Government of Saint Vincent and the Grenadines

Environmental and Social Management Plan

Mobile Isolation Units

OECS Regional Health Project (P168539)

Ministry of Finance, Economic Planning and Information Technology

JANUARY 2021

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Acronyms

BWMP – Biomedical Waste Management Plan

CARPHA – Caribbean Public Health Agency

CERC – Contingency Emergency Response Component

EPRP - Emergency Preparedness and Response Plan

ESMF – Environmental and Social Management Framework

ESMP – Environmental and Social Management Plan

ESHS – Environment, Social, Health and Safety

GoSVG – Government of Saint Vincent and the Grenadines

HPU – Health Planning Unit

IMPACS - Implementing Agency for Crime and Security

MIU – Mobile Isolation Unit

MoHWE – Ministry of Health, Wellness and the Environment

MSDS – Material Safety Data Sheet

OECS – Organisation of Eastern Caribbean States

OECSRHP – OECS Regional Health Project

PAHO – Pan American Health Organisation

PPE – Personal Protective Equipment

RCCE – Risk Communication and Community Engagement

SOP – Standard Operating Procedure

SVG – Saint Vincent and the Grenadines

WBG – World Bank Group

WHO – World Health Organisation

Chapter 1. Introduction and Background

The Government of Saint Vincent and the Grenadines (GoSVG) is implementing the OECS Regional Health Project (OECSRHP) with funding from the World Bank Group (WBG). The objectives of the Project are to improve the resilience of the health system and to improve the responsiveness of health service delivery during public health emergencies. The project consists of four components:

1. Improved health facilities and laboratory capacity
2. Strengthening public health surveillance and emergency management
3. Institutional capacity building, project management and coordination
4. Contingency Emergency Response Component (CERC)

Under component 4, activities will include the purchase of health emergency equipment and supplies - to enhance health emergency and disaster response efforts - such as mobile isolation units and tents, swabs, extraction equipment and furniture and equipment. Details of the project and its components can be found on the GoSVG[1] and WBG[2] websites for the project.

In response to the global pandemic, COVID-19, the GoSVG is enhancing its capacity to care for patients with the virus and mitigate and control the spread of the virus. Through the acquisition, construction, deployment and operation of Mobile Isolation Units (MIUs). The environmental and social risks of this activity is addressed under the Environmental and Social Management Framework (ESMF) for the project, as amended to include additional safety measures for the pandemic under the Contingency Emergency Response Component (CERC).[3]

Based on the screening conducted for this project (see Annex 1), an Environmental and Social Management Plan (ESMP) is required to identify and appropriately manage environmental and social risk. This ESMP is prepared to provide processes that the implementing agencies and Healthcare Facilities Management will follow to ensure the protection of healthcare workers, waste handlers, and the community from environmental and social risks associated with the Mobile Isolation Unit (MIU) activity, such as waste management, infection control, health and safety, and providing timely and clear public information. The ESMP will ensure that the MIU project is done in compliance with national and regional environmental regulations, and consistent with

[1] http://www.gov.vc/index.php/business/regulations/54-government/national-projects/1051-oecs-regional-health-project

[2] https://projects.worldbank.org/en/projects-operations/project-detail/P168539

[3] The Environmental and Social Management Framework (ESMF) for the OECSRHP in Saint Vincent and Grenadines can be found at: http://www.gov.vc/images/pdf_documents/SVG_-ESMF-for-OECS-projects_May-10.pdf

international best practices and World Bank safeguards policies, and the environmental and social management framework created for the project.

The MIUs have been purchased and the GoSVG is seeking retroactive reimbursement for costs incurred. To achieve this, this ESMP provides update of the status of the project and will continue to be undertaken in compliance with applicable safeguards requirements.

This ESMP will be disclosed on the GoSVG website, and the records of the disclosure will be documented and recorded.

Chapter 2. Project Description

2.1 Isolation Units Design and Specifications

The mobile isolation units that were purchased by the GoSVG are the isolation negative pressure chamber Biobox EBXT-06 with inflatable tubular construction designed for isolation and hospitalisation of individuals with highly dangerous infections manufactured by EGO Zlin Ltd. The Biobox EBXT-60 is designed for use inside buildings as internal isolation chambers, and inside air conditioned and heated tents. The maintenance-free tube design allows you to maintain a long-term Biobox in working condition.

