Environmental and Social Impact Assessment

Installation of Medical Waste Incinerator and Construction of Isolation Unit at the Good Samaritan Hospital

May 2023

Document Control

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Contents

Abbreviations

CoESP	Code of Environmental and Social Practice
COVID-19	Coronavirus disease
ECD	Environment Conservation Division
EIS	Environmental Impact Statement
E&S	Environmental and Social
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESHS	Environmental, Social and Health and Safety
ESHS&CE	Environmental, Social and Health and Safety and Community Engagement
ESIA	Environmental and Social Impact Assessment
ESS	Environmental and Social Standards
GSH	Good Samaritan Hospital
HCC	Honiara City Council
IPCG	Infection Prevention and Control Guidelines
IPPF	Indigenous Peoples Planning Framework
LMP	Labor Management Procedure
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MHMS	Ministry of Health and Medical Services
NRH	National Referral Hospital
PER	Public Environment Report
PMU	Subproject Management Unit
SIG	Solomon Islands Government
SPC	South Pacific Commission
SPREP	Secretariat of the Pacific Regional Environment Programmed
SPRP	Strategic Preparedness and Response Program
WB	World Bank
WHO	World Health Organization

Executive Summary

This document is the Environmental and Social Impact Assessment (ESIA) for the installation of the Medical Waste Incinerator and construction of a new Isolation Unit (hereafter referred to as the Subproject) at the Good Samaritan Hospital (GSH) and meets the environmental and social (E&S) impact assessment requirements of the World Bank and the Solomon's Island Government (SIG). The Subproject will install an energy efficient medical waste incinerator, provide training in waste management and construct a new Isolation Unit at the Good Samaritan Hospital in Tetere. This ESIA documents the potential impacts and risks associated with the Subproject and strategies to mitigate those impacts and risks. Strategies will be guided by international best practice mitigation strategies and national environmental frameworks, policies and regulations.

Whilst the Subproject is expected to have a positive impact on waste management capacity and infection control, potential short-term impacts and risk on the surrounding biophysical and social environment are identified, including: removal of vegetation and gardens, erosion, noise and vibration, odor/smoke, dust, occupational accidents and/or injuries, inadequate design and materials, and community grievances. The primary tool for managing the impacts and risks, identified in this ESIA, during the Subproject implementation will be a Code of Environmental and Social Practice (CoESP) prepared by the contractor/s with assistance of the Project Management Unit (PMU).

The Ministry of Health and Medical Services (MHMS) has established a PMU to implement and supervise the Subproject. The World Bank through its Fast Track Covid-19 Response Program is funding the Subproject.

1. Introduction

The Solomon Islands Government (SIG) has received a total of US$13 million in funding from the World Bank through IDA credits (US$2.5 million), grants (US$7.5 million), and the Health Emergency Preparedness Response Trust Fund (HEPRTF-US$3 million) under the Fast Track Covid-19 Response Program (FTCF). The funding covers the emergency response under the COVID-19 Strategic Preparedness and Response Program (SPRP). The COVID-19 Emergency Response Project (hereafter referred to as the ERP or the Project) is the Solomon Islands Government (SIG) component of this Program. The Project aims to prevent, detect and respond to the threat posed by COVID-19 and to strengthen national systems for public health preparedness in the Solomon Islands (SI). The Project coverage will be national in scale.

The installation of the medical waste incinerator and construction of the Isolation Unit forms part of the ERP and for the purpose of this ESIA, the above undertakings are referred to as the Subproject. The Subproject falls under the ERP component 1 (c), upgrading Isolation Unit in provincial hospitals and 2 (b) enhancing health care waste management. The Subproject aims to improve health care waste management through financing an energy efficient medical waste incinerator including training in health care waste management and enhancing infection control at the hospital through building an Isolation Unit for the GSH.

The WB has required an ESIA for the approval of the Subproject. Potential E&S impacts and risks include removal of vegetation and gardens, erosion, noise and vibration, odor/smoke, dust, occupational accidents and/or injuries, inadequate design and materials, Subproject failure to implement the Environment and Social Commitment Plan (ESCP) and community grievance.

GSH is a Charitable Trustee registered locally headed by the Bishop Lucian Capelli of the Catholic Church in the Solomon Islands in collaboration with the Pieta Sisters. The hospital provides health services to communities for parts of central, north and east of Guadalcanal province. In addition to the potential E&S impacts, risks and mitigation strategies, this document provides the Subproject description, baseline information, regulatory frameworks and a Code of Environmental and Social Practice (CoESP) template to assist contractors in preparing a CoESP for construction.

2. Subproject Location

The Subproject is located at the GSH in Tetere, a small commercial and residential center in northeast Guadalcanal **(Figure 2.1)**. Guadalcanal is the largest of the nine provinces in the Solomon Islands with an area of approximately 5,300km^2. The Subproject site is 30km east of Honiara city, which is the capital of Solomon Islands. The Subproject will be implemented at the Provincial level as GSH is located in Guadalcanal provincial zone.

The Subproject site is within vicinity of a vocational institute (Don-Bosco), police post (Tetere Police station), church (Catholic), residential area, market and agricultural land. The site is situated on the Guadalcanal plains approximately 3.5km away from the coast, 1.5km from the Matepono River, 3.5km from Mbalasuna River and a small stream is about 500m away. The Subproject site is mostly surrounded by agricultural land and next to the hospital is the vocational institute, church, residential area and market **(Figure 2.2)**. The GSH abuts the main road servicing the eastern areas of Guadalcanal **(Figure 2.3)**.

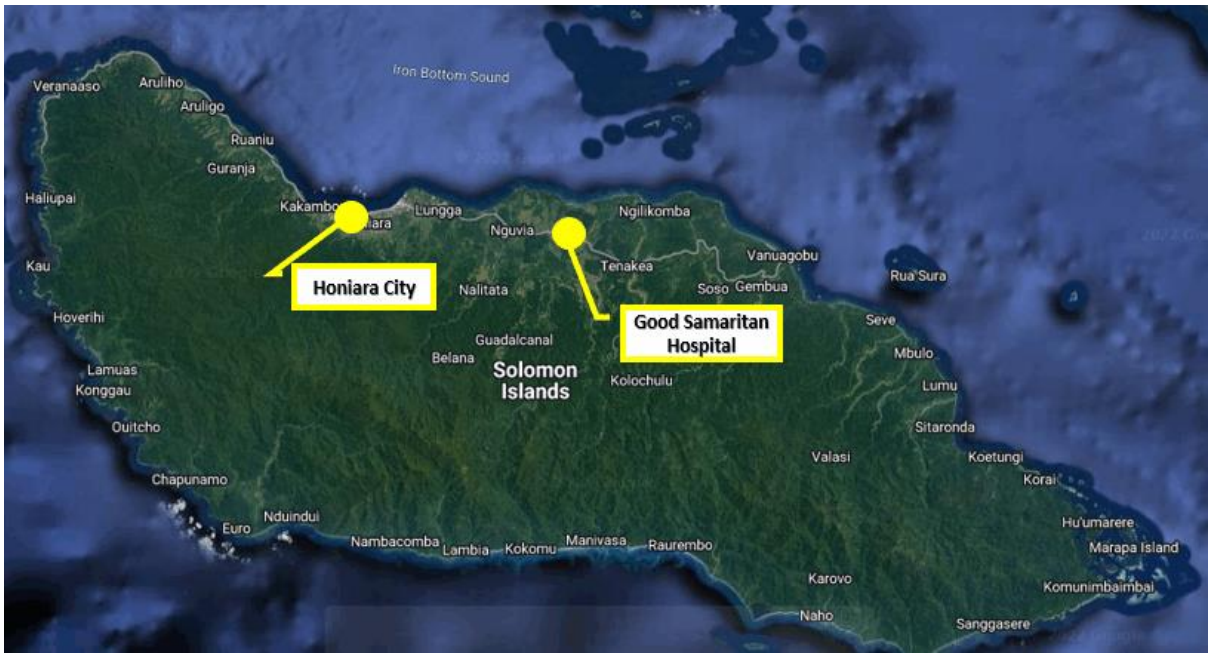


Figure 2.1 *Map showing location of Honiara city and GSH on Guadalcanal Plains. GSH (Subproject site) is 30 KM from the National Referral hospital (NRH) in Honiara*

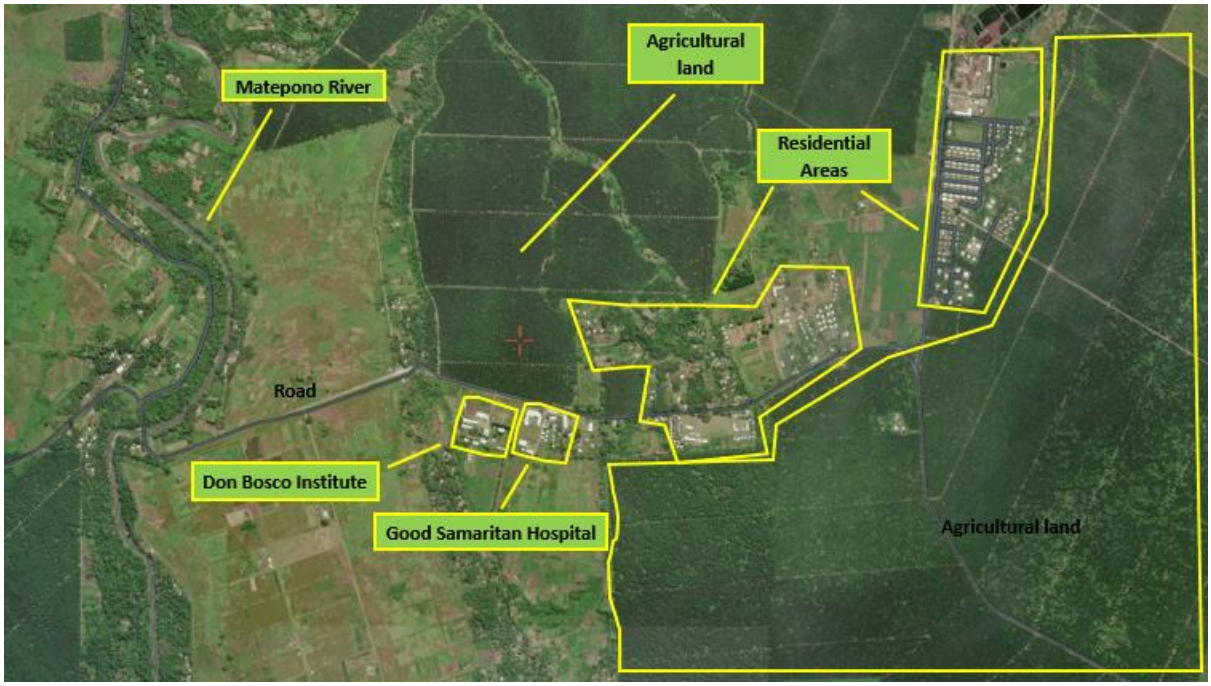


Figure 2.2 *A satellite imagery map showing aerial view of the location. All Subproject activities are to be located within the hospital compound. Surrounding land use is dominantly agricultural.*

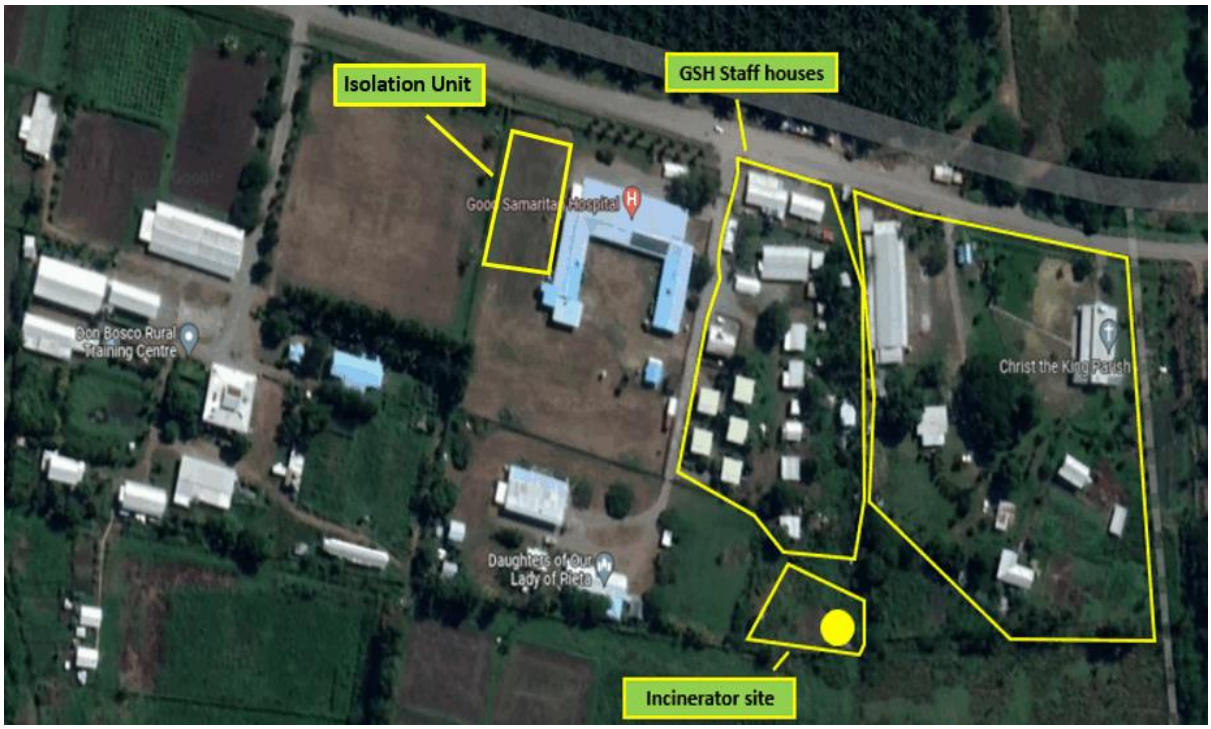


Figure 2.3 *Proposed location for incinerator and Isolation Unit are labeled. The actual incinerator site is marked with a yellow circle to the back of the hospital staff residences and the isolation location adjoins to the west of the hospital building*

3. Environmental and Social Baseline

The GSH provides medical services to the communities of central, north and east Guadalcanal. The catchment area for the hospital is from Lunga to Tasiboko area.

According to the GSH manager, which referred to the national census report in 2019, population for the catchment zone is about 43,000 people (Bosowai, 2021). This following section covers E&S baseline information for the Subproject.

3.1 Incinerator

The existing incinerator is located 200m southeast of the hospital and at least 50m from the residential area and this area will be utilized for the new incinerator as well. There are no large tress on the proposed site for incinerator. The area is a flat low land covered with grassland **(Figure 3.1)** and vegetable gardens **(Figure 3.2)**. The Matepono River is more than 1.5km west and Mbalisuna River is about 3.5km southeast of the site. During heavy rainfall, flooding and the area becoming waterlogged is common. There is no pit in place for the existing incinerator and remains and ash are buried next to the incinerator. There is water access to the propose site. This site is located at the back of the hospital facing the agricultural land. The agricultural land is contains a large palm oil plantation owned by the Guadalcanal province. Don Bosco institute is at least 200m from the site.

***Figure 3.1**. A section of grassland, shrubs and feral food crop plants covering part of the proposed incinerator site*

***Figure 3.2**. Food crop gardens located within the vicinity of the proposed site for the incinerator*

3.1.1 Environmental Baseline

The incinerator is for the GSH use only. The proposed site is the only available site for incinerator operation, land further away is not available and is customary land. The rest of the hospital site is occupied by hospital buildings, staff houses and a warehouse/storage for supplies and ambulances. GSH and the PMU have chosen this site for the incinerator as it is located as far as possible from hospital buildings and staff houses while still using land owned by GSH. There is limited capacity within the hospital team and staffing limitations. Waste is disposed of by the hospital cleaners and nurses. The selected site will allow for better operation, oversight and maintenance of the incinerator, given it is located on the hospital site and does not require staff to travel to a remote site to transport waste.

3.1.2 Waste Management

A waste audit was completed for the hospital on 16 December 2022. Hospital bins were examined and waste quantities and disposal methodologies were discussed with staff. Photos were taken of the bins and contents and are included below.

***Figure 3.3a**: A waste bin placed at the corridor of the hospital*

***Figure 3.3b**: An open waste bin half-way filled.*

***Figure 3.3c**: Garbage bags filled from wheelie bins loaded on a wheelbarrow to be disposed.*

The main waste types found in the bins are: plastic wastes, tissues, sharps, glasses, wrappings and metals.

