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	The system of collection, temporary storage and disposal of solid waste is integrated into the overall waste management system of the city. The collection is carried out in containers and exported centrally. Collection, storage and disposal of medical waste is carried out in accordance with the relevant regulations for all medical facilities presented in the given territory. Medical waste is collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as MSW (for waste category B_3) or disposed of in a special way (for waste category B_2) as stabbing and cutting waste. The production of medical waste by a medical institution per day is about 7-10 kg. Mercury-containing waste is collected and stored separately in a special room. If necessary, a specialized company carries out their export.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	Medical waste is collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as MSW (for waste category B_3) or disposed of in a special way (for waste category B_2) as stabbing and cutting waste.
What happens to lab **health care waste** (**tissue waste**)	Before removing, as household waste is autoclave.
What happens to **lab wastewater?**	The runoff, collection and treatment of wastewater generated on the territory of the hospital is carried out centrally by the citywide sewer system. There is no separate dedicated wastewater management system for the hospital.
What happens to **lab equipment** no longer used?	Electronic waste is either disposed of as MSW or stored for some time as elements for component recycling.
What **improvements**	Increasing conditions for the labor of hospital specialists. Containers for the collection and temporary storage of medical waste and their labeling should be partially updated.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Water supply is centralized. Partially worn in some areas.
4. Site Drainage and Sewage	
On site drainage: storm water	Rainwater is discharged to adjacent green areas. There is no system for storing, treating and reusing rainwater.
Sewage (toilets):	Utilizing by central citywide sewer system
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	no
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	The roof of the building is covered with asbestos-containing slate. Determining the use of asbestos inside a building is not

	possible.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	No
Mitigation measures:	No
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	In the level of hospital exist the system of a system for recording complaints and suggestions. All complaints and proposals are collected in special marked boxes and are considered in accordance with internal procedures for considering complaints and proposals.

H-02-(CDL-06) GMPC in Tokmok, Chui region

Name/Location of Health Facility/Lab	Hospital lab in Tokmok (lab TTH) N42°50'36.69" / E75°18'36.39" (wgs84)
Person/People Interviewed (Name/Role)	Dyikanaliev Ulan Kubanychbekov (director) Kadyrkulova Tursun Checheevna Head of the laboratory of the CSM
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation Is waste volume/kg recorded by type? If yes, any data available?	The total amount of waste produced by the laboratory: MSW - 5-10 kg per day. Medical waste - 2-3 kg. Waste categories: A, B_2, and B_3 The territory adjacent to the laboratory is equipped with litter bins.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**) How is it managed? Where is it disposed? How is it transported?	In some places (medical waste decontamination station) there are information boards describing which type of substance belongs to this type of waste. There is a special container for medical waste: plastic containers (for B2) with markings, enameled buckets. Labeling of containers for waste collection is not always recognizable and needs to be updated.
What happens to lab **health care waste** (**tissue waste**)	on the territory of the hospital there is a fenced Beccari pit where category B_1 waste is thrown after preliminary disinfection. transportation of this type of medical waste is not provided.
What happens to **lab wastewater?** How is it treated? Where is it disposed?	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs. There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.
What happens to **lab equipment** no longer used? How is it managed? Where is it disposed? How is it transported?	*Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal.
What **improvements** to laboratory waste management are needed?	Organization of a place for storage of household waste Implementation of a system of collapsible waste collection and recycling (if there is a recycling system in Tokmok) Development of a policy and system for the disposal of e-waste.

3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Centralized water supply. The water supply system needs repair. It is possible to supply water that does not meet the necessary requirements.
4. Site Drainage and Sewage	
On site drainage: storm water How is it collected? How is it treated? Where does it go?	The roofs of the building are equipped with drainage and storm drain systems. There is no stormwater collection system, from treatment and storage for later reuse. Rainwater is discharged directly into the park area for irrigation.
Sewage (toilets): How is it collected? How is it treated? Where does it go?	For the TBC laboratory are located in the yard and do not have access to the city sewer. Toilets of other laboratories are located directly in the buildings. The system requires evaluation and repair.
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service? E.g. Flooding, Snow, landslide, earthquake. When/ how severe?	There is no specialized policy, program to respond to climate hazards. There are general safety protocols for emergencies (e.g. fire, earthquake, etc.)
6. Asbestos	
Is **Asbestos** used in the construction of the buildings? If yes, where? E.g. Asbestos cement roof sheets	The roofs of some laboratory buildings (TTN, TBC) are covered with asbestos. It was not possible to conduct a visual inspection of the condition of the asbestos roof covering. Asbestos-containing elements are not used inside the building.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Operational management: Yes Major overhaul: No
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	if it is planned to build a new building on the territory of the hospital, then there are fears that part of the landscaping (for example, coniferous plants) will suffer.
Mitigation measures:	Reduction of dust and noise levels during repair work
Other **issues/concerns**	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site? Management/Committee/Complaints box etc?	There is an organized system for collecting complaints and suggestions. At the level of laboratory and hospital: there are special boxes for anonymous collection of complaints and suggestions. Consideration of complaints takes place at the medical council. In addition, meetings are held with the head doctor, at which some complaints and suggestions are also discussed.