Figure 1: Isolation negative pressure chamber Biobox EBXT-06

The Biobox can be assembled and ready for use within 15 minutes by a two-person team. Air distribution is balanced inside the chamber through the double roof with a filtration-ventilation unit ensuring complete air exchange in the isolation chamber every 2 minutes. Expelled air goes through the HEPA-filter with a built-in UV radiation source which destroys captured organisms; filtration efficiency is 99.9995%. The insulated negative pressure chamber provides immediate and highly efficient isolation of infected patients, decontamination and subsequent safe contact with medical staff. It is possible to connect medical devices outwardly, through the entrance port, and thereby protect them from contamination. Ports are also used for connection of infusions, respiratory devices, etc. There is an attached module which facilitates decontamination of staff and equipment after exiting the chamber.

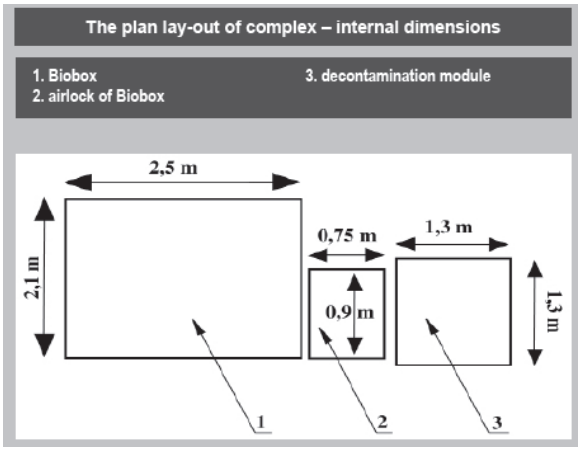


Figure 2: Biobox chamber dimensions

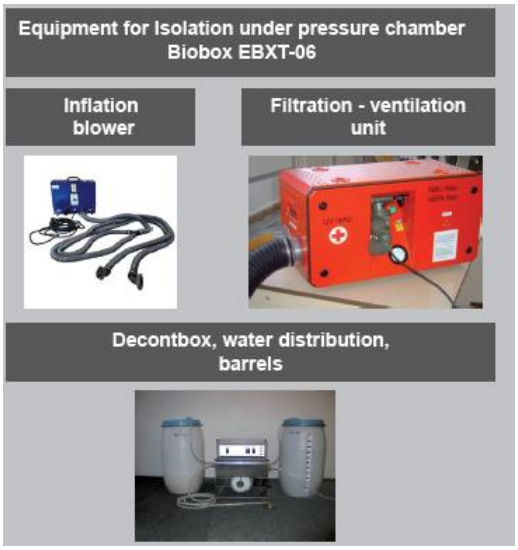


Figure 3: Biobox ancillary equipment

2.2 Project installation and Deployment

2.2.1 Assembly, Construction and Installation

The MIUs will be an integral component of the Ministry's strategy to control the spread of COVID-19. The units were purchased and received by the Ministry of Health, Wellness and the Environment (MoHWE). The MIUs will operate on an *as-needed* basis as determined by the MoHWE. The medical Biobox can be erected and are serviceable within 15 minutes after initializing the inflation. The MIUs will be installed and operated as extensions of the existing health facilities in Canouan and Union Island and managed by the MoHWE personnel. In Canouan, the site is adjacent to the Canouan Health Centre, the area is currently vacant and the lands are government owned. Figures 4 and 5 show the island of Canouan and MIU site location. No construction is necessary for the installation of the unit.

Figure 4: Map of Canouan

Figure 5: Canouan MIU site

In Union Island the unit will complement the other health infrastructure in the vicinity such as the mobile laboratory. The MIU will be installed between the doctors' quarters and the mobile laboratory. The land is owned by government. No construction is needed for the installation of the MIU, there will be no clearing of vegetation nor grading of the land. Figures 6 and 7 show the island of Union Island and the possible area to install the MIU.

Figure 6: Map of Union Island

Figure 7: Union Island MIU

The decommissioning of the MIUs will be authorised by the MoHWE and will be undertaken by the staff of the clinic. Decommissioning of the MIU will entail the disassembling of the MIU structure and storing them securely in designated locations. All ancillary components/utilities will be disconnected and any temporary infrastructure will be removed.

Chapter 3. The Legal and Administrative Framework

This ESMP is developed in line with relevant laws and regulations of Saint Vincent and the Grenadines (SVG) and the World Bank Safeguard policies and Environmental, Health and Safety Guidelines. A more comprehensive review of the policy, regulatory and legal framework in SVG is provided within the general Environmental and Social Safeguard Framework (ESMF) for the OECSRHP. The current ESMP only provides details on those most relevant to the MIU and response to COVID-19 pandemic, in particular biomedical waste management, health reporting etc. For a thorough discussion of these, please refer to the ESMF document. The various ministries and agencies and their respective roles are also described in the ESMF.