The hospital has 12 units, each unit has one small bin (15L to 40L based on demand). When full, the unit bins are emptied into three 120L wheelie bins. Two of these bins are for general waste only and one is for medical waste (including infectious waste, sharps). Human tissue (e.g. placenta waste) is transported directly to the incinerator in buckets and is not stored in the hospital. When full, the wheelie bins are transferred to a wheelbarrow and taken to the existing incinerator by the hospital cleaners for disposal.

The hospital generates on average 315L of waste per week. Around 100L of this is infectious/medical waste and 215L is general waste. All waste is incinerated when the incinerator is operational, currently the existing incinerator is not operational and so general waste is burned on the ground next to the incinerator. Infectious wastes are buried in pits – which are dug as needed. This is often not done properly hence attracted flies and complains by residents about dogs spreading the rubbish.

Although the MHMS has established an Infection Prevention Control (IPC) Guidelines, the hospital continues to face challenges due to lack of proper equipment and training to improve capacity of waste handlers in waste management. The hospital uses a manually operated incinerator to burn the waste. During assessment, the existing incinerator is old and does not incinerate waste effectively **(Figure 3.3)**. This incinerator can burn 5 to 10 kilograms of waste per hour. Depending on how busy the week hospital waste can be generated generally two to three wheelie bins a week. The hospital cleaners collect general and clinical waste weekly. Due to increase waste from the hospital, some general waste is being burnt using firewood beside the incinerator **(Figure 3.4)**. At times, waste such as placenta is not incinerated properly therefore it is buried in the nearby bush, which dogs may dig up the remains that cause odor in the community.

Figure 3.4 *The existing incinerator, which incinerates both general and medical wastes. It is over 10 years old and is inefficient. Wastes are inserted in the chamber and burnt using wood and kerosene.*

Figure 3.5*. Residues of burnt wastes left in the open space next to the incinerator. It generates foul odor to the residents and hospital patients and attracts flies as they are only half burnt thus still raw.*

3.1.3 Air Quality

The environmental health unit has two air quality monitors but both are broken and/or out of service. The budget under the Subproject is limited and it would be very difficult and expensive to undertake baseline air quality monitoring. There is no equipment in country to monitor air quality. International specialists would have to be brought in with their own equipment. Currently waste is burned twice a week using the existing

incinerator. At these times there are air quality and odor impacts. Staff houses also burn rubbish when required for their household waste because there is no waste collection or management service (on their private property, they do not use the incinerator).

3.1.4 Monitoring

The monitoring of noise, odor and dust during construction is not considered feasible based on equipment availability, budget and capacity of contractors and the level of risk.

3.1.5 Social Context

The sensitive receptors of the impacts of the new medical waste incinerator include the residents, hospital staff, church workers/members, patients, vocational institute and by passers (public). The nearby residents **(Figure 3.5)** have concerns and have complained about the odor released by the existing incinerator and improper burying of placentas. Therefore, residents and hospital workers acknowledged the importance of installing a new efficient medical waste incinerator. An existing road next to the hospital fencing gives access to the area **(Figure 3.6)** and a new access road will be constructed to lead to the incinerator site **(Figure 3.7).** This road will be used to access the site for construction works and also for operations (to transport wastes to the new incinerator). As per figure 3.7, the route goes east along the main road and turns south along a feeder road and turns west along the perimeter fencing of the church area and onto the demarcated incinerator site.

Figure 3.6 *Part of nearby residents and hospital staff houses to the incinerator site.*

Figure 3.7. *Access road to the area currently used to dispose waste*

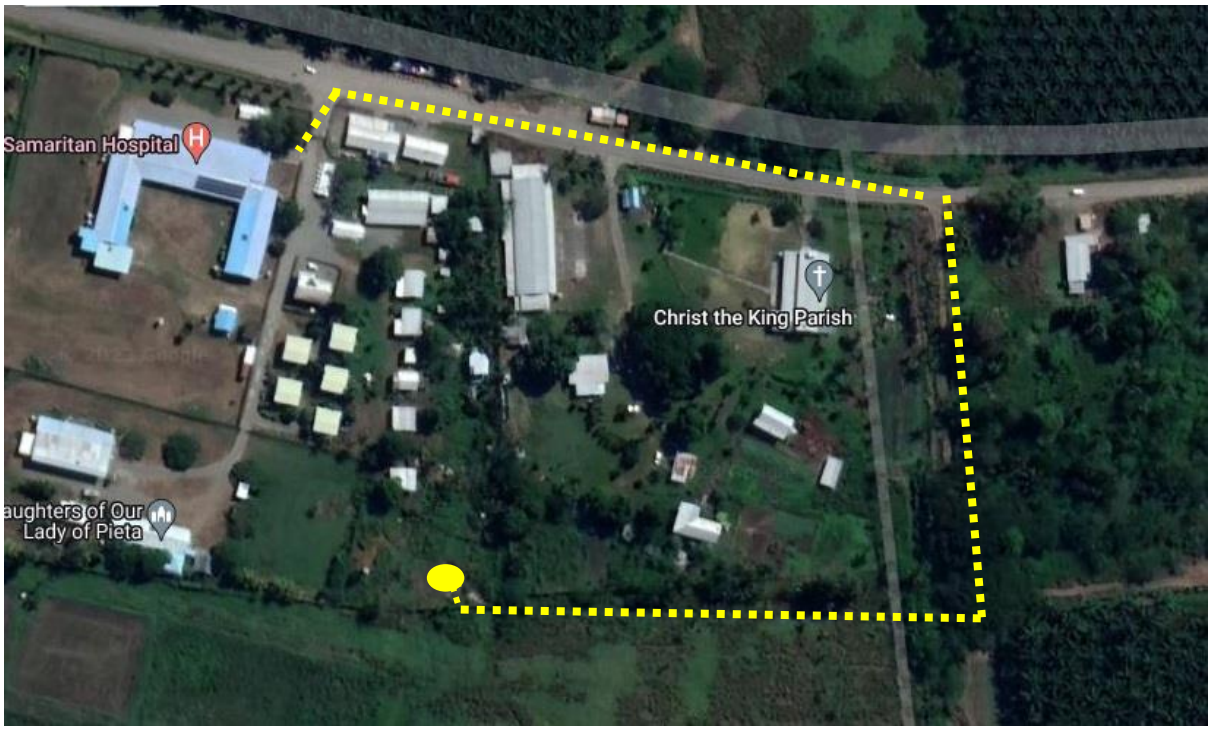


Figure 3.8*. Waste transporting road to the incinerator (Perimeter distance of 660 meters)*

3.2 Isolation Unit

3.2.1 Environmental Baseline

The GSH has no Isolation Unit in place however, there is a two-bed holding facility built which the hospital reserves for any patient who is tested positive of Covid-19 to hold and ready for referral to the National Referral hospital in Honiara **(Figure 3.8)**. The new access

road for the Isolation Unit will be constructed along the existing hospital fence towards the main road. This will allow a separate entry and existing road for the Isolation Unit. The facility is 10m from the main hospital building and at least 50 meters from the residential area for the hospital staff. The facility consists of two beds, shared bathroom and toilet, a nurse space and mini oxygen ventilators. There is adequate lighting and water access for the facility. It has back doors water resistant flooring. There is no fencing to separate facility from the main hospital.

The GSH management has designated a site for the Isolation Unit. The site situates next to the hospital in an open field along the road and between the hospital and a vocational school area **(Figure 3.9)**. The site is a low land, which is vulnerable for flooding **(Figure 3.10)**. The hospital fence secures the site from school area. The proposed design for the Isolation Unit is a single story four bed building and would cover an area of 306.18m² (square meters) – length of 24.3m x width of 12.6m. The building will consist of raised concrete slab to tolerate flooding. The Isolation Unit area will have its own entry/exit gate which will be constructed along the existing hospital gate to allow easy access to the unit. The Isolation Unit will have entry and exit doors and a pathway to the main hospital as well.

Figure 3.9*. The existing holding facility for covid-19 patients at the hospital.*

Figure 3.10. *Proposed site for the Isolation Unit marked with yellow bordered rectangle.*

Figure 3.11. *Plain land allocated for the proposed Isolation unit.*

3.2.2 Social context

This site is rarely accessed by residents of the area or patients as it is situated at the remote section of the hospital compound. The upkeep of the site is usually maintained by the

hospital's grounds-workers. Transport to the hospital is by public buses and private vehicles for those living far-off and within walking distance for surrounding communities/ residences. The hospital uses an ambulance to transport emergency cases to the hospital. Surrounding communities regularly gather at the nearby food market to trade their produce. The hospital often experience shortage of beds during outbreak of infectious diseases. The hospital staff and patients expressed the need to have a proper Isolation Unit as patients with infectious diseases are often placed in wards among general patients and pose risk of spreading diseases.

4. Subproject Description

This section describes the Subproject purpose, planning and design, construction, operation and decommissioning.

4.1 Purpose, Planning and Design

The purpose of the Subproject is to enhance waste management system and improve infection control at the GSH. The MHMS recognizes the need to improve waste management and infection control in provincial health facilities. Consultation was undertaken by the PMU with MHMS, WB and GSH management on Subproject activities. The proposed designs for Subproject equipment/facilities will ensure that the Subproject complies with the provisions of the WB ESF and Environmental and Social Commitment Plan (ESCP) for the overarching funding, and with international, national and regional E&S conventions laws and regulations.

An incinerator has been procured by the Subproject through tender and the model is CA03 medical waste incinerator (Figure 4.1). It is a newly built model specifically designed to withstand the harsh environmental conditions in Solomon Islands. The incinerator has primary combustion chamber of 6mm ceramic fiber high temperature insulating blanket and a 115mm thick 42 % alumina firebrick. It also has a secondary combustion chamber of 6mm ceramic fiber high temperature insulating blanket and 115mm thick 42% alumina firebrick. Its secondary combustion chamber stack-cooling zone is 115mm thick 42% alumina firebrick. It is not equipped with a wet-type scrubber air pollution control plant thus it does not generate any liquids or sludge waste. It will incinerate up to 20kgs of waste per hour.

The isolation unit is a four bed pre-fabricated building to be installed at the westerly end of the existing main hospital building. It is an Australian pre-fab standard building for isolation units hence majority of material items will be shipped in from abroad. However, some items for initial preliminary and foundational works will be obtained locally and this also applies for the incinerator basement. Hence, the two (2) separate contractors for the incinerator and isolation unit will both have to engage in foundation works using locally obtained materials from hardware in Honiara prior to installation works.

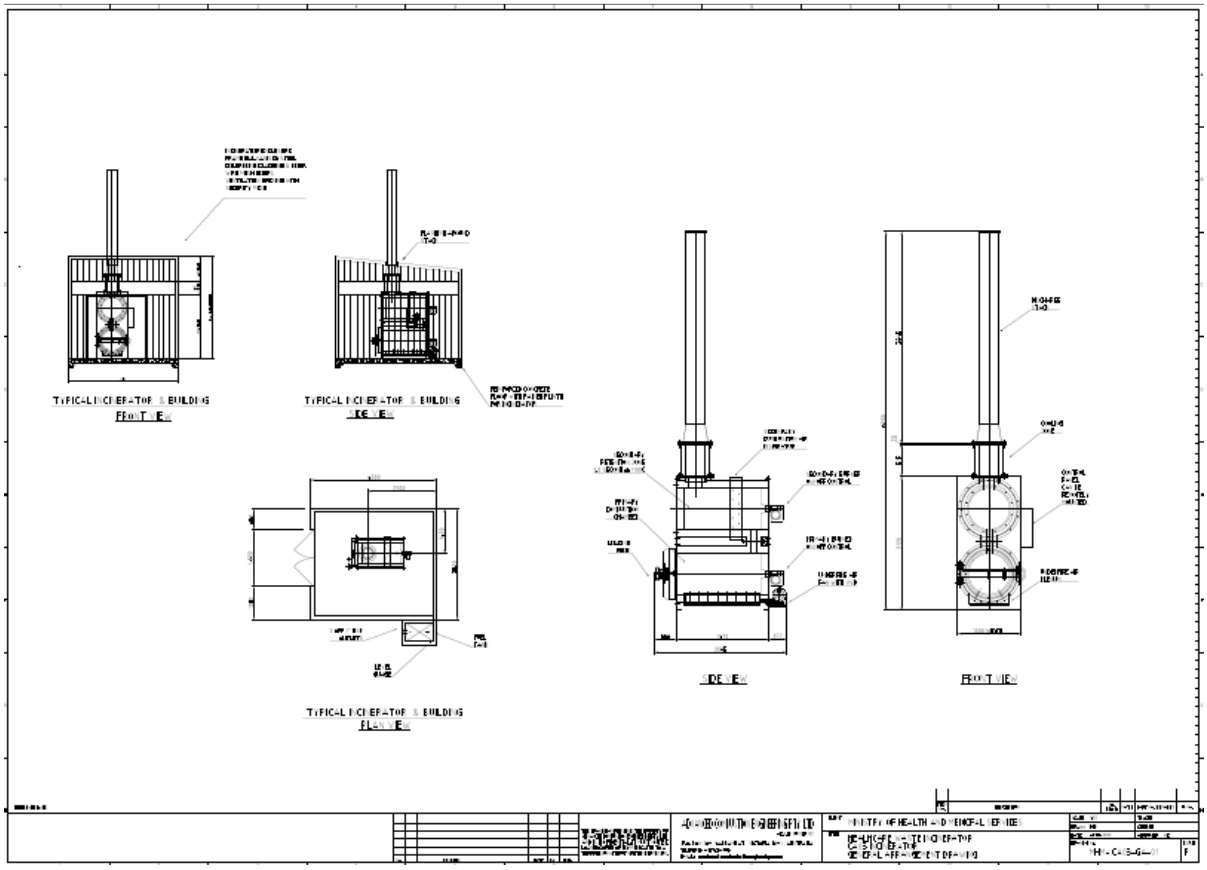


Figure 4.1 *CA03 incinerator design layout*

4.2 Construction

Construction activities for the incinerator comprise of site preparation (**Figure 4.2**), construction of incinerator and power plant sheds, construction of ash pit, installation of incinerator and fencing. For the isolation, it involves filling of the platform, installation of the prefabricated buildings and constructing a new gate through the existing fence. Prior to site preparation, topographical and identification survey and Unexploded Ordinance (UXO) clearance is required for both activities. Site preparation for the incinerator consists

of modification of part of existing fence to create new road access (**Figure 4.3**). In addition, clearing/removal of grasses scrubs and parts of root crop gardens. Afterwards, minor removal of soil for footing trenches purposes.

Actual construction involves construction of an elevated concrete slab next to the existing incinerator and an incinerator shed. A small shed for power plant will be constructed next to the incinerator shed. The ash pit with elevated walls will be constructed behind the incinerator shed (**Figure 4.2**).

The ash pit will be located at the back of the incinerator shed. The ash pit will consist of raise concrete with a seal slab to avoid washing of ash into nearby bushes. The propose location of the ash pit is purposely to further the pit from a nearby water source and hospital staff houses.

Figure 4.2 *Location of the incinerator, ash pit and the power plant to power the incinerator.*

Figure 4.2 *Access road to the incinerator site*

Water supply for cleaning purposes will be sourced from the existing hospital water system. Afterwards, a secured fencing will be constructed. The supplier of the incinerator will deliver the incinerator to Honiara while installation, construction and fencing will be contracted to a suitable contractor through a tender process. The contractor will transport the materials and incinerator to the site in appropriate vehicles. The contractor will provide the workforce for this Subproject. Voluntary or casual workers from nearby communities may provide support during site preparation. The workforce will consist of contracted, casual and/or voluntary workers. The workers will reside on site in temporary make-shift tents/tool shed and/or some will travel from Honiara to Subproject site by private and/or company vehicles or public transport daily for the duration of the work period. Arrangement of workers mobility will be a sole responsibility of the contracted entity and will be clearly stipulated in the contract.

For the Isolation Unit construction (**Figure 4.4**), a separate tender and contract will be undertaken to select a contractor. Materials will be transported to the site using the contractor's vehicles. The contractor will provide the workforce for this activity and may consider engaging local qualified workers. The workers will be accommodated locally and travel to site by private, public or contractor vehicles. After the installation of the

prefabricated Isolation Unit, proper drainage and a new gate will be constructed for the Isolation Unit on the existing fencing.