H-03-(CDL-010) GMPC Issyk-Ata district, Chui region

Name/Location of Health Facility/Lab	GMPC Issyk-Ata district, Chui region. N42°54'9.80" / E74°50'50.42" (wgs84)
Person/People Interviewed (Name/Role)	Head Bacteriological laboratory, Senior laboratory assistant
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	Is not registered
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	There are no sharp objects, biomaterials are not taken
What happens to lab **health care waste** (**tissue waste**)	Inactivated in an autoclave, pressed and thrown into household waste
What happens to **lab wastewater?**	Water from autoclaves is drained to the street, water from sewerage is drained into a common network (septic tank)
What happens to **lab equipment** no	Written off, after the write-off is in the warehouse. Disposal is

longer used?	hindered by regulations
What **improvements**	Liquid waste inactivation is needed
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	From the centralized water supply. Has its own well, artesian for irrigation of the site, and as a backup source of water
4. Site Drainage and Sewage	
On site drainage: storm water	Ditch network, for outflow, water collection is not carried out
Sewage (toilets):	Collected in a septic tank, taken out by cars
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	Seldom earthquake
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	The roofs of the building are covered with asbestos-containing materials. The presence of asbestos-containing materials in the building is not observed.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	No
Mitigation measures:	No
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	There is a system of collecting complaints and proposals for the hospital as a whole. Complaints are collected in boxes, and are considered on Staff Meetings in the order of their accumulation.

H-06-(CDL-01) National Hospital at the MoH

Name/Location of Health Facility/Lab	CDL of the National Hospital. N42°52'0.70" / E74°35'42.98" (wgs84)
Person/People Interviewed (Name/Role)	Maanaev Toktobai Israilovich / director, Sulaimanova Saltanat - head of the laboratory
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation Is waste volume/kg recorded by type? If yes, any data available?	The total amount of waste produced by the laboratory: MSW - 15-20 kg per day. Medical waste - 3-6 kg. Waste categories: A, B_2, and B_3 The territory adjacent to the laboratory is equipped with litter bins.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**) How is it managed? Where is it disposed? How is it transported?	At all levels of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. There is a special container for medical waste: plastic containers (for B_2) with markings. After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and disfigured. Further, category B_2 waste (stabbing and cutting waste) is collected separately, cemented and disposed of.
What happens to lab **health care waste** (**tissue waste**)	There is no waste of this type (waste category B_1).
What happens to **lab wastewater?** How is it treated? Where is it disposed?	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs. There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the

	laboratory.
What happens to **lab equipment** no longer used? How is it managed? Where is it disposed? How is it transported?	*Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal. *Electronic trash. Equipment and other decommissioned equipment.* Waste of this type (decommissioned equipment) is stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste.
What **improvements** to laboratory waste management are needed?	Organization of a place for storage of household waste Implementation of a system of collapsible waste collection and recycling Development of a policy and system for the disposal of e-waste.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Centralized water supply. The water supply system needs repair.
4. Site Drainage and Sewage	
On site drainage: storm water How is it collected? How is it treated? Where does it go?	The roofs of the building are equipped with drainage and storm drain systems. There is no stormwater collection system, from treatment and storage for later reuse. Rainwater is discharged directly into the park area for irrigation.
Sewage (toilets):	Centralized sewerage and water disposal system. Toilets are located directly in the buildings.
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service? E.g. Flooding, Snow, landslide, earthquake. When/ how severe?	There is no specialized policy, program to respond to climate hazards. There are general safety protocols for emergencies (e.g. fire, earthquake, etc.)
6. Asbestos	
Is **Asbestos** used in the construction of the buildings? If yes, where? E.g. Asbestos cement roof sheets	The building was built in 69. The roof is covered with asbestos. A visual inspection of the condition of the asbestos roof covering for its destruction, breakage, and deformation allows us to assess its condition as satisfactory. Asbestos-containing elements are not used inside the building (according to the interviewee).
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Operational management: Yes Major overhaul: No
8. Project impacts	
Impacts (people/ patients/ staff/ community):	during work, the impact of noise and dust on patients and staff is possible
Impacts (environment):	No
Mitigation measures:	Have no recommendation from interviewees
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site? Management/Committee/Complaints box etc?	At the level of laboratory and hospital: there are special boxes for anonymous collection of complaints and suggestions. Consideration of complaints takes place at the medical council, which takes place weekly. In addition, 3 times a week there are meetings with the head physician, at which issues on

	complaints and suggestions can also be discussed. At the level of the Ministry of Health and the FMHI[32]: there is a day for receiving clients with complaints and suggestions.

CDL-01 CDL of the National Hospital (reference lab, national level)

Name/Location of Health Facility/Lab	CDL of the National Hospital. N42°52'0.70" / E74°35'42.98" (wgs84)
Person/People Interviewed (Name/Role)	Maanaev Toktobai Israilovich / director, Sulaimanova Saltanat - head of the laboratory
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation Is waste volume/kg recorded by type? If yes, any data available?	The total amount of waste produced by the laboratory: MSW - 15-20 kg per day. Medical waste - 3-6 kg. Waste categories: A, B_2, and B_3 The territory adjacent to the laboratory is equipped with litter bins.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**) How is it managed? Where is it disposed? How is it transported?	At all levels of collection, storage and disposal of this type of waste, there are information plates describing which type of substances belongs to this type of waste. There is a special container for medical waste: plastic containers (for B_2) with markings. After collection and delivery of this type of waste to the waste decontamination station, they are accounted for, weighed and disfigured. Further, category B_2 waste (stabbing and cutting waste) is collected separately, cemented and disposed of.
What happens to lab **health care waste** (**tissue waste**)	There is no waste of this type (waste category B_1).
What happens to **lab wastewater?** How is it treated? Where is it disposed?	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs. There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.
What happens to **lab equipment** no longer used? How is it managed? Where is it disposed? How is it transported?	*Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal. *Electronic trash. Equipment and other decommissioned equipment.* Waste of this type (decommissioned equipment) is stored in a specialized warehouse for 5 years and used, if necessary, as spare parts. After the expiration of the storage period, they are handed over for scrap (for non-ferrous metals) and / or disposed of with household waste.
What **improvements** to laboratory waste management are needed?	Organization of a place for storage of household waste Implementation of a system of collapsible waste collection and recycling Development of a policy and system for the disposal of e-waste.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Centralized water supply. The water supply system needs repair.
4. Site Drainage and Sewage	
On site drainage: storm water How is it collected? How is it treated?	The roofs of the building are equipped with drainage and storm drain systems. There is no stormwater collection system, from treatment and storage for later reuse. Rainwater is discharged