3.1 Relevant National Laws and Policies for the project

Specific to the MIU,

- The Environmental Services Act No 14 of 1991
- the Solid Waste Management Act No 31 of 2000 controls biomedical waste in SVG.
- the National Biomedical Waste Plan (NBWP) was developed in 2002 as part of a program to address problems associated with ship-generated wastes, and is to be updated as part of the OECSRHP. The NBWP describes proposed measures and practices for waste classification/minimization/segregation, labelling, storage, transport, treatment (long term, short term), waste pit design, areas of landfills receiving wastes, and training.

3.2 World Bank Social and Environmental Safeguards

Safeguard Policies

The WBG has developed Safeguards Policies that guide the development of projects including the OECSRHP. Most relevant to the MIU sub-project activity is OP4.01 (Operational Policy 4.01), which requires environmental and social assessment of any proposed project. Accordingly, the ESMF was prepared for the OECSRHP as a guidance document, and currently the ESMP has been prepared for the MIU sub-project activity.

Several additional safeguards policies cover aspects such as land acquisition, public disclosure, natural habitat, and antiquities protection, among others. For a thorough discussion of these, please refer to the ESMF document on the WBG website.[4]

EHS Guidelines

[4] https://projects.worldbank.org/en/projects-operations/environmental-and-social-policies

Environmental, Health and Safety guidelines have also been prepared by the WBG. There are general guidelines that cover most activities related to construction projects for new facilities. Some parts of these general guidelines are applicable to the MIU project, particularly such aspects as traffic safety, dust and noise control, worker health and safety, and control of runoff from work sites.

Quite relevant to the MIU project are the sector-specific WBG guidelines for Health Care Facilities, which cover waste minimization, waste segregation, handling and storage of wastes on site, transport to external facilities, and options for treatment and disposal. For more information refer to the EHS Guidelines on the WBG website.[5]

3.3 International standards

The Caribbean Public Health Agency (CARPHA), the Pan American Health Organization (PAHO), and the World Health Organization (WHO) have issued several guidance documents specific to the health sector. Particularly relevant to the MIU project are those covering waste management protocols.[6]

Most relevant to the specifics of the MIU project are the following:

- Standard Operating Procedures (SOPs) for autoclaves, incinerators, air handling and/or filtration systems. The SOPs for the MIU will be supplied with the equipment along with the necessary training requirements.
- Guidance on Management of Solid Healthcare Waste at Primary Healthcare Centres[7]
- Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings[8]

3.3.1 Caribbean Public Health Agency (CARPHA)

On March 11, 2020, the World Health Organization (WHO) announced that the COVID-19 outbreak is a pandemic). The rapidly evolving situation now requires a shift in mindset in all countries from preparedness to readiness and rapid response. CARPHA has upgraded the risk of disease transmission to the Caribbean Region to Very High. CARPHA is working closely with CARPHA Member States (CMS) and Caribbean coordinating partners and mechanisms to respond to the threat and to prepare CMS to prevent further transmission from exported cases if they were to happen in countries. Key actions by CARPHA to date[9]:

[5]https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines
[6]http://www.who.int/water_sanitation_health/publications/manhcwm.pdf
[7]http://www.who.int/water_sanitation_health/publications/manhcwm.pdf
[8]https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html
[9] https://www.carpha.org/What-We-Do/Public-Health/Novel-Coronavirus

- CARPHA has activated its Incident Management Team (IMT) and is coordinating the regional preparedness and response to this new incident.
- CARPHA has issued Situation Reports (SITREPS) to CARPHA Member States (CMS) and other regional stakeholders.
- Travellers' guidelines have been developed and shared with stakeholders
- Air and seaport guidelines have been disseminated
- Press releases have been shared with the media and other regional stakeholders
- The Security Cluster has been activated for tracking of passengers from China through CARICOM Implementing Agency for Crime and Security (IMPACS)

3.3.2 Pan American Health Organisation (PAHO)

The Pan American Health Organization (PAHO) has developed specific technical guidance for COVID 19[10]:

- Biosafety
- Clinical Management
- Detection and Diagnosis
- Disability related information
- Ethics
- Emergency Medical Teams (EMT) – Medical Surge
- Essential Medicines
- Prehospital Emergency Medical Services Readiness
- Health Workers
- Health Services
- Health Aging
- Hospital Readiness
- Infection Prevention and Control
- Medical Devices
- Requirements and Technical Specifications – PPE
- Risk Communication
- Social distancing and travel related measures
- Surveillance
- Water sanitation

*3.3.3 World Health Organisation (*WHO)

[10] https://www.paho.org/en/technical-documents-coronavirus-disease-covid-19

WHO works worldwide to promote health, keep the world safe, and serve the vulnerable. Its goal is to ensure that a billion more people have universal health coverage, to protect a billion more people from health emergencies, and provide a further billion people with better health and well-being. Specific to COVID 19 the WHO has developed country and technical guidance[11]:

- Critical preparedness, readiness and response actions for COVID 19
- Country-level coordination, planning and monitoring
- The Unity Studies: Early Investigations Protocols
- Risk communication and community engagement
- Naming the coronavirus disease (COVID 19)
- Surveillance, rapid response teams, and case investigation
- Clinical care
- Essential resource planning
- Virus origin/Reducing animal-human transmission
- Humanitarian operation, camps, refugees/migrants in non-camps and other fragile settings
- National laboratories
- Infection prevention and control/WASH
- Guidance for schools, workplace & Institutions
- Points of entry/mass gatherings
- Health Workers
- Maintaining Essential Health Services and Systems

[11] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance

Chapter 4. Potential Environmental and Social Impacts

This section identifies the potential environmental and social impacts and provides guidelines to mitigate or avoid adverse environmental and social impacts. The environment and social impacts of the overall OECSRHP are already identified in the ESMP of this project. The impacts are identified at this stage include land use, material resources and waste management, air, dust and noise pollution; traffic; labour and working conditions; community health and safety and fuel.

4.1 Assembly, Construction and Deployment

The selection, preparation, and placement of an MIU has potential issues that need to be addressed. The potential impacts for the project are:

Land use

The MIUs will be installed on property that is owned by Government for the use of the Ministry of Health. There is no land acquisition, resettlement or economic displacement.

The runoff from the MIUs will be connected to the existing drains.

Material resource and waste management

- Medical supplies will need proper management and disposal. A creation of a supplies log will provide evidence for accountability
- Hazardous and non- hazardous materials and waste during operation will be handled in accordance with the National Biomedical Waste Plan.
- Biomedical waste generated by the MIUs must be collected in a sealed waste bin, stored in a secure area, transported and disposed of in accordance with relevant legislation, guidelines and procedures.

Dust and noise pollution

There are no dust and noise impact associated with the installation of the MIUs.

Air Pollution

Operation of the autoclave and/or incinerator is also a source of risk if not properly done. Air pollution from particulate matter, or runoff of ash or waste to nearby drains or canals, could occur if not properly controlled.

Traffic

The MIUs will be installed on the Compound of the Ministry of Health, pedestrian and public transport access is unencumbered.

Labour and Working Conditions

- The labour and working conditions will be in accordance to the national labour conditions and managed by the hospital administration of Ministry of Health. Workers are eligible to submit grievance through the grievance mechanism.
- The use of Personal Protective Equipment (PPE) by all personnel at all times.
- An exposure control plan must be developed and implemented.

Community Health and Safety

A community Health and Safety information leaflet should be available in all household in the vicinity of the installation of the MIUs.

Fuel

- Diesel generators may also be used for power or emergency back-up, requiring adequate ventilation, fuel storage, and safety measures.

4.3 Decomissioning / Relocation

Once the MIU is removed from a location, there still may be environmental and social risk or impacts remaining on the site. Potential health risks could arise from the opening the area to the general public without proper disinfection and establishing precautionary measures to safely access the site. The grounds must be adequately sanitized, waste materials removed and disposed of at approved disposal sites. Supplies and supplies and equipment must be safely stored or transported elsewhere for storage.

4.4 Emergency Preparedness Plan

An Emergency Preparedness and Response Plan (EPRP) will be prepared in collaboration with the National Emergency Management Organisation prior to the operation. The EPRP should cover occupational accidents, fire and natural disasters such as hurricane, earthquake, or tsunami.