Figure 4.4 *Isolation unit location and site layout*

4.1 Operation

Operation of the incinerator and Isolation Unit will commence after construction, training and official handover of the Subproject to the GSH. The incinerator will provide incineration services for general and clinical waste from the hospital facilities. Only well-trained waste handlers will operate the incinerator. On normal operation, waste handlers will schedule regular incinerating days and time, except under exceptional circumstances when there is a large amount of waste and extended incineration times may be required. Furthermore, in the event of an extreme natural hazards (such as floods) the incinerator will operate when suitable.

All waste from the hospital facilities will be transported by vehicle and/or wheelie bins/wheelbarrow to incinerator site through the proposed new road access (Figure 4.1). After incineration, all vehicles, bins and any material/equipment use for transporting and handling waste are washed/disinfected on site before returning to the hospital. A new slab will be constructed for washing of the vehicle and equipment to improve existing washing-

area at the vehicle storage facility. Residents and the public will be advised on incinerator site and operation through signs and notices. The supplier has not recommended any monitoring for air quality, noise or odor since it is an improved version of previous units they have on the market and was designed with a lot of efficiency concerns in mind. However, possible testing will be made by the supplier during commissioning since it is a new unit to be on the market.

For the Isolation Unit operations, it will be available for patients that need to be isolated. The isolated patients will be separated from the other patients in the hospital and they will use a separate gate from the main hospital gate. All patients will be transported by ambulance direct to the Isolation Unit. Wastes from this unit will be transported to the incinerator for proper incineration.

4.2 Alternative power for incinerator

The incinerator will require power supply to operate thus a standalone solar power system is proposed. A shed will be constructed to shelter the solar batteries and its roof to accommodate the solar panel. Beside solar, the incinerator will also be connected to the hospital's main power supply (AC) as an alternate power source.

4.3 Decommissioning

After the life of the incinerator, solid waste are required to be held in a safe area. All the hazardous waste will be incinerated and buried in ash pit and sealed. In regards to any rehabilitation plans, incinerator will be serviced often, expansion and improvement of waste management infrastructure is necessary. The Isolation Unit will be expanded and renovated when required.

5. Policy and Regulatory Framework

This section documents the applicability of SIG regulatory framework and relevant WB policies for the assessment and permit for the construction and operation of the incinerator and Isolation Unit.

5.1 Country Context

The SIG has an established regulatory framework that provides measures to protect and preserve the environment. The Environment Act 1998 and Environment Regulations 2008 make provision for the conservation and protection of the environment. This Act laid the foundation of Solomon Islands' environmental impacts assessment (EIA) system, which

is implemented by the Environment Conservation Division (ECD) of the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM). Table 1 summarizes the relevance of the Acts to the Subproject.

5.1.1 Environmental Act 1998

The Environment Act 1998 (the Act) provides for the protection and conservation of the environment. The core objectives of the Act are to provide for and establish integrated systems of development control, EIA, and pollution control, including:

- Prevention, control and monitor pollution;
- Reducing risks to human health and prevent degradation of the environment by all practical means, including the following;
- Regulating the discharge of pollution to the air, water and land;
- Regulating the transport, collection, treatment, storage and disposal of waste;
- Promoting recycling, re-use and recovery of materials in an economically viable manner; and
- To comply with and give effect to regional and international conventions and obligations relating to the environment.

The Act is divided into four sections. Part I provide the Act with considerable power and states that in the event of conflict between the Act and other legislation, the Environment Act shall prevail. Part II establishes and defines the powers and role of the ECD. Part III establishes the requirements for environmental assessment, review and monitoring. This provides for an environmental assessment to consist of either a public environment report or if the development is shown to be of such a nature as to cause more serious impacts then the developer is required to prepare and submit an environmental impact statement EIS. Part IV details requirements for pollution control and emissions (noise, odor and electromagnetic radiation) and requirements to permits for the discharge of waste. Noise (restrictions on emitting unreasonable noise) is covered in Article 51(1).

Part III Article 17 requires any developer who proposes to carry out any prescribed development to make an application to the Director of ECD. Article 19 specifies that a developer shall not commence or continue to carry out any prescribed development unless the developer has been issued with a development consent (defined in the Act as a consent to carry out any development under Part III). Activities that require assessment are described as 'prescribed developments' and are included in the Second Schedule of the

Act. There are two levels of environmental assessment; public environment report (PER), as described in Article 20, or if the development is shown to be such a nature as to cause more serious impacts then the proponent is required to prepare and submit an Environmental Impact Statement (EIS), as described in Article 23.

5.1.2 Environmental Regulations (2008)

The Environment Regulations 2008 (the Regulations) establish the procedures for undertaking the environmental assessment of any Subprojects categorized as a prescribed development.

The developer is required to first submit a "development application" which is reviewed by the ECD to determine the likely significance of impact and required level of environmental assessment. The decision resulting from the review may include that:

- No further assessment is required, as such the development application is accepted, and development consent is issued;
- A PER is required; or
- Where major Subprojects are considered such as logging, large agricultural developments, mining and large-scale tourism developments and infrastructure Subprojects, an EIS is required which includes technical, economic, environmental and social investigations.

The Regulations establishes the procedures for undertaking the environmental assessment of 'prescribed developments' and the process of issuing development consent. The Regulations detail the process prescribed in the Act and set out the contents of PER and EIS.

Both the PER and EIS require public consultation. Following review and approval by the ECD, the development consent is issued either with or without conditions.

5.1.3 Environmental Impact Assessment Guidelines

The ECD developed the Environmental Impact Assessment Guidelines (2010) to provide basic advice and guidance to government officers, planners, developers, resource owners and those involved in processing development proposals, on the EIA process. The guidelines aim to clearly explain the procedures of EIA outlined in the Act and the Regulations. The guidelines describe the procedures needed to be undertaken (Figure 5.1), forms, and fees required before obtaining the development consent approval.

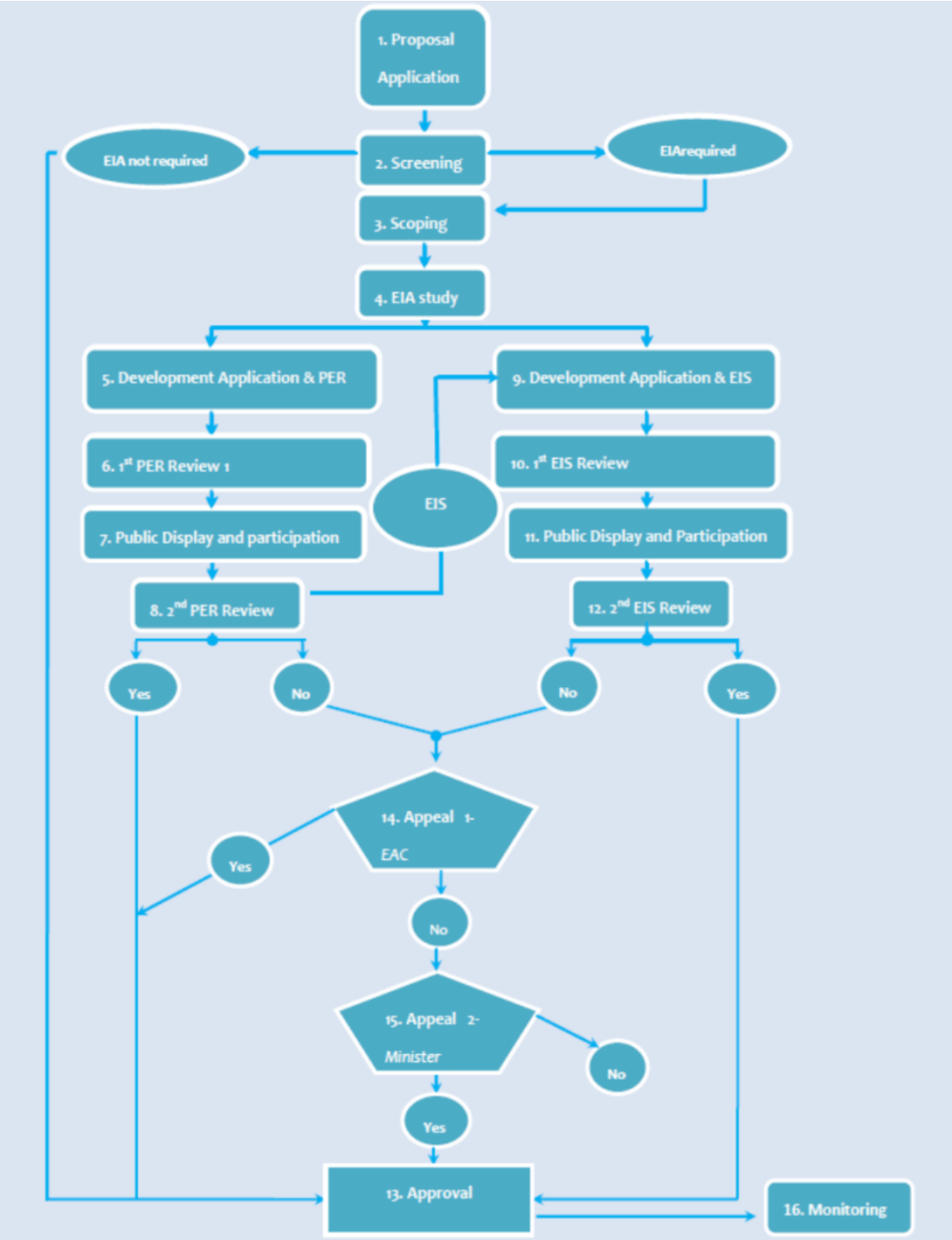


Figure 5.1 *EIA procedural steps*

5.1.4 Regulatory Relevance to the Subproject Activities

The 'prescribed developments' that may apply to Subproject activities are Activity 9 - Public Works Sector (b) infrastructure developments; and (h) waste management, drainage and disposal systems. The minor renovations and refurbishments will likely not meet the definition of 'infrastructure development', however, the demolition and reconstruction of small hospitals and health centers may be considered prescribed developments. The incinerators and construction of Isolation Unit will likely meet the definition of a 'waste management system and infrastructure development' under the Act.

5.1.5 Capacity of ECD

The ECD have overall accountability for environmental management in Solomon Islands. The ECD have some existing World Bank safeguard experience and capacity gained from working on previous World Bank funded Subprojects. However, ECD advise in their EIA Guidelines 2010 that the environment approval process can take several months (2-3 months at the minimum). Therefore, it is advisable that a proposal application to the ECD be lodged as early as possible to avoid delays. ECD also advise that prior to submission of the proposal application by the developer, it is advisable that the Developer should first seek written advice from the ECD.

5.1.6 Other Relevant Policies, Plans and Regulations

- Solomon Islands National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants. Submitted in fulfilment of Solomon Islands obligations as a party to the Stockholm POPs Convention.
- National Waste Management and Pollution Control Strategy 2017-2026. The Solomon Islands National Waste Management and Pollution Control Strategy 2017-2026 is the country's roadmap for managing waste and controlling pollution in the natural environment for 10 years with the vision for 'clean, healthy and green happy isles'. The strategy addresses 5 main waste streams: Solid Waste, Liquid Waste, Hazardous and Chemical Waste, Healthcare Waste and Electronic Waste. The Strategy serves as a blueprint for waste management and pollution control that captures the national priorities and targets and identifies the relevant strategies to realize the priority targets in the next decade. It represents a major step forward for integration of waste issues and concerns into broader sustainable development policy. Objectives include to promote waste minimization in all aspects of

development and to improve and upgrade existing management and disposal systems.

- Provincial Government Act 1997. This Act gives power to the provinces to make their own legislation and pass ordinances including for protection and conservation of environment, culture, wildlife and coastal and lagoon shipping.
- Town and Country Planning Act 1979. This Act applies to all urban areas (Honiara and provincial towns) and includes the management of land (all types of ownership) and management and planning functions for urban and rural areas including development.

5.1.7 Health-care regulatory and Policy Framework

The Health Services Act (1996) sets ups the Ministry of Health and Medical Services (MHMS) who are responsible for the provision of health and medical services in the Solomon Islands. The MHMS provides overall stewardship of the health sector and plays a regulatory role through strategic planning, standard setting and guidelines, for both government and non-state providers. The MHMS is responsible for providing public health services, including maternal and child health, family planning, school-based outreach, dental services, mental health, and vaccination and immunization. Section 10 (2) of the Health Services Act enables the Ministry to arrange with Provincial Assemblies and the Honiara City Council (HCC) to undertake any of the above-mentioned public health services. Section 13 of the Act also empowers the Ministry to make arrangements with church or voluntary bodies for the provision of health services.

The Environmental Health Act 1980 sets up the administration and structure of community health in Solomon Islands. The Minister of Health is responsible for the administration of environmental health services. The Minister may delegate this administration to the Provincial Government and the HCC which are designated as Enforcement Authorities. The Environmental Health (Public Health Act) Regulations deal with public health issues and how to deal with them when they occur. The regulations empower the Minister and the Under Secretary of the MHMS to take specific measures to prevent the occurrence of a public health disease or where such disease had already occurred, to take measures to contain and prevent the spread of the disease.

To ensure quality of care, key legislative instruments implemented and upheld by the MHMS include:

- Health Workers Act 1989 – which regulates the functions and duties of various categories of health-workers and establishes a Health Workers Board "to prescribe registration, deal with matters pertaining to discipline and other connected matters";
- Medical and Dental Practitioners Act 1988 – "to regulate medical and dental practitioners";
- Nursing Council Act 1987 – which establishes a Nursing Council to register and regulate nurses, midwives and auxiliary nurses; and
- Quarantine Act 1978 – "for the inspection, exclusion, detention, observation, segregation, isolation, protection, treatment, sanitary regulation and disinfection of vessels, persons, goods and things" in order to prevent the introduction or spread of diseases.

5.1.8 Infection Prevention Control and Health Care Waste Management

Infection Prevention and Control Guidelines (IPCG) for Health Facilities were commissioned in 2020 by the World Health Organization (WHO) in collaboration with the MHMS (Annex VI) and published in September 2021. The overall purpose of these guidelines is to provide guidance on IPC standards and healthcare waste management for all levels of health service provision within the Solomon Islands. These guidelines are based upon the WHO Core Components of Infection Prevention and Control, Sierra Leone National IPC Guidelines, the previous MHMS Solomon Islands IPC Guidelines, and the Secretariat of the Pacific Community (SPC) Infection Prevention and Control Guidelines.

The MHMS is responsible for the regulation of healthcare waste in the Solomon Islands. However, generally the management of healthcare waste lies with the individual hospitals with little intervention from the MHMS. MECDM is responsible for waste disposal and waste disposal facilities. The waste management sector relies largely on legislative and regulatory documents that contain general waste provisions. The legislations summarized in Table 5.1 should be used as the guidance for proper management of healthcare waste in the Solomon Islands. The MHMS IPCG also contains measures for managing health-care waste (Annex VI).