[32] The Fund For Mandatory Health Insurance Under The Ministry Of Health Of The Kyrgyz Republic

Where does it go?	directly into the park area for irrigation.
Sewage (toilets):	Centralized sewerage and water disposal system. Toilets are located directly in the buildings.
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service? E.g. Flooding, Snow, landslide, earthquake. When/ how severe?	There is no specialized policy, program to respond to climate hazards. There are general safety protocols for emergencies (e.g. fire, earthquake, etc.)
6. Asbestos	
Is **Asbestos** used in the construction of the buildings? If yes, where? E.g. Asbestos cement roof sheets	The building was built in 69. The roof is covered with asbestos. A visual inspection of the condition of the asbestos roof covering for its destruction, breakage, and deformation allows us to assess its condition as satisfactory. Asbestos-containing elements are not used inside the building (according to the interviewee).
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Operational management: Yes Major overhaul: No
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	Disposal of construction debris (especially asbestos containing);
Mitigation measures:	Have no recommendation from interviewees
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site? Management/Committee/Complaints box etc?	At the level of laboratory and hospital: there are special boxes for anonymous collection of complaints and suggestions. Consideration of complaints takes place at the medical council, which takes place weekly. In addition, 3 times a week there are meetings with the head physician, at which issues on complaints and suggestions can also be discussed. At the level of the Ministry of Health and the FMHI[33]: there is a day for receiving clients with complaints and suggestions.

CDL-03 CDL of City Clinical Hospital # 1

Name/Location of Health Facility/Lab	City Clinical Hospital #1, Bishkek, N 42°52'33.87" / E 74°33'41.69" (wgs84)
Person/People Interviewed (Name/Role)	Musaev Akylbek Inoyatovich (Director), Shygaeva Kunduz Temirbekovna (Laboratory Head)
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	The system of collection, temporary storage and disposal of solid waste is integrated into the overall waste management system of the city. The collection is carried out in containers and exported centrally. Collection, storage and disposal of medical waste is carried out in accordance with the relevant regulations for all medical facilities presented in the given territory. Medical waste is collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as MSW (for waste category B_3) or disposed of in a special way (for waste category B_2) as stabbing and cutting waste. The production of medical waste by a medical institution per day is about 7-10 kg. Mercury-containing waste is collected and stored separately

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	in a special room. If necessary, a specialized company carries out their export.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	Medical waste is collected separately by type and, after accounting and neutralization at a waste disinfection station, is disposed of as MSW (for waste category B_3) or disposed of in a special way (for waste category B_2) as stabbing and cutting waste.
What happens to lab **health care waste** (**tissue waste**)	Before removing, as household waste is autoclave.
What happens to **lab wastewater?**	The runoff, collection and treatment of wastewater generated on the territory of the hospital is carried out centrally by the citywide sewer system. There is no separate dedicated wastewater management system for the hospital.
What happens to **lab equipment** no longer used?	Electronic waste is either disposed of as MSW or stored for some time as elements for component recycling.
What **improvements**	Increasing conditions for the labor of hospital specialists. Containers for the collection and temporary storage of medical waste and their labeling should be partially updated.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Water supply is centralized. Partially worn in some areas.
4. Site Drainage and Sewage	
On site drainage: storm water	Rainwater is discharged to adjacent green areas. There is no system for storing, treating and reusing rainwater.
Sewage (toilets):	Utilizing by central citywide sewer system
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	no
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	The roof of the building is covered with asbestos-containing slate. Determining the use of asbestos inside a building is not possible.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	No
Mitigation measures:	No
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	In the level of hospital exist the system of a system for recording complaints and suggestions. All complaints and proposals are collected in special marked boxes and are considered in accordance with internal procedures for considering complaints and proposals.

CDL-04 CDL of Republican Infection Diseases Hospital

Name/Location of Health Facility/Lab	CDL of Republican Infection Diseases Hospital, N42°51'42.68" / E 74°35'41.49" (wgs84)
Person/People Interviewed (Name/Role)	Aaliev Gulzhigit Kenzhekaraevich (director) Sadykova Buukhan Saitkulovna - head of the bacteriological laboratory Zhanuzakova Klara Musaevna Head of Clinical Diagnostic Laboratory

1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	The waste collection process is organized at the level of the entire hospital. Household waste is disposed of and removed by the Tazalyk organization in accordance with the existing agreement. In the laboratory, about 2-4 kg is formed. household waste per day.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	Medical waste is collected separately. All materials, including medical waste, are disposed of in accordance with national regulations. Storage collection system.
What happens to lab **health care waste** (**tissue waste**)	Not produce
What happens to **lab wastewater?**	Utilize as a usual wastewater to central sewer system
What happens to **lab equipment** no longer used?	Gathered and stored. If possible, spare parts are used again. They are disposed of according to the legislation of the Kyrgyz Republic.
What **improvements**	Installation of Ventilation and Air Conditioning Systems. Registration and disposal of medical waste needs improvement.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Cold and hot water supply is central. Requires a major overhaul.
4. Site Drainage and Sewage	
On site drainage: storm water	There is no rainwater collection system. The roofs are not equipped with a drain, which in winter can be dangerous for visitors. Rainwater is discharged directly into the adjacent landscaped area.
Sewage (toilets):	Connected to the central sewer
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	no
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	Type of roofing - asbestos-cement sheets. It was not possible to establish the presence of asbestos-containing materials in the premises.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	no
Impacts (environment):	no
Mitigation measures:	no
Other **issues/concerns** we need to be aware of?	no
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	There is no laboratory at the level of the laboratory. At the level of a medical institution, complaints and proposals are collected and considered in the prescribed manner.