- The MIU's will be deflated, disinfected and stored at the Clifton Hospital
- COVID-19 patients will be transferred to the Clifton Hospital

- Patients warded at the Clifton Hospital will be transferred to the main hospital in Kingstown

The EPRP for Canouan will be as follows:

- The MIU's will be deflated, disinfected and stored at the Canouan Clinic
- Covid-19 Patients will be transferred to the Canouan Clinic

Chapter 5. Mitigation Measures

This section of the ESMP provides the mitigation measures to address each of the risks identified in the Chapter 4. The mitigation measures include the following:

1. Management of environmental and social issues related to the assembly, installation, and deployment of the MIU and associated equipment.
2. Selection of the locations for MIU placement and preparation of assembly areas.
3. Disposal of construction waste and debris, control of noise, dust and traffic, control of runoff, restrictions of public or visitor access or entry, occupational health and safety.
4. Management of environmental and social issues related to the operation and decommissioning of the MIU and associated equipment.
5. Procedures for bio-medical waste management on site, liquid and solid wastes, autoclaves, incineration sites, waste pits, landfills, and/or other disposal locations.
6. Maintenance and care standards for biomedical waste treatment equipment, i.e. autoclave and incinerator, air handling and filtration equipment, wastewater collection and disposal systems.
7. Standard Operating Procedures (SOP) and engineering options for infection control such as quarantine and voluntary self-isolation procedures, contact and airborne precautions, cleaning and disinfection procedures, monitoring and managing exposed healthcare personnel.
8. Training on occupational health and safety (equipment operations, PPE) for public health staff, visitors and workers.
9. Reporting requirements within and between health facility and the Ministry of Health and Wellness.
10. Public information and outreach to sensitize the public on infection control precautions within the location(s) of the MIU through posters, communications via the mass media, and other means using messages compatible with WHO messaging advice.

Detailed/specific mitigation measures are provided in sections 5.1, 5.2 and 5.3 below for the placement, operation and decommissioning, respectively, of the MIU. Additional mitigation measures are provided in Annex 3 of this ESMP.

5.1 Assembly, Construction, and Deployment

The table below shows the potential impacts and proposed mitigation efforts for each of the activities associated with assembly, construction, and deployment of the MIUs.

Activity	Potential Impacts	Proposed Mitigation
Site selection for construction/assembly area	• There may be anxiety and complaints from those living in or using nearby areas about potential impacts of COVID -19	• Conduct community outreach once site has been finalized. Follow the level of outbreak guidance on Risk Communication and Community Engagement (RCCE) readiness and response to the 2019 novel coronavirus (2019-nCoV) published by the WHO. • Include access roads or temporary occupation in all matters related to the selected site
Hazardous materials handling, storage, use and transportation	• The risk of accidental discharge of hazardous products, leakage of hydrocarbons, oils or grease from construction machinery .	• Avoid the storage of hazardous substances around water bodies • Ensure that storage containers of hazardous substances are always in good condition and tightly closed • Ensure that storage facilities are provided impervious surfaces and bunds to control spill in case of accidental spillage • Maintain the Material Safety Data Sheets (MSDS) for hazardous materials onsite
Construction Wastes and Debris	•Improper storage and/or disposal of materials • Dispersion of materials in nearby canals, ditches, rivers, streets and adjacent properties	• The contractor shall handle construction materials debris and solid waste in accordance with approved procedures • The contractor should only dispose of materials in areas approved by the relevant authority • If there are any excavated materials, they shall be bermed to prevent dispersion and sedimentation of drains, creeks, streets and adjacent properties. • In case of accidental waste spills, the relevant environmental authority shall be informed, and restoration measures shall be applied.
Dust and noise from construction activity	• Poor air quality due to emissions from vehicles and dust generated • Respiratory impacts on site workers, nearby residents and pedestrians • Noise generation from the use of machines and construction equipment with its impact on workers and neighbourhoods	• Dust suppression methods such as wetting materials or slowing work should be employed as needed to avoid visible dust • Dust masks/respirators when working in closed areas such as access manholes, etc. (according to approved procedures) • Document requirements and standards in the Contract • Hearing protection for working around machinery where the noise exceeds 85 dB (according to approved procedures) • The location of noisy machinery (including generators) can be positioned away from sensitive sites such as schools, hospitals, residential areas, etc • Maintain vehicles and Contractors' machinery according to maintenance requirements.