***Table 5.1**. Legislation and Regulatory Impacting Healthcare Waste Governance – Solomon Islands*

Legislation	Type	Summary	Regulator/ Agency
Environment Act 2008	Act	The Act makes provisions for the protection and conservation of the environment. With regards to waste control and management, section 3c of the Act specifies the following: 'to reduce risks to human health and prevent the degradation of the environment by all practical means. In section 3(c) (ii), objects of the Act include to regulate the transport, collection, treatment, storage and disposal of waste and to comply with and give effect to regional and international conventions and obligations relating to the environment. Waste is dealt with in Part IV Control of Pollution. Section 5 establishes an ECD consisting of a Director and Environmental Inspectors who enforce provisions of the Act.	MECDM/ECD
Environmental Regulations 2008	Regs.	Part 5 details the considerations the Director must take in approving a license application for waste discharge. Regulation 14(1)(d) states the Development may issue a Development Consent if satisfied that 'the proposed prescribed development will not contravene any relevant environmental obligation under any international treaty, convention or instrument to which Solomon Islands is a party'. Under r 18(1)(c), an appeal may be made against a decision of the Director under s 32 of the Act on the grounds the decision was 'inconsistent with any international treaty, convention or regional arrangement to which Solomon Islands is a party to'. Regulation 23(1)(c) states the Director may issue a license in Form 8 (a license to discharge waste) if 'the amendment will not contravene any environmental obligation under any international treaty, convention or arrangement to which Solomon Islands is a party'.	MECDM/ECD
Environmental Health Act 1980	Act	This Act's objective is to ensure the maintaining of environmental health. Its regulation prohibits people from causing nuisances including the prohibiting of discharging of noxious matter or waste from premises. Section 94 prohibits depositing waste in water sources of urban sanitary districts. Sch 5 part I section 4 assigns refuse collection and street cleaning and refuse disposal to HCC.	MHMS
The Honiara (Refuse Disposal) Bylaw 1995	Bylaw	The By-Law provides for the use of standard receptacles as approved by the council and the means of disposal. The receptacles must be in good condition and taken care of. Fines are also incurred for offenders to the By-law.	Honiara City Council

5.1.9 Labor Legislation

The legislation governing labor management in the Solomon Islands includes:

- **Labor Act** (revised edition 1996) provides an overarching framework for labor legislation, establishing standards in relation to:
    - Days and hours of work
    - Payment of wages

    - Written contracts of employment
    - Maternity leave
    - Child labor
    - Care of workers
    - Termination of employment
- **Trade Unions Act** (revised edition 1996), which regulates the registration, leadership and operation of trades unions in Solomon Islands
- **Workmen's compensation Act** (revised edition 1996) makes provision for compensation to workmen injured at work in Solomon Islands, it's also include occupational diseases.
- **National Provident Fund Act** (revised edition 1993) requires employers to pay contributions for any employee under a contract of service or apprenticeship.
- **Unfair Dismissal Act** (revised edition in 1996) provides a remedy for employees who may be unfairly dismissed and establishes right of referral to the Trade Disputes Panel
- **Safety at Work Act** (1982) designed to establish safe systems of work to eliminate or minimize the risks to health, safety and welfare. Under the Safety at Work Act, employer has the duty to:
    - Ensure the health, safety and welfare of all employees including part-and full-time workers, temporary workers and work experience people.
    - Inform, instruct and supply relevant information to all employees
    - Ensure that all plant, machinery and systems of work are safe and without risk to health and safety.
    - Ensure that all premises are safe to use and that all hazardous processes are either eliminated or adequately controlled.
    - Ensure that adequate training is supplied to staff where applicable
    - Ensure freedom from discrimination, harassment, bullying or violence in the workplace.
    - Ensure the health and safety of other who are not employed by the employer but may be affected by their undertaking, for example visits or contractors.

The Subproject has prepared an overarching Subproject specific Labor Management Procedure documents which aligns with ESS2 Labor and Working Conditions of the WB ESF.

5.2 World Bank Environmental and Social Framework (ESF)

Under WB classification the overall Subproject environmental and social risks rating is set at Substantial, particularly in relation to: (i) Occupational, Health and Safety (OHS) management of healthcare workforce; (ii) environmental pollution and community health and safety issues related to the handling, transportation and disposal of healthcare waste; (iii) Infection transmission and (iv) lack of capacity and experience of the implementation agency with regards to the WB's policy requirements for E&S management and (iv) the real or perceived inequities to the delivery of services.

The Subproject takes into consideration the potential negative impacts of installing the incinerator particularly given the proposed site is close to residential areas and construction of Isolation Unit as the site is on hospital area which construction and operation will have impacts on the patients and hospital workers Mitigations measures will be developed to effectively avoid and/or minimize the impacts. Proper planning and consultation is important to develop mitigation measures, which is suitable for all stakeholders including the environment.

Six of the ten Environmental and Social Standards (ESSs) of the WB ESF have been screened as relevant. They are assessed in Table 4 below. The other four are considered not relevant, namely: ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS8 on Cultural Heritage, and ESS9 on Financial Intermediaries. Detailed information on the Bank's ESF are available at: https://www.worldbank.org/en/Subprojects-operations/environmental-and-social-framework

The ESS that apply to the Subproject and the required measures and actions that apply are listed in Table 5.

Table 5.2. *Relevant Environmental and Social Standard*

Environmental & Social Standard	Relevance to the Subproject
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	ESS1 is relevant to this Subproject as installation of the incinerator and construction of the new solation unit will potentially have E&S impacts on the surrounding environment and people, which requires effective mitigation.

Environmental & Social Standard	Relevance to the Subproject
ESS2 Labor and Working Conditions	ESS2 is relevant to this Subproject as it involves the use of human resources to execute the construction activities. It is important to consider the working condition and welfare of the workforce of the Subproject activities. A Labor Management Procedure (LMP) document has been prepared for the overarching Subproject in accordance with ESS2
ESS3 Resource Efficiency and Pollution Prevention and Management	ESS3 is relevant as this Subproject as it covers the disposal of medical waste and may generate solid waste.
ESS4 Community Health and Safety	ESS4 is relevant as the construction and operation of incinerator may potentially cause health and safety risks to the GSH residents, patients, visitors and surrounding community members.
ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Indigenous people are expected to be the sole or the overwhelming majority of direct Subproject beneficiaries as the Subproject is expected to enhance health system to provide better service for the people. Accordingly, a separate Indigenous Peoples Planning Framework (IPPF) will not be prepared.
ESS8 Cultural Heritage	Although this standard is not considered relevant, in the unlikely event of construction or the movement of earth or items such as materials in connection with any Subproject activities that have not yet been identified the chance finds procedure (CFP) provided in the CoESP will apply.
ESS10 Stakeholder Engagement and Information Disclosure	ESS10 is relevant as the Subproject ensures to engage relevant stakeholders through the life cycle of the Subproject. A Stakeholder Engagement Plan (SEP) has been developed for the overarching Subproject in accordance with ESS10

5.2.1 World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines).

The following EHS guidelines are relevant to the Subproject will be used to guide the development of a Code of Environmental and Social Practice (CoESP – Appendix 1) and LMP:

- General EHS Guidelines: Environmental
- General EHS Guidelines: Occupational Health and Safety
- General EHS Guidelines: Community Health and Safety
- General EHS Guidelines: Construction and Decommissioning
- Environmental, Health, And Safety Guidelines Health Care Facilities.

5.2.2 World Bank Response to COVID-19

The World Bank Group (WBG) has developed the following guidance material in response to COVID-19 outbreak:

- Guideline for the preparation of a Contingency Plan for Subproject Sites.
- Technical Note: Public Consultations and Stakeholder Engagement to be applied to Subprojects under implementation and those under preparation.

- Technical Note: Use of Military Forces to Assist in COVID-19 Operations Suggestions on how to Mitigate Risks.
- Technical Note: SEA/H for HNP COVID-19 Response Operations.

For ESS1, the WB also identifies risks and mitigations measures for the transactions involving specific Subproject finance activities (i.e. works, goods and services, and technical assistance). The guidance has been considered during the preparation of this ES and supporting documents.

5.3 Relevant international and Regional Agreements

Solomon Islands is a party to the following regional and international agreements:

- London Convention and Protocol. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972, commonly called the "London Convention", is an agreement to control pollution of the sea by dumping. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of waste and other matter. In 1996, the "London Protocol" was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol all dumping is prohibited, except for possibly acceptable waste on the so-called "reverse list". The Protocol entered into force on 24 March 2006 and there are currently 53 Parties to the Protocol, including the Solomon Islands.
- Natural Resources and Environment of the South Pacific Region (1986) (SPREP or Noumea Convention). This Convention is the major multilateral umbrella agreement in the Pacific Region for the protection of natural resources and the environment. This Convention was ratified by the Solomon Islands in 1989.
- Pacific Regional Solid Waste Management Strategy 2010-2015. Solomon Islands was one of several Pacific island countries to adopt the Pacific Regional Solid Waste Management Strategy, initiated by SPREP, and adopted by member countries in 2009. This regional strategy covers medical waste from public institutions such as hospitals and health care clinics, and special and difficult waste such as asbestos.
- Stockholm Convention for Persistent Organic Pollutants. The Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict

the production and use of persistent organic pollutants (POPs). This convention was ratified and entered into force in Solomon Islands in May 2004.

- Waigani Convention on Hazardous Waste. The 1995 Waigani Convention is a treaty that bans the exporting of hazardous or radioactive waste to Pacific Islands Forum countries and prohibits Forum island countries from importing such waste. The convention has been ratified by Solomon Islands and entered into force in 2001.

5.4 Relevant Good International Industry Practice (GIIP)

Relevant Good International Industry Practice (GIIP) such as WHO technical guidance have been developed for addressing COVID-19. These technical guidance documents are evolving, and they are being updated as new information becomes available and country conditions change. The guidance has been considered during the preparation of this ESIA and supporting documents.

WHO resources include technical guidance on: (i) laboratory biosafety, (ii) infection prevention and control, (iii) rights, roles and responsibilities of health workers, including key considerations for occupational safety and health, (iv) water, sanitation, hygiene and waste management, (v) quarantine of individuals, (vi) rational use of PPE, (vii) oxygen sources and distribution for COVID-19 treatment centers, (viii) Surveillance and case definitions, (ix) Risk communication and community engagement, (x) vaccine readiness assessment, (xi) surveillance of adverse events following immunization.

WHO Guidelines for COVID-19 are summarized in **Table 5.3**. Additional guidance is also listed in Annex VIII of the IPCP.

***Table 5.3**. WHO Guidelines for COVID-19*

WHO Guideline	Content
Covid-19 guidance environmental on cleaning for healthcare facilities 17 April 2020	Guidance on the cleaning and disinfection of rooms and wards or areas in healthcare facilities occupied with suspected and confirmed COVID-19 patients.
Covid19-stigma-guide	Methods to address risk of social stigma and discriminatory behaviors against people of certain ethnic backgrounds as well as anyone perceived to have been in contact with the virus.
Critical preparedness readiness and response actions COVID-10 2020-03-22_FINAL-eng	Update to the interim guidance document. This version provides updated links to WHO guidance materials and provides the full list of WHO technical guidance available for COVID-19 and provides updated recommendations in the table.

WHO Guideline	Content
WHO-2019-nCoV-essential_health_services-2020.1-eng	Countries will need to make difficult decisions to balance the demands of responding directly to COVID-19, while simultaneously engaging in strategic planning and coordinated action to maintain essential health service delivery, mitigating the risk of system collapse. … Establishing effective patient flow (including screening, triage, and targeted referral of COVID-19 and non-COVID-19 cases) is essential at all levels.
WHO-2019-nCov-Hand_Hygiene_Stations-2020.1-eng	Hand hygiene is the most effective single measure to reduce the spread of infections through multimodal strategies.
WHO-2019-nCoV-HCF_operations-2020.1 – eng	To guide the care of COVID-19 patients as the response capacity of health systems is challenged; to ensure that COVID-19 patients can access life-saving treatment, without compromising public health objectives and safety of health workers.
WHO-2019-nCov-HCW_risk_assessment-2020.2-eng	This data collection form and risk assessment tool can be used to identify infection prevention and control breaches and define policies that will mitigate health care worker's exposure and nosocomial infection (infection originating in a hospital).
WHO-2019-nCov-HCWadvice-2020.2-eng	This document highlights the rights and responsibilities of health workers, including the specific measures needed to protect occupational safety and health.
WHO-2019-nCov-IPC_Masks-2020.3-eng	It is possible that people infected with COVID-19 could transmit the virus before symptoms develop. It is important to recognize that pre-symptomatic transmission still requires the virus to be spread via infectious droplets or through touching contaminated surfaces.
WHO-2019-nCoV- IPC_WASH-2020.2-eng	Frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection with the COVID- 19 virus. WASH practitioners should work to enable more frequent and regular hand hygiene by improving facilities and using proven behavior-change techniques.
WHO-2019-nCoV-IPC-2020.3-eng	Guidance on infection prevention and control (IPC) strategies for use when COVID-19 is suspected.
WHO-2019-nCoV-IPCPPE_use-2020.2-eng	Summarizes WHO's recommendations for the rational use of personal protective equipment (PPE) in health care and community settings, as well as during the handling of cargo.
WHO-2019-nCoV-Leveraging_GISRS-2020.1–eng	Several countries have demonstrated that COVID-19 transmission from one person to another can be slowed or stopped. The key actions to stop transmission include active case finding, care and isolation, contact tracing, and quarantine.
WHO-COVID-19-lab_testing-2020.1-eng	Laboratory testing guidance for COVID-19 in suspected human cases.
WHO-COVID-19-IPC_DBMgmt-2020.1-eng	Interim guidance for all those, including managers of health care facilities and mortuaries, religious and public health authorities, and families, who tend to the bodies of persons who have died of suspected or confirmed COVID-19.
WHO-WPE-GIH-2020.2-eng	The purpose of this document is to provide interim guidance on laboratory biosafety related to the testing of clinical specimens of patients that meet the case definition of the novel pathogen identified in Wuhan, China, that is, coronavirus disease 2019 COVID-19.

WHO Guideline	Content
WHO 2019 Overview of the Technologies for the Treatment of Infectious and Sharp Waste from Health Care Facilities?	The purpose of this document is to provide 1) criteria for selecting technologies to facilitate decision making for improved health care waste management in health care facilities and 2) an overview of specific health care waste technologies for the treatment of solid infectious and sharp waste for health care facility administrators and planners, WASH and infection prevention control staff, national planners, donors and partners.
WHO-2019-nCov-Immunization-Cold_Chain-2020.1-eng.pdf	The purpose of this document is to provide advice on cold-chain safety considerations.

6. Impact Assessment

The CA03 Incinerator model procured by the PMU was not reviewed for E&S compliance requirements. The CA03 is a new unit and the supplier advised that emissions testing has not been completed and no data is currently available. Completion of modelling is not feasible for this Subproject based on lack of baseline data (and no working monitoring equipment in country), capacity, budget and time constraints. The incinerators will arrive in country in July. Storing the incinerators is considered a risk as units may deteriorate and there is the chance parts will go missing. Because emissions data is not available for the purchased CA03 model, data for a similar model has been adopted to give an indication of expected emissions. Refer to Table 6.1 technical specifications for the i8-M70 incinerator model compared to the CA03 model.

Table 6.1 *Technical Specifications of the i8-M70 Incinerator Model vs CA03 model*

	CA03	I8-M70
Chambers	2	2
Operation Temperature	> 1,100°C _ < 1,200°C (in Secondary Chamber)	>850°C (in secondary chamber)
Burn rate	Up to 20kg per hour	Up to 50kg per hour
Dimensions (l,w,h)	2.085m x 1m x 6m	1.61m x 1.19m x 4.68m
Fuel Consumption	Full tank takes 4 weeks (5 days/wk use).	10-15 liters per hour
Fuel Type	Diesel	Light Oil, Diesel, Kerosene, Gas, LPG
Combustion Chamber Volume (m3)	0.3m³	0.75m3
Shipping Weight	4,200kg	2,450kg

Note: Actual burn rates and emissions will depend on a number of factors including waste type, volume of waste, moisture content, fuel used and local environmental conditions. *Source: iNCINER8, Advanced Combustion Engineering*

Use of the incinerator will result in emissions. Measured emissions (i.e., from the stack) were not able to be provided by the supplier. The results for the I8-M70 model have been utilized and compared to EU standards to give an indication of expected AQ outputs. These are provided in **Table 6.2**. Solomon Islands does not have air emissions standards, The WB EHS Guidelines for Health Care Facilities[1] provide emissions targets for small incinerators and these have been provided in **Table 6.2**. Most of the parameters provided in these guidelines differ slightly from the monitoring data provided by the vendor so direct comparison cannot be undertaken for most parameters. According to iNCER8, these figures are guidelines only and actual emissions depend on several factors including waste type, volume of waste, moisture content, fuel used and local environmental conditions.