CDL-05 CDL of Center of general medical practice of Jayil District

Name/Location of Health Facility/Lab	CDL-05 CDL of Center of general medical practice of Jail District N42°47'53.36" / E73°51'23.37" (wgs84)
Person/People Interviewed (Name/Role)	Head of the Bacteriological laboratory Fattakhova

1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	Is not recorded
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	Sharp objects are not used
What happens to lab **health care waste** (**tissue waste**)	Inactivated in an autoclave. Solid waste is disposed of as general waste, liquid waste is discharged into the sewer. Waste in bags is taken out manually by laboratory staff
What happens to **lab wastewater?**	Drains into the sewer, not separately cleaned
What happens to **lab equipment** no longer used?	It is in the warehouse of the organization, waiting for write-off. The laboratory does not have its own warehouse. Transported by the organization (on hand or in a car, depending on the size).
What **improvements**	improve waste labeling.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Central, shared sinks
4. Site Drainage and Sewage	
On site drainage: storm water	Ditch network, for outflow, water collection is not carried out
Sewage (toilets):	Central sewerage, without additional cleaning/disinfection
5. Hazards / Climate Change	
Any **climate hazards**	Earthquake
6. Asbestos	
Is **Asbestos** used in the construction of the buildings? If yes, where? E.g. Asbestos cement roof sheets	The roof is covered with asbestos-containing material.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	No
Mitigation measures:	Reduction of dust and noise levels during repair work
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site? Management/Committee/Complaints box etc?	it is necessary to improve the system for collecting complaints and suggestions for the laboratory. There is a collection system for the hospital, but there is no separate system for the laboratory. At the hospital level: there are special boxes for collecting complaints and suggestions anonymously. Complaints are dealt with by the hospital staff.

CDL-06 CDL of Center of general medical practice Tokmok City

Name/Location of Health Facility/Lab	Lab in Outpatient Diagnostic Department in Tokmok Hospital (lab ODD) N42°50'36.07" / E75°18'40.41"
Person/People Interviewed (Name/Role)	Dyikanaliev Ulan Kubanychbekov (director) Sydykbekova Mira Zarylbekovna Head of TB laboratory Kaliyeva Bubuaisha Zhusupovna - head of the tuberculosis laboratory
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation Is waste volume/kg recorded by type?	The total amount of waste produced by the laboratory: MSW - 10-25 kg per day. Medical waste - 4-7 kg.

If yes, any data available?	Waste categories: A, B_2, and B_3 The territory adjacent to the laboratory is equipped with litter bins.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**) How is it managed? Where is it disposed? How is it transported?	In some places (medical waste decontamination station) there are information boards describing which type of substance belongs to this type of waste. There is a special container for medical waste: plastic containers (for B2) with markings, enameled buckets. Labeling of containers for waste collection is not always recognizable and needs to be updated.
What happens to lab **health care waste** (**tissue waste**)	There is no waste of this type (waste category B_1).
What happens to **lab wastewater?** How is it treated? Where is it disposed?	Water disposal is centralized, the sewerage system is included in the citywide one. The system is in a deplorable state and needs major repairs. There is no specialized wastewater management system, since especially toxic, corrosive substances are not used in the laboratory.
What happens to **lab equipment** no longer used? How is it managed? Where is it disposed? How is it transported?	*Mercury containing materials, equipment, lamps.* This type of waste is collected separately in a specially organized warehouse. When filled to a certain level, specialized companies with which an agreement has been concluded export these substances for further specialized disposal.
What **improvements** to laboratory waste management are needed?	Organization of a place for storage of household waste Implementation of a system of collapsible waste collection and recycling (if there is a recycling system in Tokmok) Development of a policy and system for the disposal of e-waste.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Centralized water supply. The water supply system needs repair. It is possible to supply water that does not meet the necessary requirements.
4. Site Drainage and Sewage	
On site drainage: storm water	The roofs of the building are equipped with drainage and storm drain systems. There is no stormwater collection system, from treatment and storage for later reuse. Rainwater is discharged directly into the park area for irrigation.
Sewage (toilets): How is it collected? How is it treated? Where does it go?	For the TBC laboratory are located in the yard and do not have access to the city sewer. Toilets of other laboratories are located directly in the buildings. The system requires evaluation and repair.
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service? E.g. Flooding, Snow, landslide, earthquake. When/ how severe?	There is no specialized policy, program to respond to climate hazards. There are general safety protocols for emergencies (e.g. fire, earthquake, etc.)
6. Asbestos	
Is **Asbestos** used in the construction of the buildings? If yes, where? E.g. Asbestos cement roof sheets	The roofs of some laboratory buildings (TTN, TBC) are covered with asbestos. It was not possible to conduct a visual inspection of the condition of the asbestos roof covering. Asbestos-containing elements are not used inside the building.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater	Operational management: Yes Major overhaul: No

management?	
8. Project impacts	
Impacts (people/ patients/ staff/ community):	Impact of noise, dust on people during reconstruction and repair.
Impacts (environment):	Cutting and demolition of trees and shrubs, especially large-sized (for objects where it is planned to add to existing buildings)
Mitigation measures:	Reduction of dust and noise levels during repair work
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site? Management/Committee/Complaints box etc?	There is an organized system for collecting complaints and suggestions. At the level of laboratory and hospital: there are special boxes for anonymous collection of complaints and suggestions. Consideration of complaints takes place at the medical council. In addition, meetings are held with the head doctor, at which some complaints and suggestions are also discussed.