Activity	Potential Impacts	Proposed Mitigation
Worker health and safety	Accidents to workers on the construction site	• Train workers on prevention of accidents and managing incidents. • Workers must wear PPE • Provide first aid kit and emergency plan for accidents or incidents • Proper supervision of the construction workforce.
Worker health and Safety – COVID-19 Risks	Exposure and spread of infection	• For COVID-19 management on the construction site follow the infection control protocol in **Annex 2 and 3** of this ESMP.
Water pollution from runoff or infiltration of wastes on different sites where facilities or equipment may be deployed	• Clogging of ditches or drains with sediment or silt • Fouling of waterways with pollutants of any kind	• Prepare the ground where the facility or equipment will be placed by compacting, lining, coating, and otherwise ensuring it is impervious to water infiltration or percolation. • Sensitize the workers to appropriately manage construction materials and wastes • Use berms, silt traps or silt fences, pits or other measures to ensure that any runoff from the site is controlled
Medical Waste Management	Improper handling of medical waste could expose nearby communities or workers to infection	• A Medical Waste Management Plan for handling any incidental medical waste items encountered during the site preparation works

During construction, works such as grading or site preparation, or during the placement and making ready of the MIU, the contractor may have to deal with medical waste. In this case the following shall be applied:

- The contractor shall provide the contracting officer with a medical waste management plan as part of a site waste management plan that conforms to the waste management policies and regulations of the relevant authorities. The plan shall include a description of how these wastes will be stored, collected and disposed of in accordance with current law. The contractor must ensure that all persons handling medical wastes are provided with proper protective clothing. All medical wastes must be secured in specially labelled and sealed containers, and disposed of according to relevant local legislation at specified disposal sites. Medical wastes must be kept separate from the other waste streams on site.

- The waste management plan provided by the contractor must ensure that all persons handling medical wastes are provided with proper PPE. All medical wastes must be treated as hazardous. All medical wastes must be secured in specially labelled and sealed containers separate from other waste streams. All medical wastes must be disposed of according to relevant local legislation at specified disposal sites.

5.2 Operations

During the operation of the MIUs, the following mitigation measures will be applied, whether through a contractor or by the implementing agency.

Aspect	Potential Impacts	Proposed Mitigation	Responsible agent
Community Health and Safety	Exposure of visitors	• Control and restrict access to the facility following COVID-19 protocol and guidance from the WHO for health facility, and the COVID-19 risk communication package for healthcare facilities. • Implement the infection control protocol in the annexes of this CERC-ESMF.	Chief Medical Officer and Team (CMO) Ministry of Health
Occupational Health and Safety	Injury to healthcare workers Infection of health care workers	• Train staff on proper use of PPE and ensure there is adequate supply • Regularly performance monitoring and equipment maintenance • Train staff in infection control and SOPs for equipment • Use the checklist tool from WHO "Risk assessment and management of exposure of health care workers in the context of COVID-19" for any instances where facility staff are exposed to a confirmed COVID 19 infected person. • Develop an Exposure Control Plan • Determine how illness among isolation facility staff will be managed in terms of required reporting, self-isolation, and workers compensation.	Ministry of Health – Infection specialist Epidemiologist Safeguard specialist
Medical Waste Management	Exposure of nearby communities Exposure of workers	• Use procedures from the Ministry of Health, Wellness and the Environment, WHO, PAHO, CARPHA, and national plans to properly classify, segregate, label, store, handle, and dispose of wastes • Provide training on waste management and infectious disease management training and surveillance programs	Environment Health Environmental safeguards
Supplies log	Proper accountability of material and supplies	• Develop a supplies log to track material used or disposed for the MIUs	Project Coordinator Procurement

Aspect	Potential Impacts	Proposed Mitigation	Responsible agent
Air emissions from incinerator	Air pollution from inadequate incineration of waste	• Ensure the SOPs from the incinerator supplier are followed and that training is received from supplier • Sensitize and train staff to adequately segregate, store, and transport the waste to the incinerator and/or autoclave • Adequately budget for fuel for the incinerator and/or autoclave • Provide appropriate breathing masks to incinerator operators and other staff that work near the incinerator • Regularly monitor and maintain the incinerators to ensure they are working properly in accordance with SOPs	Environment Health Environmental safeguards
Air emissions from isolation unit filtration systems	Spread of airborne particles or aerosols	• Control airflow and provide filtration for intake/exhaust • Manage air filters as medical waste • Regularly monitor and maintain the filtration system to ensure they are working properly in accordance with SOPs	Environment Health Environmental safeguards
Hazardous liquid waste management	Spread of infection Contamination of streams or groundwater	• Liquid wastes to be stored, neutralized, and disposed of so that it is not infectious • Sensitize staff to avoid spillage of waste water on the ground surface • Sensitize staff and users of the facility to appropriately use the wastewater collection and disposal facilities	Environment Health Environmental safeguards
Non-hazardous liquid and solid waste	Unintended mixing of wastes, vector control, waste and debris accumulation	• Segregate liquid and solid wastes where possible • Construct the septic tank and soak-pit according to the design specifications • The latrines or septic tank and soak pit site should be regularly monitored and serviced to prevent problems or overflow • Ensure that wastewater disposal is adequately budgeted for maintenance	Environment Health Environmental safeguards
Traffic Management and Access Control	Unauthorized entry to facility of vehicles or persons	• Control visitor access and movement into and out of the facility and surrounding areas • Establish dedicated loading and unloading areas for supply vehicles and emergency vehicles	Environment Health Social and Environmental safeguards