Table 6.2 *Average emissions (on basic incinerator with secondary chamber without scrubbing system)*

Parameter	**Measured***	**European Union Standard****			**EHS Guidelines for Health Care Facilities*****
Averaging time	**1/2 hour**	**Daily**	**Hourly**	**4 hours**	**Not specified**
Unit	**mg/m3**	**mg/m3**	**mg/m3**	**mg/m3**	**mg/m3**
Total Dust	12	5	10	NS	-
Total Particulate Matter	NS	NS	NS	NS	10
Total organic carbon	5	5	10	NS	10
Chlorine compounds	NS	5	10	NS	NS
Hydrogen chlorine	NS	NS	NS	NS	10
Fluorine compounds	NS	1	2	NS	NS
Hydrogen fluoride	NS	NS	NS	NS	1
Sulphur dioxide	2.4	25	50	NS	50
Nitrogen dioxide	60	100	200	NS	-
NOx	NS	NS	NS	NS	400
Carbon monoxide	78.3	50	100	NS	50
Mercury	NS	NS	NS	0.05	0.05
Cadmium and thallium	NS	NS	NS	0.05	0.05

[1] https://www.ifc.org/wps/wcm/connect/960ef524-1fa5-4696-8db3-82c60edf5367/Final%2B-%2BHealth%2BCare%2BFacilities.pdf?MOD=AJPERES&CVID=nPtgRx5&id=1323161961169

Parameter	Measured*	European Union Standard**			EHS Guidelines for Health Care Facilities***
Averaging time	**1/2 hour**	**Daily**	**Hourly**	**4 hours**	**Not specified**
Unit	**mg/m3**	**mg/m3**	**mg/m3**	**mg/m3**	**mg/m3**
Lead, chromium, copper, and Manganese	NS	NS	NS	0.5	0.5 (excluding tin)
Nickel and arsenic	NS	NS	NS	0.5	
Antimony, cobalt, vanadium and tin	NS	NS	NS	0.5	
Dioxins and furans	NS	NS	NS	0.1 ng/Nm3TEQ	0.1 ng/Nm3TEQ
Oxygen content	NS	At least 6%			At least 7%

** Source: iNCER8; ***Source: WBG EHS Guidelines for Health Care Facilities; NS = Not Specified*

While data is not available for the specific model purchased, based on the above it can be extrapolated that air quality impacts will be manageable and an improvement on the current situation where waste is burned on the ground next to the incinerator. The supplier has advised that the units create minimal odor and are smoke free when operated as designed. As such, comprehensive training for operators will be the key mitigation measure, supported by working with the PMU and hospital to ensure that the appropriate budget and plans are in place to ensure that incinerators are maintained. The new unit will provide an improvement from the current incinerator located on the site which has no stack and a lower burn temperature. The PMU will monitor the operation of the incinerator post-installation and adjust procedures if necessary, based on their observations and community feedback which will be collected via consultation and the Subproject Grievance Redress Mechanism (GRM). Additional consultation with staff who will be impacted by the incinerator were completed in December 2022.

The overall impact of the Subproject is expected to be largely positive by improving infection control and more efficient and safer disposal of medical waste for the hospital and community. Construction for the installation of incinerator and Isolation Unit will introduce short-term impacts that will require management and mitigation strategies. The impacts and risks are discussed under this section and mitigation measures to manage these impacts and risks are described in Section 7 and Table 7.1. Operation of the incinerator will generate ongoing impacts as described in Section 6.1.3.

The work scopes and all identified impacts and risks will be further assessed during the development of the Code of Environmental and Social Practice (CoESP). The selected contractor is required to develop a CoESP, based on this ESIA, to confirm activities and to identify any additional impacts or risks not in this ESIA. The CoESP requires PMU approval prior to any works proceeding and a template and guiding text is provided to assist the contractors as Appendix 1.

6.1 Potential Environmental and Social Impacts

6.1.1 Planning and Design

The planning of the Subproject is a collective effort and discussions between the PMU, MHMS, WB, GSH management and representatives, residents, church and school representatives. The PMU ESHS&CE Officer has conducted formal and informal discussions and consultations with the stakeholders on the Subproject activities and impacts.

During planning, the ideal site selected for the incinerator was next to the existing incinerator and site for the Isolation Unit is a designated site at the western end of the main hospital building. The sites are free from land restrictions as they are within the hospital compound. Selected materials and facilities are considered in the design to ensure durability, accessibility, sustainability and suitability for tropical climate. Stakeholders involved in the Subproject are the MHMS, residents, school, contractor, hospital management and patients and, market vendors. The associated risks in planning of the Subproject include; engaging an unfit contractor to construct the Isolation Unit and installation of the incinerator, procuring inappropriate incinerator for the hospital, community grievances, and design failure due to flood vulnerability of the site.

6.1.2 Construction

The construction and installation activities for the incinerator and the Isolation Unit will not require special land acquisition as it is already within Good Samaritan mission land. The residents have been consulted about the construction activities and the possibility of their food crops located within the incinerator site cleared. This causes the risk of grievance from the residents on losing their gardening site to the incinerator.

Grasses and scrubs will be removed and there will be minor earthworks to construct foundation for incinerator and power plant shed which may cause erosion and sedimentation, particularly given the site is prone to flooding. Digging of the ash pit next

to the incinerator shed may also cause erosion particularly during heavy rainfalls where topsoil may be carried away into the surrounding residential areas.

For the Isolation Unit, there will be earthworks for building footing and drainage and erosion may occur during rainy periods. Noise and vibration from machinery and vehicles is expected during constructions and this could cause a nuisance to the hospital patients and nearly residents. Vehicles and machinery operating during construction and installation may generate dust and fumes which could cause health risks to sick patients at the hospital. The contractor will obtain construction materials from manufacturer/suppliers locally/internationally and provide the workforce for the Subproject, which could include casual labor from surrounding residents. Construction materials such as gravel, sand, timber, cement and steel rods for concrete will be obtained by the contractor from material suppliers in Honiara and transported to site on appropriate vehicles.

Some of the fabricated materials such as flooring, steels carpet tiles, roofing and ceiling lining and finishes will be shipped in from overseas suppliers. Material storage will require additional open-spaces at the backyard to place containers and temporary shelter. Construction work will use water for concrete mixing and washing of tools after each days' work. This has the potential to affect the surrounding area by creating a water-logged and muddy condition. Also workers would need access to a toilet and clean water for food preparation or general use. Unavailability of proper toilet facility would force workers to use surrounding bushes which would potentially lead to outbreak of diseases. Similarly, not having access to clean water for food preparation, drinking and washing of eating utensils may easily lead to workers developing infectious diseases that may spread within the community.

There may be a risk of obtaining unfit materials, equipment, and engaging inappropriate workers, which could not deliver workforce effectively. The construction of the Isolation Unit is close to the hospital therefore, there may be a risk of accidents and injuries to health workers, staff and patients at the hospital. Construction workers will be accommodated at their homes in Honiara and travel to site while some workers may reside locally in or in the temporary tool sheds to provide onsite security. The possible risk of Gender Based Violence (GBV), Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and

Violence Against Children (VAC) will need management onsite during working times and if workers are accommodated locally or onsite.

Access to the incinerator site is by a feeder road connecting to the main road (away from residential areas), which then connects to the proposed access road to actual site (**figure** 3.7). This poses the risk to community health and safety to the residents as machines and vehicles will be travelling through residential area during construction. The Isolation Unit will be access by a propose gate will be constructed along the existing hospital to fence. Solid and hazardous waste from construction activities may pose a risk of pollution to the environment.

6.1.3 Operations

During operation, the Subproject activities require water, hence will be connected to the existing hospital water system. This may risk shortage of water supply for the hospital, as large amounts of water would be used for cleaning and the Isolation Unit facilities. The incinerator may also produce noise during usage, which may cause noise pollution impacting nearby residents. Additionally, odor and dust during transportation of waste to incinerator site may cause nuisance to nearby residents and reduce air quality in the vicinity. The residents and patients may experience smoke and odor as well from the incinerator especially when burning wastes during windy periods, which could cause health risks.

The incinerator consists of durable materials therefore, structure is permanent, which the risk is solid waste during the end life of the Subproject. The Isolation Unit shall provide isolation services to people with severe infections who necessarily require isolation therefore it pose the risk of infection transmission to health workers manning the isolation. Moreover, waste from the Isolation Unit will be shifted to the incinerator through the access road, which may pose risk of infection transmission to nearby residents. In extreme natural hazards such as flooding, water could wash away dusts or ash into nearby bushes and residential areas, which would then contaminate the soil. There is risk of fire to the Isolation Unit and incinerator as sites situates on grassland and improper storage of fuel and usage of facility/ item could trigger fire, which then may cause injuries and death to workers and/or patients. Additionally, incorrect operation of incinerator may cause damage to the equipment.

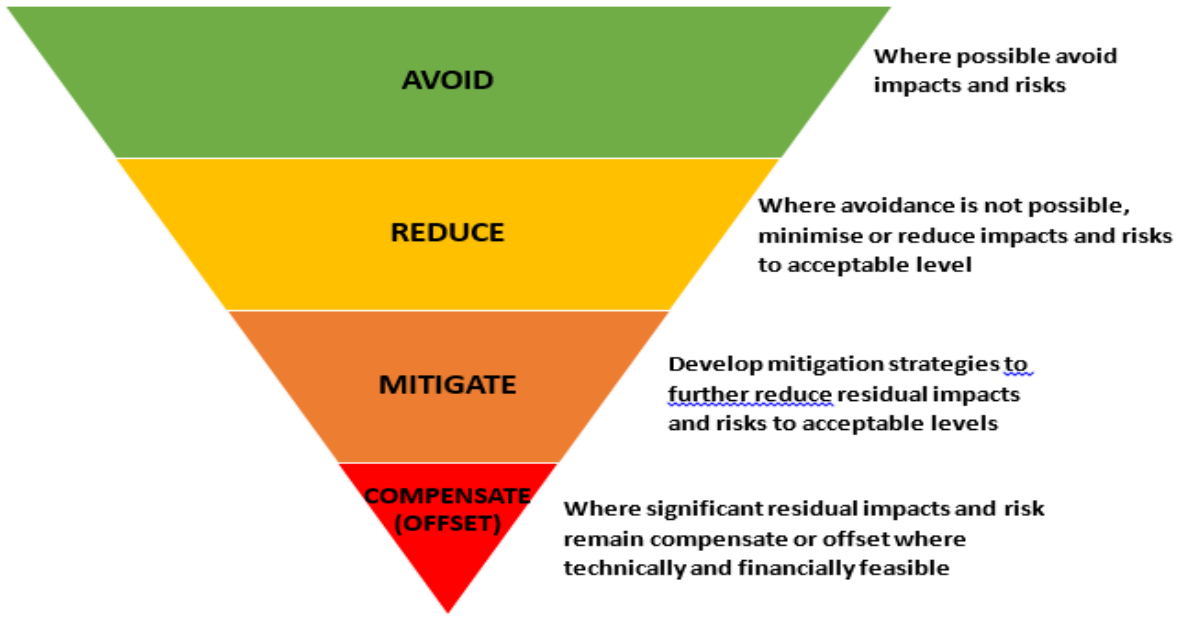
6.1.4 Decommission

At the end of life of the Subproject, infrastructures such as incinerator house and the Isolation Unit will be renovated and/or expanded to maintain the operations. All the waste from the incinerator and Isolation Unit will be transferred to Ranadi landfill for discarding. All the ash will be buried and seal in the ash pit. The risk at the end life is improper disposal of the equipment and waste, which may result in pollution. There is still hope that the Ranadi damp site will soon see a face-lift in a much organised way in the near future through external assistance as currently done by an ADB project. This would enable proper management of solid and hazardous wastes generated by the decommissioning exercise.

7. Impact Mitigation

To address the potential adverse impacts and risks of the Subproject, mitigation measures are developed to avoid and/or minimize the impacts and risks on the biophysical and social environment surrounding the Subproject site utilizing the mitigation hierarchy detailed in **Figure 7.1.** Negative impacts and risks during the various phases of the Subproject are considered and strategies to avoid and/or minimize the impacts, in a best way possible, will be implemented. **Table 7.4** details the impacts, risks and mitigation strategies to avoid or mitigate impacts and risks of the Subproject.

Figure 7.1 *Mitigation Hierarchy*



7.1 Planning and Design

During planning, the PMU has conducted consultation with relevant stakeholders to inform and gather feedback ensuring E&S due diligence process. In addition, the PMU with the MHMS shall conduct a proper tender process to ensure a qualified and reputable contractor is selected based on capacity and capability to carry out the construction and installation work and implement the required E&S management measures to mitigate associated impacts and risks. The MHMS and PMU will ensure materials; equipment and building designs suit the tropical climate condition and requirements for incinerator and Isolation Unit. The site for the incinerator has been selected during consultation as the area designated for waste management and the incinerator will be installed at the furthest corner of the site.

7.2 Construction

The contractor and the PMU ESHS&CE Officer will closely monitor the implementation of the CoESP to manage the adverse impacts and risks of the Subproject. Any soil erosion from earthworks for incinerator shed and isolation footing will be minimized by securing excavated top soil or gravel that are likely to be wash off during rain and flooding in a proper place and limit removal of vegetation. Significant vegetation to be maintained and only trees and vegetation that hinder construction site could only be removed. This means only grasses and parts of gardens that on incinerator site should be removed and the rest of the areas should remain as it is.

The contractor must dispose construction waste in a secure and appropriate landfill. Dust from construction activities should be controlled by the contractor utilizing appropriate methodologies. Waste water from site must be properly managed or soaked into proper pits. The Subproject shall ensure the contractor provides full PPE for the workforce and any visitor to the site. Noise and vibration during construction is to be reduced by switching off machines and equipment when not in use and contractor to provide noise protection gear to workers.

Traffic management to reduce any hazards from construction vehicles will be undertaken by the contractor to minimize risks to the community, hospital staff and patients. Generators and similar machinery are to be placed in locations to avoid load noise to the hospital and residents. Construction fencing should be installed to avoid public access to the sites and to avoid injuries. Proper water channels and drainage, if required, will be

constructed to control storm water and flooding during construction and operation of the incinerator and Isolation Unit. During unloading of materials, construction workers will control the control the traffic to avoid longer congestion and all the hospital patients and surrounding residents are to be asked to keep away from the working area.

The PMU will ensure that contractors are fully aware of GBV, SEA, SH and VAC requirements outlined in the CoESP for the workforce. The MHMs has a national GBV Officer working under the social welfare department. There is an established national referral system called Safenet for the country, which the Subproject and PMU will utilize. Detail of the system can be found on the link[2] in the footnote. In addition, training will be provided to the incinerator and waste handers to improve their capacity to operate the facility.

7.3 Operations

Water connections made to the hospital water system for the use of the isolation unit must be properly managed to avoid shortage or wastage. Waste water from the operation of the facility must be properly handled through the use of drainage and soak pits.

The CA03 Incinerator model procured by the PMU was not reviewed for E&S compliance requirements. The CA03 is a new unit and the supplier advised that emissions testing has not been completed and no data is currently available. Based on this, air emissions data for a similar unit has been adopted and used as an indication of likely air quality emissions. Completion of modelling is not feasible based on lack of baseline data (and no working monitoring equipment in country), capacity and budget and time constraints. The incinerators arrive in country in February. Storing the incinerators is considered a risk as units may deteriorate and there is the chance parts will go missing.

The supplier has advised that the units create minimal odor and are smoke free when operated as designed. As such, comprehensive training for operators will be the key mitigation measure, supported by working with the PMU and hospital to ensure that the appropriate budget and plans are in place to ensure that incinerators are maintained. The new unit will provide an improvement from the current incinerator located on the site which has no stack and a lower burn temperature. The PMU will monitor the operation of the incinerator post-installation and adjust procedures if necessary, based on their

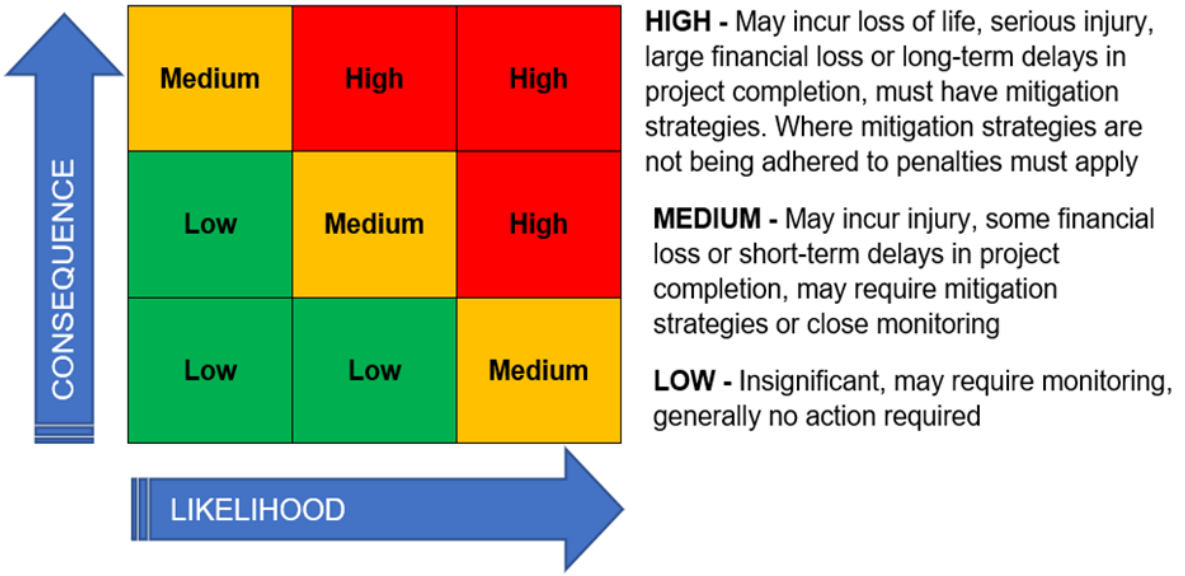
[2] https://www.facebook.com/SAFENETSolomonIslands/about

observations and community feedback which will be collected via the GRM. Additional consultations with staff who will be impacted by the incinerator were completed in December 2022.