CDL-09 CDL of Center of general medical practice Panfilov district, Chui oblast

Name/Location of Health Facility/Lab	CDL of Center of general medical practice Panfilov district, Chui oblast
Person/People Interviewed (Name/Role)	N42°47'35.02"/ E73°40'43.53" (wgs84)
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	Registered in the journal of the medical waste management unit
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	It is collected in containers, poured from the containers into a bucket, which is then referred to the medical waste management department.
What happens to lab **health care waste** (**tissue waste**)	Vacutainers are sent to the UMO together with the contents, the rest of the biomaterials are filled with disinfectants, then drained into the sewer (septic tank)
What happens to **lab wastewater?**	Drains into a public sewer septic tank.
What happens to **lab equipment** no longer used?	They are handed over to the warehouse to the caretaker. The last decommissioned equipment (4 years ago) was taken by the company servicing the equipment as a debt. There were no more write-offs.
What **improvements**	no
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Water supply is central
4. Site Drainage and Sewage	
On site drainage: storm water	Not collected
Sewage (toilets):	Hospital septic tank. Goes into the ground through a sand filter
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	Earthquake
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	The roof is covered with asbestos-containing materials. The presence of asbestos-containing materials in the building during a visual inspection could not be detected.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	In generally, yes
8. Project impacts	

Impacts (people/ patients/ staff/ community):	no
Impacts (environment):	no
Mitigation measures:	no
Other **issues/concerns** we need to be aware of?	if work is carried out to replace the roofing, it will be necessary to determine a mechanism for the safe collection and disposal of asbestos-containing waste
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	there is a complaints collection system at the hospital level. The complaints box is used to collect recommendations. There is no separate procedure for the laboratory.

CDL-010 Center of general medical practice Issyk-Ata district, Chui oblast

Name/Location of Health Facility/Lab	GMPC Issyk-Ata district, Chui region. N42°54'9.80" / E74°50'50.42" (wgs84)
Person/People Interviewed (Name/Role)	Head Bacteriological laboratory, Senior laboratory assistant
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	Is not registered
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	There are no sharp objects, biomaterials are not taken
What happens to lab **health care waste** (**tissue waste**)	Inactivated in an autoclave, pressed and thrown into household waste
What happens to **lab wastewater?**	Water from autoclaves is drained to the street, water from sewerage is drained into a common network (septic tank)
What happens to **lab equipment** no longer used?	Written off, after the write-off is in the warehouse. Disposal is hindered by regulations
What **improvements**	Liquid waste inactivation is needed
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	From the centralized water supply. Has its own well, artesian for irrigation of the site, and as a backup source of water
4. Site Drainage and Sewage	
On site drainage: storm water	Ditch network, for outflow, water collection is not carried out
Sewage (toilets):	Collected in a septic tank, taken out by cars
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	Seldom earthquake
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	The roofs of the building are covered with asbestos-containing materials. The presence of asbestos-containing materials in the building is not observed.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	No
Impacts (environment):	No
Mitigation measures:	No
Other **issues/concerns** we need to be aware of?	No
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	There is a system of collecting complaints and proposals for the hospital as a whole. Complaints are collected in boxes, and are considered on Staff Meetings in the order of their

	accumulation.

CDL-011 National Center for Mather and Child Welfare (child diagnosing)

Name/Location of Health Facility/Lab	National Center for Mather and Child Welfare (child diagnosing) N 42°52'6.75" / E 74°35'42.13" (wgs84)
Person/People Interviewed (Name/Role)	Head Laboratory of Abdykeeva Z.T.
1. Waste Management – General questions on laboratory waste	
Lab Waste Generation	Register, separately by category (A, B) and weight.
2. Different Waste Streams – from laboratory	
What happens to lab **health care waste** (**sharps**)	It is collected in separate containers, then poured into a bucket and taken to the department of medical waste management.
What happens to lab **health care waste** (**tissue waste**)	Vacutainers with blood residues are collected in a bucket and treated in ULV. Urine is disinfected, drained into the sewer. central sewerage.
What happens to **lab wastewater?**	Into the central sewer.
What happens to **lab equipment** no longer used?	Stored. Not recyclable.
What **improvements**	improve the waste labeling system. update the waste container.
3. Water Supply	
Describe **water supply** for drinking and cleaning and sanitation	Central water supply.
4. Site Drainage and Sewage	
On site drainage: storm water.	Not going.
Sewage (toilets):	Central, no filters.
5. Hazards / Climate Change	
Any **climate hazards** affecting operation of healthcare service?	Earthquake.
6. Asbestos	
Is **Asbestos** used in the construction of the buildings?	The roof is covered with an asbestos coating. There is no information on the use of asbestos-containing materials in the building.
7. Staffing / Resources	
Does the laboratory have adequate resources for waste and wastewater management?	Yes
8. Project impacts	
Impacts (people/ patients/ staff/ community):	can be noisy during renovation work
Impacts (environment):	no
Mitigation measures:	no
Other **issues/concerns** we need to be aware of?	no
9. Grievance Redress	
How are complaints by people or staff currently managed at the site?	There is a system for collecting complaints (box). all complaints are sorted out at staff meetings