Aspect	Potential Impacts	Proposed Mitigation	Responsible agent
Community Concerns on COVID -19	Misinformation about the spread of the disease may result in the public not taking the appropriate preventative measures, which may result in the isolation facility being overwhelmed with cases.	• Develop and implement a communication plan for all media types with key messages on prevention for facility visitors, local community, and national level following the tool from the WHO "Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response" • The plan will target the general population as well as specify messages for key vulnerable populations groups such as the elderly and their careers. The plan will take guidance from WHO COVID-19 guidance for preventing and addressing and stigma and WHOCOVID-19 risk communication package for healthcare facilities • Develop a Community Health and Safety Leaflet	Environment Health Safeguards Team
Emergency Preparedness and Response	Inadequate or inappropriate response to an emergency	• Develop an Emergency Preparedness and Response Plan	Environment Health Environmental safeguards

5.3 Decommissioning / Relocation

The MIU will be removed from site upon cessation of activities by the implementing agency. The grounds must be adequately sanitized, waste materials removed and disposed of, and supplies and equipment must be safely stored or transported elsewhere. Similar precautions should be applied as during the operations of the MIU. The table below summarizes the necessary mitigation measures.

Aspect	Potential Impacts	Proposed Mitigation
Site clean-up	Risk of infection from contaminated runoff, dust, or soil	• Incinerate or bury contaminated solid waste and dispose ash in approved sites • Remove or seal and encapsulate any wastewater system elements • Ensure that ground surface is disinfected
Contaminated equipment	Risk of infection from contaminated equipment	• Provide appropriate PPE for staff for cleaning equipment used in all areas • Clean all equipment used following standards provided by the Ministry of Health, Wellness and the Environment, WHO, PAHO and CARPHA

Chapter 6. Project Management and Institutional Arrangements

6.1 ESMP Implementation Responsibilities

The overall responsibility of ensuring that the mitigation measures under this ESMP are implemented are with the Health Planning Unit (HPU), the Project Coordinator and the Safeguards Team. The figure below provides an overview of the structure that will support and implement the OECSRHP Project.