7.4 Impact Risk Rating

For the purpose of this ESIA an impact is the expected outcome of an action and risk is the chance that the impact will occur, calculated as potential consequences of harm by the likelihood of the event occurring. Risk analysis for this ESIA was undertaken using the likelihood- consequence matrix detailed in **Figure 7.2.** The risk of the Subproject is considered medium as the implementation of the Subproject may cause erosion, noise and waste pollution, injuries and grievance which mitigation measures are developed.

***Figure 7.2** Risk Matrix*



7.5 Residual Risks

To determine the residual risks for each potential impact post implementation of mitigation strategies, a similar risk assessment approach has been undertaken. The likelihood of an impact occurring following the implementation of management and mitigation measures is assessed using the categories provided in **Table 7.1.**

***Table 7.1** Likelihood categories*

Likelihood	Description
Certain	Expected to happen routinely during the Subproject life
Likely	Could easily happen and has occurred on a previous similar Subproject
Unlikely	Possible, but not anticipated

The consequence of the impact occurring following the implementation of management and mitigation measure is assessed using the categories provided in **Table 7.2**.

Table 7.2 *Consequence categories*

Consequence	Description
Minor	Minor effects on biological, social, economic or physical environment, both built and natural. Minor short to medium term damage to small area of limited significance, easily rectified.
Moderate	Moderate effects on biological, social, economic or physical environment, both built and natural. Moderate short to medium term widespread impacts. More difficult to rectify
Major	Serious effects on biological, social, economic or environment, either built or natural. Relatively widespread medium to long term impacts. Rectification difficult or impossible.

Based on the assessment of the likelihood and consequence of a given risk with the proposed management and mitigation measures in place, a residual risk rating is derived from the risk matrix as presented in **Table 7.3.**

Table 7.3 *Residual Risk Matrix*

	Consequence		
Likelihood	**Minor**	**Moderate**	**Major**
Certain	Medium	High	High
Likely	Low	Medium	High
Unlikely	Low	Low	Medium

If an identified residual risk is not lowered or remains high, consideration of additional management and mitigation measures will be identified and implemented, or justification provided for the risk.

Table 7.4 details the assessed impacts and risks, the mitigation strategy to be applied to reduce each impact and risks, the persons/agency responsible for implementing the mitigation strategy and the residual risk after mitigation strategies are applied.

Table 7.4 *Impacts, risks, mitigation, responsibility and residual risk*

Potential Impacts	Potential Risks	Risk Rating	Mitigation	Responsibility	Resid. Risk
Design					
Subproject Failure	Inadequate design		Undertake sufficient research utilizing suitable technical specialists to identify appropriate sustainable technology	MHMS/PMU	
	Community does not accept Subproject		Facilitate good community consultation to ensure community understanding and	PMU	

Potential Impacts	Potential Risks	Risk Rating	Mitigation	Responsibility	Resid. Risk
			acceptance of the Subproject prior to implementation. Maintain a record of all consultations and provide regular feedback to communities on the status of the Subproject		
	E&S risks not mitigated		The contractor bidding documents should contain clauses on E&S requirements to guide the contractor on the key requirements. Table 8.1 provide guidance for the bidding documents	PMU Procurement Officer	
Construction					
Degradation of flora and fauna	Loss of critical flora and fauna		The contractor should ensure that there is minimal disturbance to the Subproject site area The contractor shall as much as possible complete the works in such a manner that natural aesthetics shall be retained at the location Guidance included in the CoESP	Contractor	
Loss of crops	Community oppose Subproject due to loss of livelihood		Document any food crops onsite and facilitate written agreements through consultation if they are impacted by site works	PMU	
Water quality	Erosion and sediment runoff		The contractor will ensure proper demarcation of the Subproject area to be affected by the works Works to limit vegetation removal at the Subproject site; Any excavation activities should not interfere with local drainage or introduce physical changes that are not in harmony with the physical setting of the Subproject area Retention of grass, herbaceous plants, shrubs and trees, to the extent possible on the Subproject site Guidance included in the CoESP	Contractor	

Potential Impacts	Potential Risks	Risk Rating	Mitigation	Responsibility	Resid. Risk
	Pollution		Ensure proper handling, storage and disposal of waste oil, lubricants, oil filters and fuel from vehicles Guidance included in the CoESP		
Noise and vibration	Community grievances		Undertake works at suitably agreed times that do not impact the community adversely Observe a common-sense approach to vehicle use, and encourage drivers to switch off vehicle engines when not in use Provision of appropriate PPE (hearing protection ear muffs) to the workers and any other person visiting the site Guidance included in the CoESP	Contractor	
Solid waste	Community grievances		Ensure all solid waste is deposed to approved landfill sites or in a manner that is acceptable to the community Guidance included in the CoESP	Contractor	
Local employment	Community grievances		Where possible use locals and local businesses Guidance included in the CoESP	Contractor	
Occupational health and safety	Injury or death		Contractor to conform to all OHS laws and regulations All construction workers should be inducted on the health and safety requirements while at Subproject site Workers should be provided with adequate and appropriate PPE (safety helmets, shoes, gloves, mask,) and enforce on use of the PPE's Provision of clean and accessible sanitary facilities and water to workers Install safety signage at the work site should be done by a trained certified, experienced personnel	Contractor	

Potential Impacts	Potential Risks	Risk Rating	Mitigation	Responsibility	Resid. Risk
			Contractor to report immediately to the PMU any OHS incidents Guidance included in the CoESP		
Social disruption	Community grievances		Non local workers to treat locally community with respect and follow the code of practice (COP) as outlined in the CoESP)	Contractor	
COVID - 19	Community infections		All the current at time of construction COVID-19 prevention measures should be observed and may include the following: • Wearing prescribed and appropriate PPE (masks) on site at all times. • Regularly washing hands, sanitizing and observing social distancing at all times • Seeking healthcare services immediately one experiences any of the following symptoms (while at home or work): cough, fever and shortness of breath.	Contractor	
Operations					
Injury or death to operators	Occupational, health and safety		OHS risks related to medical waste management including; thermal injuries while operating incinerators, sharps-inflicted injuries & disease infections are expected, the waste handlers and incinerators operators will be provided with adequate and appropriate personal protective equipment, provision of sanitation facilities (toilets and wash areas), provision of fire-suppression equipment guidance on operation and maintenance of the equipment, training and capacity building on OHS measures, infection prevention and control and	MHMS	

Potential Impacts	Potential Risks	Risk Rating	Mitigation	Responsibility	Resid. Risk
			medical waste management to healthcare workers, waste handlers and MWI operators		
Ash Pit	Community grievances and disturbance by feral animals		In selecting the appropriate site for the ash pit, to be considered is that it should be as close to the incinerator as possible. The site should be in a secure, non-public area that cannot be accessed by feral or domestic animals. Considerations for the local soil type should also be in mind when designing the ash pit.	MHMS	
Pollution of local water	Heath risks to community		It should be checked that the ash pit will not affect the groundwater, or be affected by it. Ash pits are not recommended in sites where the water table is near the surface or in areas prone to flooding. At least 1.5m from the bottom of the pit to the groundwater level is recommended. The contractor should dig a test pit and insert a narrow metal pipe or bar into the soil to a depth of 1.5 m. If the end of the bar is wet or soil removed from the pipe is wet, the pit may be too close to the ground water. If the groundwater is too close to the bottom of the test pit, considerations for other options such as changing the design of the pit to make it wider but shallower; creating more, shallower pits or creating a pit that is partially made of bricks above ground.	MHMS	
Air pollution from incinerator	Community grievances		Develop a set of operating guidelines that include: • Introduction of waste into the incinerator only after the optimum temperature is reached in the combustion chamber • Prevention of waste additions if the operating	MHMS	

Potential Impacts	Potential Risks	Risk Rating	Mitigation	Responsibility	Resid. Risk
			temperature falls below the required limits. • Implementation of a maintenance and other procedures to minimize planned and unplanned shut-downs • Avoiding operating conditions in excess of those that are required for efficient destruction of the waste • Avoiding operating the incinerator on days where weather conditions will lead to air discharges impacting local communities		
Fire	Damage to property, injury or death		Keep the area surrounding the incinerator and Isolation Unit clean and well mowed to remove possible fuel for a fire Have fire extinguishing capacity close to the incinerator when operating	MHMS	
Decommissioning					
Community expectations	Community grievances		Ensure the obsolete incinerator is disposed of in an acceptable manner in approved landfill	MHMS	
Solid waste	Community grievances		Ensure all solid waste is buried in the ash pit or disposed of at approved landfill sites	MHMS	

8. Requirement for Construction Bidding Documents and E&S Mitigating Cost Estimates

The following **Table 8.1** should be included in the bidding documents along with the CoESP template (Appendix 1) for construction phase of the Subproject. To implement the management of the E&S mitigation strategies the contractor will be required, with the support of the PMU to develop a CoESP (Appendix 1). Development of the CoESP will be undertaken at the contractor's expense and must be included in all bids for the bids to be valid.

Table 8.1 *E&S requirements and estimated costs for bidding documents*

Potential Impacts	Potential Risks	Mitigation	Contractors Requirements	Estimated Cost
All	**All**	**Develop and implement the CoESP**	**Develop in collaboration with the PMU a CoESP, implement and train staff on CoESP including OH&S**	**USD5,000**
Degradation of flora and fauna	Loss of critical flora and fauna	The contractor should ensure that there is minimal disturbance to the Subproject site area The contractor shall as much as possible complete the works in such a manner that natural aesthetics shall be retained at the location. Guidance included in the CoESP	The contractor to have a basic understanding of the site parameters and requirements for any earth works or other site disturbances during works	Contractor to include costs, if any, when bidding
Water quality	Erosion and sediment runoff	The contractor will ensure proper demarcation of the Subproject area to be affected by the works. Works to limit vegetation removal at the Subproject site; Any excavation activities should not interfere with local drainage or introduce physical changes that are not in harmony with the physical setting of the Subproject area. Retention of grass, herbaceous plants, shrubs and trees, to the extent possible on the Subproject site Guidance included in the CoESP	The contractor to have a basic understanding of the site parameters and requirements for any earth works or other site disturbances during works	Contractor to include costs, if any, when bidding
	Pollution	Ensure proper handling, storage and disposal of waste oil, lubricants, oil filters and fuel from vehicles Guidance included in the CoESP	Best practice to be undertaken by the contractor and detailed in CoESP	Contractor to include costs, if any, when bidding
Noise and vibration	Community grievances	Undertake works at suitably agreed times that do not impact the community adversely Observe a common-sense approach to vehicle use, and encourage drivers to	Standard best practice to be undertaken by the contractor and detailed in CoESP	Contractor to include costs, if any, when bidding

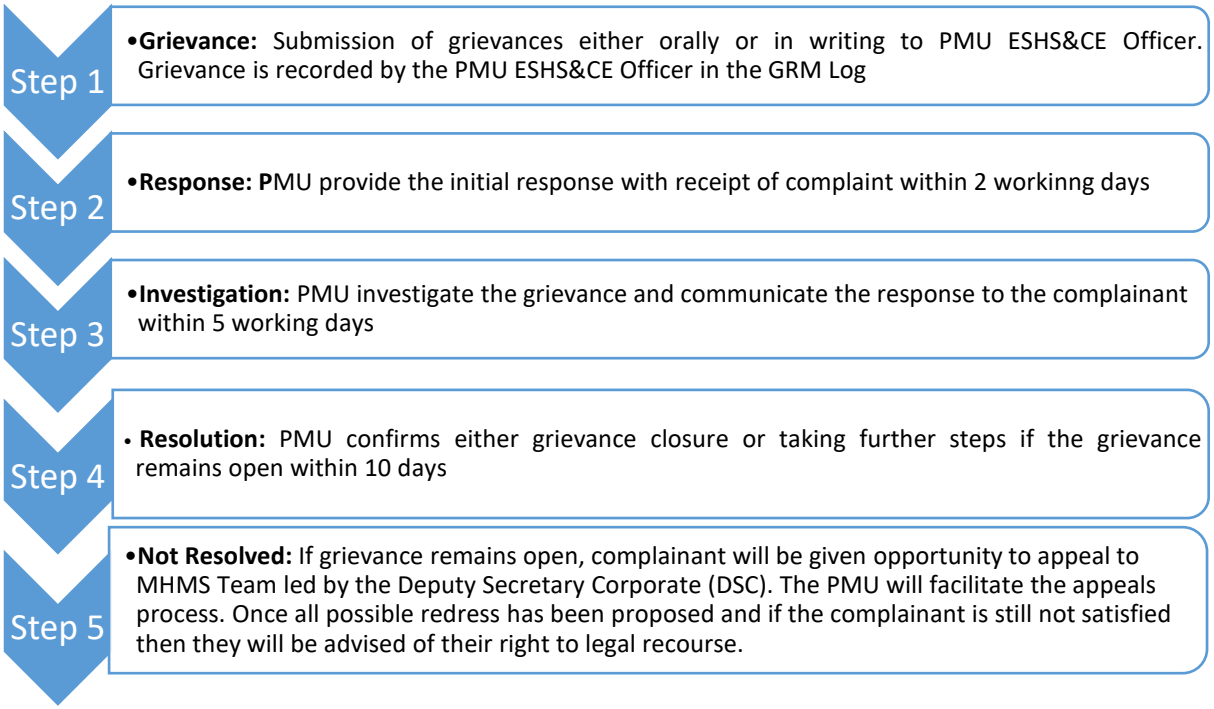
Potential Impacts	Potential Risks	Mitigation	Contractors Requirements	Estimated Cost
		switch off vehicle engines when not in use Provision of appropriate PPE (hearing protection ear muffs) to the workers and any other person visiting the site Guidance included in the CoESP		
Solid waste	Community grievances	Ensure all solid waste is deposed to approved landfill sites or in a manner that is acceptable to the community Guidance included in the CoESP	Best practice to be undertaken by the contractor and detailed in CoESP	Contractor to include costs, if any, when bidding
Local employment	Community grievances	Where possible use locals and local businesses Guidance included in the CoESP	Contractors to priorities local employment and businesses	No cost
Occupational health and safety	Injury or death	Contractor to conform to all OHS laws and regulations All construction workers should be inducted on the health and safety requirements while at Subproject site Workers should be provided with adequate and appropriate PPE (safety helmets, shoes, gloves, mask,) and enforce on use of the PPE's Provision of clean and accessible sanitary facilities and water to workers Install safety signage at the work site should be done by a trained certified, experienced personnel Contractor to report immediately to the PMU any OHS incidents Guidance included in the CoESP	Best practice to be undertaken by the contractor and detailed in CoESP	Contractor to include costs, if any, when bidding
Social disruption	Community grievances	Non local workers to treat locally community with respect and follow the code of practice (COP) as outlined in the CoESP)	Detailed in CoESP	No cost

Potential Impacts	Potential Risks	Mitigation	Contractors Requirements	Estimated Cost
COVID - 19	Community infections	All the current at time of construction COVID-19 prevention measures should be observed and may include the following: • Wearing prescribed and appropriate PPE (masks) on site at all times. • Regularly washing hands, sanitizing and observing social distancing at all times • Seeking healthcare services immediately one experiences any of the following symptoms (while at home or work): cough, fever and shortness of breath.	Contractor to comply with COVID 19 mandates at time of construction	Contractor to include costs, if any, when bidding

9. Complaints and Grievances

A Grievance Redress Mechanism (GRM) has been established by the PMU to record and resolve any complaint based on the Subproject activities. Any complaints and grievance during the life cycle of the Subproject will be acknowledged and recorded by the PMU ESHS&CE Officer. If the complaints or grievance is minor, the PMU ESHS&CE Officer and/or contractor/site supervisor may resolve it on site. For complaints and grievance that are not resolved onsite, the PMU ESHS&CE Officer will forward to the PMU Program manager (PM). The PMU PM will liaise with the PMU ESHS&CE Officer to negotiate and implement resolution. However, for complaints and grievance that are not resolve at this level, the PMU PM will forward to the Permanent Secretary (PS) MHMH and its executive for resolution. The PMU ESHS&CE Officer will liaise with all the stakeholders of the Subproject. The CoESP (Appendix 1) will provide guidance to the contractor for managing complaints and grievance on site. The GRM provides the steps for recording and resolving of any complaint and grievance of the Subproject. Below are the steps for GRM that the Subproject will be using to invite and resolve grievances.