Annex 7 Affected Person Monitoring (Consultation) Form

Consultation / Interview Form

Date of Interview		Interviewer Name	
Interview Site: Where is the interview held? In healthcare, on the road, in shop		Stakeholder Name & Status: Full name, status is business owner, school teacher, religious leader, resident, healthcare manager	
Civil works Site & Date Civil works Started Which road, GPS location if available		Has this stakeholder been interviewed before? Yes (when were they interviewed) No	

Interview Discussion Points:

1. NOISE	Record of Discussion
Before the project started, was the person disturbed by noise? If yes, explain how and when. Where did the noise come from? *E.g. traffic, machinery, people, music* When did it disturb the person? *E.g. all day, at night, intermittently*	
During the civil works, is the person disturbed by noise from the project? If yes, explain how and when. *What type of noise and where did the noise come from? All day, at night, intermittently?*	
If noise from civil works is a problem, what changes does the person suggest are made?	
2. AIR QUALITY	Record of Discussion
Before the project started, was the person affected by air pollution or dust? If yes, explain how and when. Where did the pollution or dust come from? *E.g. traffic, machinery, civil works, burning garbage, cooking stoves* When was the dust or pollution a problem? *E.g. all day, at night, intermittently*	
During the project, is the person disturbed by dust or pollution? If yes, explain how and when. *E.g. increased traffic congestion, civil works machinery, civil works workers, burning construction garbage etc* When did it disturb the person? *E.g. all day, at night, intermittently*	
If dust or air pollution from the construction is a	

problem, what changes does the person suggest are made?	
3. COMMUNITY /HOSPITAL SAFETY	Record of Discussion
Before the project started, can you describe the community safety situation in the project area? *E.g. no problems, some accidents, difficulty crossing the roads*	
During the project, has the person found the community safety situation has changed? If yes, explain how and when.	
If change in road safety is unacceptable, what changes does the person suggest are made?	
4. ACCESS	Record of Discussion
During the project, is the person affected by reduced access to their business, home or land? Access to what is limited, and how?	
If access limitations are not acceptable, please suggest changes which can be made?	
5. OTHER ISSUES	Record of Discussion
Any other issues about the construction sites that the person wants to discuss? *E.g. wastewater, solid waste, water quality, labor force, vegetation loss*	

Annex 8 Stakeholder Engagement and Communication Plan

1. Stakeholder identification

The first step in the Stakeholder Engagement and Communication Plan is to identify the key stakeholders to be consulted and involved. The stakeholder groups to be engaged will be expanded and updated as the project implementation develops as required. The initial list of stakeholders may include the following stakeholder groups:

- Sub-national authorities
- National and local civil society organizations
- Local communities
- Private sector
- International non-government organizations
- Universities and research institutes

2. Stakeholder analysis

The second step is stakeholder analysis. This is the process of identifying the stakeholder groups that are likely to affect or be affected by a proposed action. A stakeholder analysis will help to identify and classify stakeholders.

- **Highly affected by the project –** living/working within the direct project area
- **Indifferent** – may only need information about the project
- **Not active (third parties)** - could potentially affect the project planning or implementations

3. Stakeholder engagement activities and communications activities

The thirst step is to identify the engagement activities and communication methods. This section will define how and when the stakeholders will be engaged during the implementation of the Project and will include:

1. Methods to share information with the Affected People and other stakeholders which is:

- In a meaningful format
- In an understandable language
- Appropriate to target groups

2. Methods to engage Affected People and other stakeholders:

- Listen to views, concerns, suggestions
- Use information from Affected People and other stakeholders to change the project as needed

Methods of information sharing and engagement (listening to stakeholders) include:

- Open community/public meetings
- Targeted stakeholders meetings

- Workshops
- Focus group discussions
- Key informants interviews
- Face-to-face informal meetings with the Affected People
- Specific issue questionnaires/interviews

The project information disseminated to affected people and stakeholders may include:

- The project description
- Civil work schedules
- Scope of civil works including maps or drawings
- Mitigation measures
- Grievance Redress Mechanism
- Project implementation arrangements including project contact details

4. Implementation

The fourth step is to identify how the Stakeholder Engagement and Communication Plan will be implemented. This step needs to include:

- Timing/Schedule – when will the activities take place
- Resources – confirm that staff and budget is available
- Responsibilities – identify which team member will be responsible for each identified activity.

Annex 9 Project Reporting Templates

Form 1: Contractor Monthly Report

SSEMP/EMP Requirement		Actions taken this reporting period	Issues for Project to be aware of e.g. reasons for non-compliance
Preparation Activities			
1	Asbestos survey	• Add details of surveys undertaken	
Civil works Impacts			
1	Noise generation	• Details of noise mitigation implemented	
2	Air quality	• Details of air quality deterioration prevention implemented	
3	Solid and liquid waste management	• Details of waste management arrangements	
4	Environmental contamination / pollution	• Details of pollution preventions measures implemented	
F. Health and Safety			
1	Occupational health and safety	• Details of EMP requirements implemented	
2	Emergency response	• Details of EMP requirements implemented	
3	COVID-19 prevention and response	• Details of EMP requirements implemented	
4	Training Plan	• Details of training undertaken (participants, dates, topics, trainer)	
5	Asbestos management	• Details of EMP requirements implemented	
6	Community health and safety	• Details of EMP requirements implemented	
Post-civil works			
1	Rehabilitation and repair	• Details of EMP requirements implemented	
Environmental Permits		• Active permits in this reporting period	
Communication, monitoring		• Communication in this reporting period e.g. with healthcare facility management and affected people under GRM	