Figure 9.1 *GRM process and timeframes*



10. Stakeholder Engagement

Different stakeholders are involved in the Subproject lifespan. Since the recruitment of the ESHS&CE Officer, consultations were carried out as detailed in **Table 10.1**. The key stakeholders include GSH, MHMS, a church and its vocational school, nearby residents and the public. A Stakeholder Engagement Plan (SEP) has been prepared for the Subproject to assist the stakeholder engagement process. The PMU ESHS&CE Officer conducted several consultations with the GSH management and staff on the Subproject activities. Following this, nearby residents, church, and vocational school representatives were consulted to provide them with information on the Subproject and likely impacts and risks.

Discussions between the PMU ESHS&CE Officer and the community members based on the direct impacts of incinerator included; how it will improve waste management for the hospital and the types of potential impacts and risks. Discussions also outlined the positive impact of putting in place a new Isolation Unit for the hospital and construction impacts and risks such as erosion, noise, dust, and OH&S. Starting dates for construction activities were discussed along with mitigation strategies to control noise, dust, accidents and community interaction with workers (including GBV, SEA &SH & VAC). A summary of community feedback is provided as Appendix 2.

A team from the WB consisting of international and regional representatives and specialists also visited the GSH to assess and discuss with the hospital management regarding the Subproject activities. Here discussions were based on what the hospital needs and what activity the Subproject is offering for the hospital. The nearby residents mainly consist of the hospital staff and church workers. The WB E&S specialists were part of the team which they observe and assessed the sites for the incinerator and isolation. Risks are identified and possible mitigation are discussed with the hospital management on site.

Table 10.1 *List of dates and activities carried out for stakeholder engagements for the GSH*

Date	Location	Activity Description	Stakeholders consulted
November 2021	Good Samaritan Hospital	• Site visits • Consultation for incinerator installation and refurbishment of Isolation Unit	- GSH management - Tetere residents/representatives - Tetere Don Bosco church and institute representatives
June 2022	Good Samaritan Hospital	• Consultations with Hospital workers and nearby residents on the impacts on incinerator and Isolation Unit.	- Hospital workers - GSH, Tetere residents
September 2022	Good Samaritan Hospital	• Site visit to determine road access to incinerator site. • Provide Subproject progress update to GSH management. • Gather views and discuss around mitigation measures for construction and operations impacts of Isolation Facility and incinerator installation activities.	- Hospital workers - GSH, Tetere residents

11. Capacity Development and Training

Capacity development and training is essential for the sustainability of the Subproject. The supplier of the incinerator shall provide training on incinerator handling and safety. This can be done both virtually and on-site delivery to incinerator handlers and staff of the GSH. The PMU will provide training for the waste handlers through the MHMS IPC group to improve their capacity on waste management. For the isolation, the Subproject shall ensure proper equipment for operation with manual to operation is obtained. The Subproject shall encourage capacity building and refresher trainings in the long run to improve the hospital and staff capacity. The Subproject will ensure OHS training for the construction workers are conducted. The MHMS has an Environmental Health Division,

which is responsible for provision of OHS training for national Subprojects. In overall, the MHMS being the government, has an ongoing capacity building training

12. Incident Management and Emergency Response

Any accident or incident to construction workers, GSH staff or the public that occur during the Subproject activities and/or on Subproject site will be reported to the PMU ESHS&CE Officer within 24 hours. The PMU and ESHS&CE Officer's contact details will be placed among other basic information of the works on a printed sign board at the construction site. During an accident, the affected individual (s) will be first treated at the GS hospital, being the closest health facility to the Subproject site. Then possible referrals can be done to the national referral hospital upon GSH medical expert's recommendation if/ when the issue is beyond GS hospital's handling capacity. If the issue is manageable for GSH, then it should be resolved there. Additionally, medical safety and first aid kits will be provided on site by the contractor as an OHS obligatory requirements expected to be fulfilled. Also the construction works is within the GSH compound hence warrants quick response by medical experts for life threatening incidents.

Incident investigations will be completed as required by MHMS PMU in accordance with the World Bank ESIRT process. With regards to fire incidents, it is ensured that the OHS requirements that the contractor is heavily obliged to fulfill should put him in a better position to address such including having a plan, identifying a designated emergency assembly area for workers and additional measures pertaining to fire safety plans and procedures. It is also understood that GSH also has fire safety equipment and a response plan as generally do all other hospitals and building infrastructure. The Subproject would enhance such plans by ensuring they are activated and integrated with a fire response plan and procedure of the Subproject managed by the contractor. As part of the ESHS&CE officer's obligation on safety, a stakeholder engagement undertaking will be activated that would further involve the nearest police station (Tetere Police station) being consulted and alerted for possible response on reported incidents as they arise from the Subproject site relating to fire, gender based violence and/ or social disorders relating to the Subproject. Furthermore, the ESHS&CE officer will ensure an OHS training is conducted with the contractor prior to commencement of work. It will cover important areas on safe work practices, emergency procedures for fire, evacuation, natural disasters, GBV, SEA, SH

and VAC. This should put the contractor in a much better position to manage incidents at Subproject site.

13. Implementation

The PMU will facilitate the implementation of the Subproject. The PMU ESHS&CE Officer shall ensure that the contractor abide by the WB's environmental and social standards (ESS) and the national E&S frameworks and regulations. The PMU (particularly the ESHS&CE Officer and infrastructure officer) will monitor the overall progress of the Subproject by conducting regular site visits and requesting progress reports from the contractor. The contractor shall provide a Subproject construction schedule to the PMU infrastructure officer. The ESHS&CE Officer shall ensure there is proper coordination between the MHMS, PMU and the contactor.

14. Monitoring

The PMU and specifically the PMU ESHS&CE Officer will be responsible for monitoring the implementation of the CoESP on site. The contractor will appoint an onsite E&S focal point who will be responsible for ensuring the implementation of the CoESP's E&S provisions. The focal person will liaise with the PMU ESHS&CE Officer and reporting incidents to the PMU.

The PMU ESHS&CE Officer should attend the induction training to monitor the implementation of the training and the signing of the company and individual code of practice (COP) as detailed in the CoESP. The ESHS&CE Officer should visit the site at least once every week that construction is underway to monitor the implementation of the E&S impact and risk mitigation strategies. These visits should be recorded and reported on in the regular PMU Subproject Reporting.

The ESHS&CE Officer will establish incident and reporting log to record the monitoring and incidents. Identification of non-compliance by the contractor on any of the provisions within the CoESP will require notification in writing to the contractor within 24 hours of the ESHS&CE Officer identifying the issue. Depending on the severity of the issue the letter should outline the timeframe for rectification and the actions required.

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Appendix 1. Code of Environment and Social Practice Template

SOLOMON ISLANDS GOVERNMENT

MINISTRY OF HEALTH AND MEDICAL SERVICES

P. O. BOX 349, HONIARA, SOLOMON ISLANDS

CODE OF ENVIRONMENTAL & SOCIAL PRACTICE (CoESP) TEMPLATE

Prepared by PMU – May 2023

Contents

Document history

Revision history			
Version #	**Date**	**Description**	**Name**
1	August 2022	Template Draft	Jahreth Limarii – PMU ESHS&CE Officer
2	May 2023	Template Draft	John.P.Labere – PMU ESHS&CE Officer
3	May 2023	Revisions	Greg Andrews E&S Specialist
4	June 2023	Cleaned final draft	John.P.Labere – PMU ESHS&CE Officer

Abbreviations and Acronyms

COC	Code of Conduct
CoESP	Code of Environmental and Social Practice
CSS	Contractor's Site Supervisor
E&S	Environmental and Social
EHS	Environmental Health and Safety
ESF	Environmental and Social Framework (World Bank)
ESH	Environmental, Social and Health
ESS	Environmental and Social Standard
GBV	Gender based violence
GRM	Grievance Redress Mechanism
GRS	Grievance Redress System
GSH	Good Samaritan Hospital
HCC	Honiara City Council
LUA	Land Use Agreement
MHMS	Ministry of Health and Medical Services
MLHS	Ministry of Lands, Housing and Survey
OHS	Occupation Health and Safety
PMU	Subproject Management Unit
POA	Plan of Action
PPE	Personal protective equipment
PS	Permanent Secretary
SIG	Solomon Islands Government
SWD	Social Welfare Department
VAC	Violence Against Children
WB	World Bank

1. Introduction

Generally, construction of small works poses limited environmental and social (E&S) impacts and risks, however it is still very important to take into consideration and implement the principles of best practice environmental and social risk management to facilitate outcomes that are harmonized with World Bank (WB) Environmental and Social Frameworks (ESF) Environmental and Social Standards (ESS) and to avoid any negative E&S impacts on local staff, workers and local communities. An Environmental and Social Assessment (ESIA) has been undertaken as a part of the Subproject approval. The ESIA should guide and be referred to in the completion of this CoESP.

2. Purpose of the Code of Environmental & Social Practice

The Code of Environmental and Social Practice (CoESP) is developed purposely to manage and guide the contractor in their management of environmental and social risks and impacts and the construction of WB projects. The contractor is obliged by the provisions of the contract to undertake the actions detailed in this CoESP which has been approved by the PMU. Should the contractor fail to comply with the provisions of this CoESP, the PMU shall withhold payment of invoices until the contractor resolves the issue(s).

3. Objectives

Key objectives of the CoESP are:

- To guide compliance with relevant Solomon Islands legislation and the CoESP conditions
- To describe the conditions and mitigation measures the contractor will undertake to manage the environmental and social impacts and risks including health and safety of workers.
- To clearly define key personnel roles and responsibilities for the management, implementation, monitoring and reporting of the provisions within the CoESP.
- To detail the contractor's responsibility for any training and internal communications, which ensures their workers, understand the risks and impacts associated with the Subproject.

4. Scope of Works

Contractor to insert scope of works as detailed in their contract.

5. Contractor Obligations

The following information details the minimum actions the contractor must take to mitigate the E&S impacts and risks identified in the ESIA and any additional impacts and risks identified on site.

5.1 Impact and risk mitigation

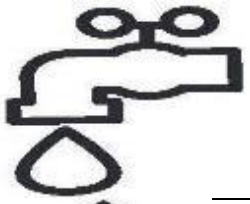
Table 5.1 identifies the mitigation actions identified in the ESIA. The contractor with the PMU during site takeover will identify any additional impacts and risks and include them in **Table 5.1.** The contractor will implement the E&S mitigation strategies detailed in **Table 5.1.**

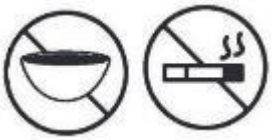
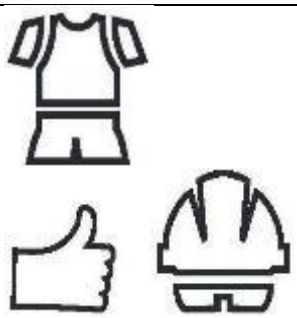
Table 5.1 *Potential Impacts and Risk ESIA mitigation strategies and additional contractor requirement*

Potential Impacts & Risks	Mitigation as outlined in the ESIA	Site specific actions (contractor to add)
Loss of critical flora and fauna	The contractor should ensure that there is minimal disturbance to the Subproject site area The contractor shall as much as possible complete the works in such a manner that natural aesthetics shall be retained at the location	**Contractor to add any additional actions after site assessment**
Loss of crops	Document any food crops onsite and facilitate written agreements through consultation if they are impacted by site works	**Contractor to add any additional actions after site assessment**
Water quality, erosion and sediment runoff	T The contractor will ensure proper demarcation of the Subproject area to be affected by the works Works to limit vegetation removal at the Subproject site; Any excavation activities should not interfere with local drainage or introduce physical changes that are not in harmony with the physical setting of the Subproject area Retention of grass, herbaceous plants, shrubs and trees, to the extent possible on the Subproject site	**Contractor to add any additional actions after site assessment**
Pollution	Ensure proper handling, storage and disposal of waste oil, lubricants, oil filters and fuel from vehicles	**Contractor to add any additional actions after site assessment**
Noise and vibration	Undertake works at suitably agreed times that do not impact the community adversely Observe a common-sense approach to vehicle use, and encourage drivers to switch off vehicle engines when not in use Provision of appropriate PPE (hearing protection ear muffs) to the workers and any other person visiting the site	**Contractor to add any additional actions after site assessment**
Solid waste	Ensure all solid waste is deposed to approved landfill sites or in a manner that is acceptable to the community	**Contractor to add any additional actions after site assessment**
Local employment	Where possible use locals and local businesses	**Contractor to add any additional actions after site assessment**
Occupational health and safety	Contractor to conform to all OHS laws and regulations	**Contractor to add any additional actions after site assessment** **Local emergency response agencies (Police, hospital ambulance, fire) to be**

Potential Impacts & Risks	Mitigation as outlined in the ESIA	Site specific actions (contractor to add)
	All construction workers should be inducted on the health and safety requirements while at Subproject site Workers should be provided with adequate and appropriate PPE (safety helmets, shoes, gloves, mask,) and enforce on use of the PPE's Provision of clean and accessible sanitary facilities and water to workers Install safety signage at the work site should be done by a trained certified, experienced personnel Contractor to report immediately to the PMU any OHS incidents	**included with emergency numbers**
Social disruption	Non local workers to treat locally community with respect and follow the code of practice (COP) as outlined in this CoESP	**Contractor to add any additional actions after site assessment**
COVID - 19	All the current at time of construction COVID-19 prevention measures should be observed and may include the following: • Wearing prescribed and appropriate PPE (masks) on site at all times. • Regularly washing hands, sanitizing and observing social distancing at all times • Seeking healthcare services immediately one experiences any of the following symptoms (while at home or work): cough, fever and shortness of breath.	**Contractor to add any additional actions after site assessment**

Table 5.2. *Minimum OHS provisions to be applied*

	Sufficient and clean drinking water to be on site at all times for workers		Toilets on or near the site to be available for all workers
	Suitable protection from rain and sun during rest breaks or weather stoppages to be made available		Workers are not forced to work in extreme weather (heavy rain, strong winds, etc.) or other weather that is dangerous or impactful.
	Site Supervisors should be trained in basic first aid to be able to provide care		The Site Supervisor should know where the nearest hospital/clinic is and where an ambulance or quick transport can be found/accessed

	A first aid kit is to be kept up to date, and on site at all times in a visible, accessible location		No alcoholic drinks or drugs to be taken before starting or during work (kwaso, bettlenut, kava, beer, marijuana). Workers should be not be affected by drugs or alcohol while on site at any time
	Machinery operators must be properly trained to use the machine		Protective clothing to be worn at all times: Safety boots. Reflectorized yellow or orange-colored safety vests or harnesses. Hats where there is strong sun. Goggles/masks when working in dusty condition Gloves when working in bush clearing and removal of obstructions, or mixing concrete/handling other toxic materials. Hard hats/helmets when working on sites where there is a danger of falling objects, e.g., in deep drains, digging pit latrines, work in quarries, etc.

5.2 Community Engagement

The PMU will develop some basic community information disclosure to make aware the recipient community, groups and individuals of the Subproject activities and responsibilities of the contractor. It is very important that the contractor is required to have the name and contact of a community leader/representative and work closely with the community leader/representative on activities regarding any noise, dust or inconvenience that may be caused to the local community during construction. The contractor must erect a construction sign with contact details for making a complaint or seeking further information as detailed in the grievance redress mechanism (GRM) **Annex 1**.

5.3 Worksite Induction

A site induction prior to start of work is very important and it must be undertaken for all site workers to ensure employees are aware of:

- The importance and purpose of the CoESP
- OHS onsite
- Any significant environmental hazards, actual or potential, that may be caused as a result of their activities or the Subproject

- Roles and responsibilities in relation to this CoESP
- Any spill response and or emergency procedure
- Accident and incident reporting and methods of prevention
- Codes of Conduct including responsibilities around Gender based Violence (GBV), Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence against Children (VAC).

The PMU ESHS&CE Officer must be present at the initial site induction;

5.4 Roles and Responsibilities

The contractor has the responsibility to apply this CoESP during construction and to:

- Nominate an onsite supervisor:
  - To be the focal point for the PMU
  - To manage any public interaction
  - To be responsible for reporting any issues to the PMU
  - To ensure all individuals understand this CoESP and their obligations.

The PMU will be responsible for ensuring that the contractor complies with this CoESP with regular site visits and discussions with the nominated onsite manager.

6. Company Acknowledgment of CoESP and Code of Conduct (COC)

The Contractor is committed to ensuring that the Subproject is implemented in a way which minimizes any negative impacts on the local environment, communities, businesses, NMS staff and its workers. This will be done by respecting the environmental and social issues detailed in this CoESP, reporting and if appropriate, responding to issues that are unforeseen and ensuring appropriate OHS standards on-site. The company is also committed to creating and maintaining an environment in which they will not tolerate any breaches of the provisions within the CoESP by any employee, sub-contractor, supplier, associate, or representative of the company.

To ensure that all those engaged in the Subproject are aware of their obligations, the contractor commits to the following core principles and minimum standards of behavior that will apply to all company employees, associates, and representatives, including sub-contractors and suppliers, without exception:

- The company and all employees, associates, representatives, sub-contractors and suppliers commits to complying with all relevant national laws, rules and regulations.
- The company commits to fully implementing this CoESP.
- The company commits to treating women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.

- The company shall ensure that interactions with local community members are done with respect and non-discrimination.
- Demeaning, threatening, harassing, abusive, culturally inappropriate, or sexually provocative language and behavior are prohibited among all company employees, associates, and its representatives, including sub-contractors and suppliers.
- The company will follow all reasonable work instructions from the PMU (including those pertaining to environmental and social safeguards).
- The company will protect and ensure proper use of property (for example, to prohibit theft, carelessness or waste).
- The company will ensure that the Subproject's OHS standards are effectively implemented by company staff, as well as sub-contractors and suppliers.
- The company will ensure that all people on-site wear prescribed and appropriate personal protective equipment (PPE), preventing avoidable accidents and reporting conditions or practices that pose a safety hazard or threaten the environment.

To ensure that the above principles are implemented effectively the company will:

a) Prohibit the use of alcohol during or before work activities.
b) Prohibit the use of narcotics or other substances which can impair faculties at all times.
c) Provide adequate sanitation facilities on site and at any worker accommodation provided for those working on the Subproject.
a) Have all personnel on site sign the Code of Conduct (6.1) confirming their agreement to comply with the CoESP and OHS standards
b) Provide copies of the Company and Codes of Conduct are translated into the appropriate language of use in the work site areas.
c) Have employees attend an induction prior to commencing work on site to ensure they are familiar with the company's commitments within the CoESP and the OHS standards.

I do hereby acknowledge that I have read the abovementioned Code of Practice and Company Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to support the CoESP and OH&S standards. I understand that any action inconsistent with this CoESP or failure to act mandated by this CoESP may result in disciplinary action.

Company name: **Insert company name**

Signature: _____

Printed Name: _____

Title: _____

Date: _____

6.1 Code of Conduct (COC)

The following Code of Conduct (COC) must be read and understood by all workers on site including any subcontractors (if required):

I, individual's name, acknowledge that adhering to the provisions as detailed in this COC and following any of the Subproject's Environmental, Social and Health (ESH) or Occupational Health and Safety (OHS) provisions is important.

The Client considers that failure to follow the COC, ESH or OHS standards, be it in an office, on a work site, office and work site surroundings, at workers' camps, in worker's homes, or the surrounding communities constitutes acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment.

I agree that while working on the Subproject I will:

1. Attend and actively participate in any induction or training required for OHS, GBV/SEA/SH and VAC as requested by my employer.
2. Will wear my personal protective equipment (PPE) at all times when required.
3. Implement any OHS requirements
4. Comply with all laws of the Solomon Islands, regulations and other requirements, including protecting the health, safety and well-being of other Contractor's worker and any other persons.
5. Not drink alcohol or use narcotics or other substances which can impair faculties and potentially cause incidents, before or during work activities.
6. Consent to a Police background check if required.
7. Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
8. Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
9. Not engage in sexual harassment—for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct, of a sexual nature, including subtle acts of such behavior (e.g., looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; giving personal gifts; making comments about somebody's sex life; etc.).
10. Not engage in sexual favors—for instance, making promises or favorable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
11. Not participate in sexual contact or activity with children (persons under the age of 18) including grooming, or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.

12. Unless there is the full consent by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non- monetary) to community members in exchange for sex, such sexual activity is considered "non-consensual" within the scope of this COC.
13. Report to my manager any suspected or actual GBV/SEA/SH or VAC by a fellow worker, whether employed by my company or not, or any breaches of this COC.

With regard to children under the age of 18:

14. Wherever possible, ensure that another adult is present when in the proximity of children.
15. Not invite unaccompanied children unrelated to my family into my home, or the works site unless they are at immediate risk of injury or in physical danger.
16. Not use any computers, mobile phones, video and digital cameras or any other medium to exploit or harass children or to access child pornography.
17. Refrain from physical punishment or discipline of children.
18. Refrain from hiring children for domestic or other labor below the minimum age of 14 unless national law specifies a higher age, or which places them at significant risk of injury.
19. Comply with all relevant local legislation, including labor laws in relation to child labor and World Bank's safeguard policies on child labor and minimum age.

Sanctions

I understand that if I breach this COC, my employer will take disciplinary action which could include:

a) Informal warning.
b) Formal warning.
c) Additional Training.
d) Loss of up to one week's salary.
e) Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
f) Termination of employment.
g) Report to the Police if warranted.

I do hereby acknowledge that I have read the foregoing Code of Conduct, have attended the induction training, I understand my role and responsibilities to support the Subproject's CoESP, OHS, GBV/SEA/SH, VAC and any other E&S conditions determined by the Subproject or the World Bank. I understand that any action inconsistent with this COC may result in disciplinary action and may affect my ongoing employment.

- **I have read and understand the contents and of the COC and my responsibilities**

- **I have attended the induction training and understand my responsibilities with regards to OHS, GBV/SEA/SH and VAC**

Signature:

Printed Name:

Date:

Annex 1. Grievance Redress Mechanism (GRM)

The purpose of the GRM is to address and record any complaints that may arise during the implementation of the contract. The GRM works within existing legal and cultural frameworks.

The key objectives of the GRM are:

- Settle the grievances through consultation including informing stakeholders of solutions.
- Forward any unresolved cases to the relevant authority.
- Record, categorize and prioritize the grievances.

Potential construction grievances, which are minor and site-specific, could be easily resolved on-site by the Contractor's Site Supervisor (CSS) or the PMU ESHS&CE Officer. They usually revolve around nuisances generated during construction such as obstruction of access, noise, dust, vibration, workers' dispute's etc. On-site grievances that are easily resolved still need to be communicated to the PMU ESHS&CE Officer for recording, including how the dispute came about and how it was resolved. However, some complaints are likely to be unresolved on site. The CSS shall inform the PMU ESHS&CE Officer and formal GRM will be activated.

The CSS or PMU ESHS&CE Officer will request the complainant to fill out the grievance form or give details to the PMU ESHS&CE Officer in person, by phone or email. The PMU ESHS&CE Officer will note the date, time, name and contact details of the complainant, and the nature of the complaint in the Complaints Register. The PMU ESHS&CE Officer will inform the complainant of the formal receipt of the complaint utilizing a standard response letter and a timeframe for a response.

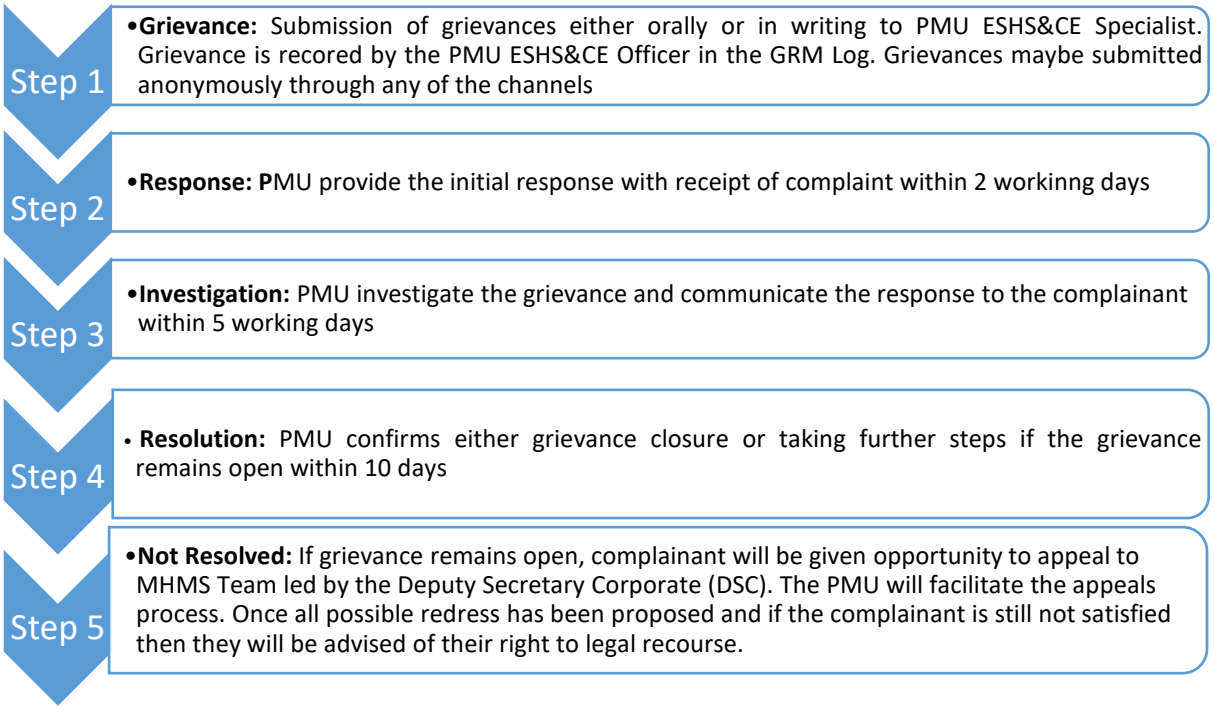
The PMU ESHS&CE Officer will endeavour to address the issue with direct dialog with the complainant in the first stage of the GRM. If the PMU ESHS&CE Officer is not able to resolve the complaint to the satisfaction of the affected person(s), it will then be forwarded to the PMU Project Manager (PM). The PMU PM and ESHS&CE Officer will develop a Plan of Action (POA) to resolve the issue and communicate this back to the complainant. At all stages, the complainant must be kept informed about the course of action being taken within a period of five days from the date that the complaint was received. If it is a land related issue, the PMU PM will inform the MHMS to communicate with MLHS to provide relevant documents to develop best resolution.

If the complaint is not resolved by the PMU PM to the satisfaction of the complainant, it will then be referred to the Permanent Secretary (PS) MHMS. The PS MHMS will be supported by the PMU to inform and advice. The PS MHMS is required to address the concern within 10 days. The PMU ESHS&CE Officer will draft a revised POA to resolve the issue based on the PSs' determination and take this POA to the complainant for resolution. In circumstances where measures outlined in the POA fail to satisfy the complainant, the aggrieved party is free to take his/her grievance to the Ombudsman's Office for mediation and a decision by the

Ombudsman. If the complainant does not accept any resolution at this stage, the GRM will not obstruct complainants' access to the legal system. At any time, the complainant may take the matter to the appropriate legal or judicial authority as per the laws of Solomon Islands. Complainants can also access the WB Grievance Redress System (GRS www.worldbank.org/grs).

Signs must be erected at the sites of all works providing the public with updated information and summarizing the GRM process, including contact details of the PMU ESHS&CE Officer. Anyone will be able to lodge a complaint through a number of methods (including the complaints form, in person, by telephone in either English or Solomon Islands Pidgin). The PMU must provide a GRM that makes every effort not to inhibit the lodgement of a complaint. The PMU ESHS&CE Officer, who will log the details and maintain the Complaints Register. This information will be included in PMU progress reports to the WB.

GRM process and timeframes



Gender Based Violence (GBV), Sexual Exploitation and Abuse, (SEA) Sexual Harassment (SH) and Violence against Children (VAC) Process

This process includes serious and minor incidents of Gender Based Violence (GBV)/SEA/SH and VAC and Sexual Exploitation and Abuse (SEA). Issues of minor sexual harassment on project construction sites such as lewd remarks, wolf whistling or bad language should use the normal GRM.

For incidents that are more serious the complainant must be made aware they can make a complaint directly to the MHMS Social Welfare Department (SWD) and PMU ESHS&CE Officer. The MHMS SWD may report the incident to the Police at the discretion of the complainant.

GBV/SEA/SH and VAC incidents related to a World Bank project will include the following:

- Incidents of GBV/SEA/SH and VAC perpetrated by, or upon, a person directly contracted by a World Bank project. This includes PMU staff and any direct workers and contracted workers as determined by the LMP
- Incidents of GBV/SEA/SH and VAC that have been perpetrated at a designated construction or project site funded by the World Bank
- Incidents of GBV/SEA/SH and VAC that are perpetrated by local civil works contractors and subcontractors and their staff as detailed in the LMP.

Appendix 2. Stakeholder Feedback

The consultation process used basically comprises the following; Firstly, PMU did a stakeholder review of GSH to ascertain rightful persons and entities responsible for the hospital to consult by getting information within the MHMS (database) about names and details of relevant health workers at the management level. Next, an appointment was scheduled as a preliminary step, for a brief visit which basically aims at getting relevant background information about the hospital and its environment and also to obtain a wider range of stakeholder information and contact details within the existing social network of the hospital. Then successive visits were arranged by PMU through a wide circulation of messages to key stakeholders through phone calls and SMS, meeting them on varied occasions and groupings since equal availability of all the stakeholders is practically impossible. The entire process is informal (deliberately meant to allow free flow of information) in that some of the discussions were made outdoor in the Subproject site vicinity and should there be a round table meeting, usually the level of discussion is pretty much informal

Community engagement utilized in the process basically consists of obtaining community views through consultation visits, site observations and incorporating them into planning of risk and impact management. A feedback mechanism was activated in that PMU's contact details were handed out to stakeholders for feed-back. This will be enhanced soon through the use of Subproject fact-sheet that is currently being developed for each Subproject. The engagement is an ongoing process and would yet to reach fulfillment which is at the Subproject's peak of implementation.

The table below shows record of some of the key feed backs obtained from stakeholders through the consultation process.

Dates	Stakeholder	Stakeholder feedback
1. Nov 2021 2. June 2022 3. Sept 2022	GSH: 1. GSH Management	• So pleased to be a recipient of an isolation unit and an improved incinerator which would improve health services. The new incinerator would definitely improve waste management practices. There'll be no more open burning of wastes and burring of raw human tissues and wastes as usually had. • We hope the cost of running the new incinerator would be within our means. Fuel cost has increased drastically and we hope the system uses reasonably enough fuel with high incinerating capacity.

		• Staff residents have raised concerns of fume and odor about the past burning practices. With the new incinerator, we just hope it will generate less fume/ odor as it will still be placed at the same spot as the old one. • Can a new access road be made to transport waste and that also to be used during construction in order to minimize noise, dust and odor pollutions • A separate access road and gateway needs to be created for the isolation unit to avoid congestions and spread of infectious diseases to patients. Also this would ease accessibility of construction vehicles and workers to the site and to seclude construction from public access as well as minimize noise and dust pollution to the hospital. • The hospital can allow connection from its water system for use in construction given that it is used appropriately and efficiently, minimizing wastage by possible means. • Appropriate measures and care must be taken in handling waste water to avoid water-logging and muddy patches around the hospital during construction of the isolation unit. • Can noise dust and odor pollutions be minimized at all costs to safeguard health of patients at the hospital during construction of the isolation unit
	2. Tetere residents	• Fume and odor emission from the incinerator has already been an issue in regards to the old system. • Garden site would be disturbed anyway, but we understand it is Mission land and priority is given to the hospital and we are only workers who are expected to support the hospital. • Glad to have support from the government boost health service in terms of infrastructure which directly serves our community. We are pleased because we are direct beneficiaries. • Stray dogs have thrown about waste placenta and blood soaked bandages throughout the vicinity as they are not buried properly since the existing incinerator is not functioning. • We do not want excessive noise, dust and odor pollution during construction of isolation unit and incinerator. Can that be minimized using appropriate means
	3. Tetere Don-Bosco Church & institute reps	• As the hospital service expands, so does the need for proper planning of the area. All parties occupying adjacent land to the hospital shall always be consulted as they too have plans for collaboration. • The sisterhood might want to maintain their portion of land hence would not allow it for access road to the incinerator. You can use the feeder road and turning in along the fence to get to the incinerator site. • The mission acknowledges the support of World Bank through MHMS to improve GSH services for the people. • This is a community hence incoming workers for the construction must respect members of the community (health workers, Mission workers, patients and residents). Respect rules and guidelines, social norms and values of the community.