Form 2: PIU Site Visit Monitoring / EMP Verification

Date of this site visit		**Name of Person completing visit:**	
Site/CW Package visited:		**Name of Contractor(s) met on site**	

Site Verification – Observations from site visit		
Communication /GRM		**Comment/Observation**
1. Do construction staff understand GRM?	None ☐ Some ☐ All ☐	
2. Does the facility know the construction schedule?	No ☐ Yes ☐	
Noise		**Comment/Observation**
3. Is the noise tolerable on site?	No ☐ Yes ☐	
4. Are vehicles maintained, and not idling on site (engine on, not being used)?	No ☐ Yes ☐	
Waste Management		**Comment/Observation**
5. Are there separate places for recyclable waste to be collected on site/work camp?	No ☐ Yes ☐	
6. Do all waste containers have lids and wastes are controlled?	No ☐ Yes ☐	
7. Any spilled waste or litter seen on site?	No ☐ Yes ☐	
8. Is any disused soil (spoil) dumped anywhere that will cause a problem to people or the environment?	No ☐ Yes ☐ Not Observed ☐	
Environmental Pollution		
9. Are fuels and chemicals all stored appropriately?	No ☐ Yes ☐ Not Observed ☐	
10. Is the contractor using a commercial filling station?	No ☐ Yes ☐	
11. Any observed spills of liquids e.g. fuel on site?	No ☐ Yes ☐	

Community Health and Safety & Access		**Comment/Observation**
12. Can you see any risks to community health and safety from the construction traffic / manoeuvring vehicls?	No ☐ Yes ☐	
13. Can you see any risks to community health and safety from the construction?	No ☐ Yes ☐	
Occupational Health and Safety		**Comment/Observation**
14. Is the Contractor EHS officer on site?	No ☐ Yes ☐	
15. Are all people on site wearing high visibility clothing?	None ☐ Some☐ All ☐	
16. Are all people on site wearing protective boots?	None ☐ Some☐ All ☐	
17. Are people operating machinery using hard hats / ear protectors?	None ☐ Some☐ All ☐	
18. Can you see fire-fighting equipment on site?	No ☐ Yes ☐	
19. Can you see the Accident Book for the site?	No ☐ Yes ☐	
20. Can you see potentially asbestos containing material on site?	No ☐ Yes ☐	
21. Can you see a first aid kit at the camp?	No ☐ Yes ☐	
Air Pollution		**Comment/Observation**
22. Is the site generating visible dust?	None ☐ Some☐ A lot☐	
23. Can you see a working water sprayer on site?	No ☐ Yes ☐ Not required☐	
24. Are the public roads around the construction areas kept clean of mud?	No ☐ Partly ☐ Yes ☐	
Vegetation removal		**Comment/Observation**
25. Have any trees been cut down that were not planned to be?	No ☐ Yes ☐	

26. Any unexpected impacts on other vegetation?	No ☐ Yes ☐	
27. Any other observations:		

Form 3: CSC Site Visit Report on EMP Implementation and Consultation

Report Section	Information
1. Introduction	**Project Name:** **Report Completed By**: (name of person) **Monitoring Completed By**: (role e.g. CSC environmental specialist) **Monitoring Date**: (date of site visit(s) **Purpose**: e.g. quarterly monitoring or complaint investigation
2. Site visits undertaken	Names and dates of all sites visited in this reporting period Including main site and any ancillary areas
3. EMP compliance – environmental issues	Observations based on EMP including required Action Plans. Notes on discussions with people on site e.g. Contractor. Include observations on: Noise generation Air quality / dust emissions Solid waste management Pollution prevention measures
4. EMP compliance – Occupational health and safety	Checklist and any other observations. Notes on discussions with people on site e.g. Contractor. Include observations on: Occupational Health and safety conditions Accident book EHS specialists on site First aid equipment Training logs Emergency response procedures and staff awareness of them COVID-19 prevention and case numbers Adherence to asbestos requirements GRM issues raised
5. EMP compliance – Community health and safety	Use of warning signs Exclusion of public from construction areas Traffic management and use of marshals
6. Grievance Redress	Engagement of contractor in GRM during the reporting period Number of incidences reported under GRM Contractor responses, if needed.
7. Photographs	Clearly labelled e.g. use of drip trays for oil changing.
8. Recommended corrective actions	Include corrective action plans (see example in SEMR) for any issues which are outstanding or are non-compliance with the SSEMP/EMP.
9. Conclusion	A simple summary of EMP implementation. Conclusions on progress. Any pending issues for the project to be aware of.

Annex 10 Example Grievance Redress Complaint Form

GRIEVANCE REDRESS FORM **(MOH/PIU date seal)**

The MOH/ADB project welcomes complaints, suggestions, queries and comments regarding project implementation. We request persons with a grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback. If it is group representation, please provide details of two contact persons.
Thank you.

Date & Place of registration of complaint:

Contact Information/Personal Details

Name: ………………………………………………..............................Gender: ……………Age: …………..

Address:
……
…...………

Occupation/ Employment:

Phone number…………………………………………………E-mail……………………………………

Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below: ………………………………………………………..………………………

If included as attachment/note/letter, please tick here:

How do you want us to reach you for feedback or update on your comment/grievance?

FOR OFFICIAL USE ONLY
Registered by: (Name of Official registering grievance)

Mode of communication:

1. Note/Letter 2. E-mail 3.Verbal/Telephone

Reviewed by: (Names/Positions of Official(s) reviewing grievance)

Action Taken:

Whether Action Taken Disclosed:

4. Yes No Means of Disclosure:

---Tear off---

Receipt for complainant

Date and place of complaint: Name of complainant:

Complaint recorded/ registered by

Annex 11 Example semi-annual environmental monitoring report template

Semi-Annual Environmental Monitoring Report

Kyrgyz Republic

Ministry of Health

Support to Strengthening Regional Health Security Project

Reporting Period:

Date*:*

SEMR Report Number:

[insert table of contents]

ENVIRONMENTAL SAFEGUARDS SUMMARY

a. Summary of Project Progress

- Summary text

Table 30 Project Progress Summary

Safeguards Category	Environment	B	
Reporting Period:			
Contracts Awarded to Date:			
Forthcoming Contracts:			
Construction Progress to Date:			
Key Sub-project Activities in this Reporting Period:			

b. Summary of EMP Implementation

- EMP implementation summary.

c. Summary of EMP Monitoring (Observation Visits)

- EMP monitoring visits summary.

d. Summary of Complaints, Issues and Corrective Action

- Any complaints, issues and corrective action

SAFEGUARDS STAFF, TRAINING AND DOCUMENTATION

e. Implementation Arrangements

- Compare to the EMP defined Environmental Safeguards roles and responsibilities.

Table x. Status of Environmental Safeguard Roles-

Safeguards Role	**Status & Comment**			
	Date Started:		Full Time/ Part Time	
	Comment			
	Date Started:		Full Time/ Part Time	
	Comment			
	Date Started:		Full Time/ Part Time	
	Comment			

f. Training & Capacity Building

- Environmental related training completed during this reporting period. .

Table x Environmental Safeguards Training Provided and Planned

Training Course Title	**Training Date**	**Participants**	**Training Provider**

Training Course Title	Training Date	Participants	Training Provider

g. ADB Clearances and Safeguard Document Status

- Provide information on the status of the safeguards documents.

Table x Status of Environmental Safeguard Documents

Safeguards Documents	Update Issued (Latest Version)	Submitted to ADB	ADB Clearance Status
Include IEE, EMP, SEMR			

h. National Approvals

- The following table gives an update on the necessary national approvals required for the project to proceed.

Table x. Status of National Approvals for Environmental Documents

Documents	Submitted to MoE	Approved By MoE	Status	Comment

i. Site Specific Construction Environmental Management Plan (SSEMP) Approvals

- Confirm SSEMP status.

Table x. Status of SSEMP Approvals

Civil Works Package/ Subproject	SSEMP Given to PIU	Approved By PIU:	Comment:

EMP IMPLEMENTATION

j. Environmental Performance

- Summarise environmental impact mitigation measures implementation:

Table x. Status of EMP Compliance

No.	EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial, N/A at this stage)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
Before Construction Starts				
1	EMP in Bidding Documents	Yes	EMP was included in procurement package.	
2	GRM mechanism disseminated and functioning KC and PS	Yes	Training provided	
3	GRM Sign Board at Construction Site entrance	Yes		

- For all 'Partial' or 'No' compliance issues in the table above, the actions needed to solve the compliance issues are in the table below:

Table x. EMP– Actions Needed for Compliance

No.	EMP Requirement	Further Action to Take	Date for Action	Who will Implement Action	Was this in last SEMR? Yes/No

k. Health and Safety Performance

- Summarise Health and Safety impact mitigation measure implementation.

Table x Status of Health and Safety Compliance

	Health and Safety Requirement	Compliance & Description (Yes, No, Partial, N/A at this stage)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance

- Outstanding actions needed for health and safety compliance:

Table 31x Status of Health and Safety Actions Needed for Compliance

	Health and Safety Requirement	Further Action to Take	Date for Action	Who will Implement Action	Action Identified In Previous SEMR (Y/N) – Resolved?

EMP MONITORING

l. Environmental Quality Monitoring

- Summarise monitoring undertaken.

Table x EMP Environmental Quality Monitoring

Environmental Issue Monitored	Location	Responsible Organisation	Frequency	Monitoring Timing During Construction

m. EMP Monitoring Site Visits

- Summarise site visits undertaken.

Table x EMP Environmental Quality Monitoring

Date	Location	Responsible Organisation	Outstanding issues/key findings

n. Construction Phase Affected People Consultation

- Summarise consultation activities.

Table 32. Construction Phase Affected People Consultation

Subproject	Consultation Date	Person Consulted / Location	Outcome / Issues	Corrective Action Needed	Action Implemented by (person/date)

DISCLOSURE, COMPLAINTS, CORRECTIVE ACTION

o. Information Disclosure

- Provide any information disclosure activities undertaken in this reporting period.

Table x Information Disclosure

Contract No.	Subproject	Safeguard Document	Disclosure on ADB website

p. Grievance Redress Mechanism

- Include summary of :
  - Complaints made thorough GRM entry points
  - Issues raised in consultation;
  - Issues raised any other way that the project team is aware of.

Table x. Project Complaints or Issues

Details of Complaint / Issue Raised	Detail of Person (Date, Name, Contact Details)	Action Needed & Date	Comment / Resolved?

- The following table gives information on all issues raised in previous SEMRs which are not yet resolved:

Table x Project Complaints or Issues – Not resolved from previous reports

Details of Complaint	Detail of Person (Date, Name, Contact Details)	Action Needed & Date	Reason this is still not resolved

q. Corrective Action Plans

- Summarise any formal corrective action plans that have been issued to the contractor

Table x. Corrective Action Issued

Reason for Corrective Action	Date Issued	Outcome	Follow Up Action Needed

CONCLUSION & RECOMMENDATIONS

- **Conclusion:**
- **Recommended Actions**

Annex

- Annex X Environmental Quality Monitoring Results
- Annex x Construction Site Photographs
- Annex X …as require