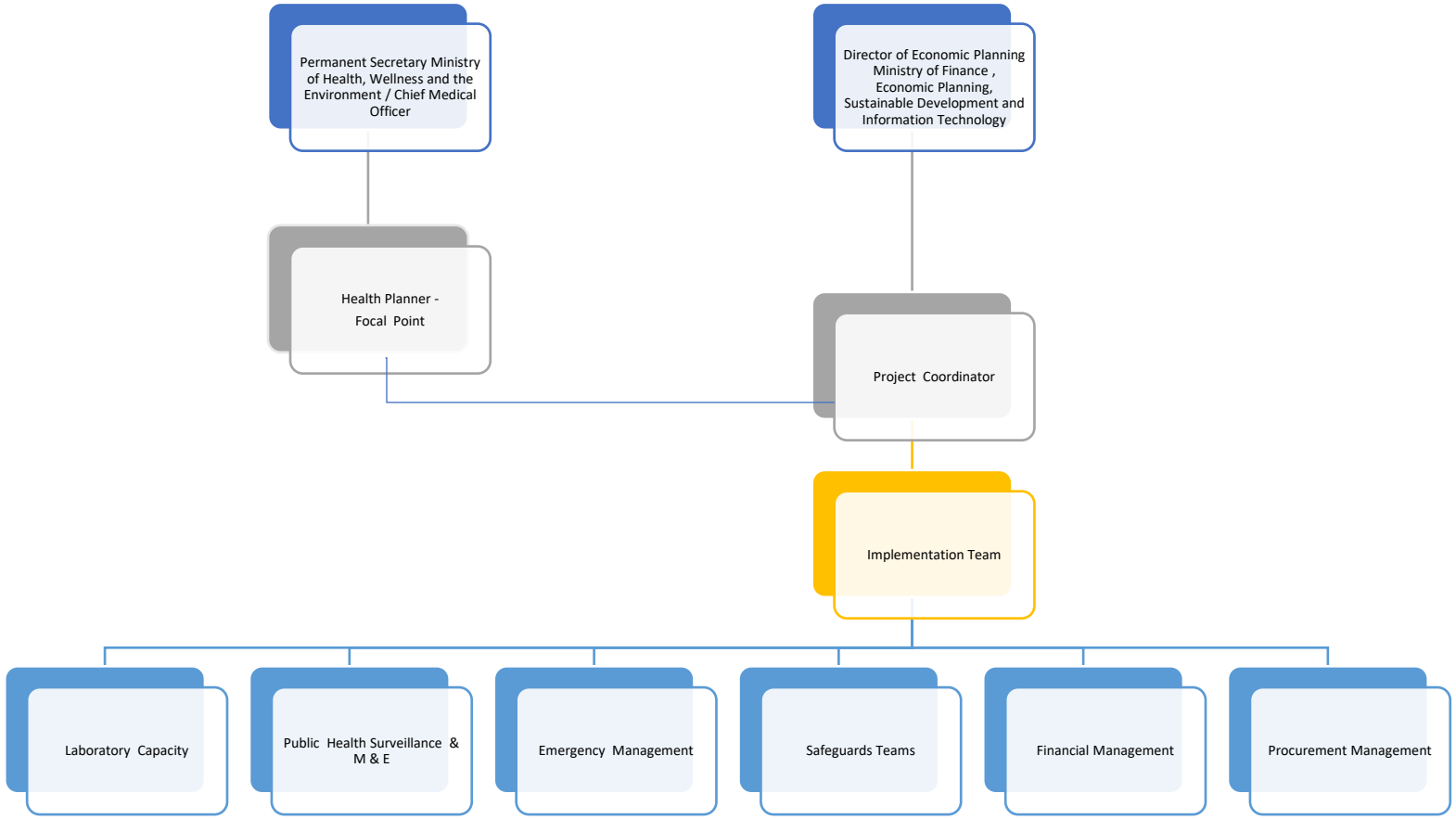
The Ministry of Finance, Economic Planning, and Information Technology will have the overall responsibility for implementation of the project. The implementation will be conducted within the existing PSIPMU). Environmental and Social safeguards functions will be provided by the PSIPMU. Additionally, there will also be support in the areas of monitoring and evaluation from the MoHWE. The diagram below shows the relationships and organisation.

6.2 Contractor Responsibilities

The general responsibilities of contractors are described in the ESMF. This includes environmental and social standards to be incorporated into the contractor's contract and shall remain in force throughout the contract period these include:

- Permits and Approvals
- Site Security
- Discovery of Antiquities (Chance Find Procedure)
- Worker Occupational Health and Safety
- Noise Control
- Use and Management of Hazardous Materials, Fuels, Solvents and Petroleum Products
- Use and Management of Pesticides
- Use of Preservatives and Paint Substances
- Site Stabilization and Erosion Control
- Traffic Management
- Management of Standing Water
- Management of Solid Wastes, trash and debris
- Management of Liquid Wastes
- Management of Medical Waste during construction

Organisation Structure
OECS Regional Health Project



It is expected that these generic clauses will be incorporated into all contracts, as applicable. In addition, specific project-related recommendations may also be forthcoming from statutory bodies that are part of the permitting agencies such as and these can be added to contract clauses as well.

For purposes of cost estimation and budgeting, the contractors should be aware of the existence of the environmental mitigation measures and associated ESMP requirements and include cost items for such purposes in their proposals.

6.3 Supervision, Monitoring and Reporting

It is the responsibility of the HPU and safeguard team to ensure that the ESMP is being followed by the contractor(s) and site workers.

During the construction phase, environmental and social monitoring will be carried out by the PIU. In addition, the contractor is required to provide within the monthly progress reports information regarding grievance, environmental mitigation and other periodic reports to the PIU.

During operations, reporting will occur, in compliance with the National Biomedical Waste Management Plan.

Chapter 7. Stakeholder Engagement

The stakeholder engagement is geared towards providing an opportunity to affected persons/interested individuals, groups or organization to express their concerns and seek information about the project. The stakeholder engagement will be an ongoing process during the life of the project

7.1 Disclosure of ESMP

The ESMP was disclosed on the GoSVG website in January 2021. The website address is as follows: http://www.gov.vc/index.php/oecs-regional-health-project

7.2 Community outreach

Due to the nature of the pandemic, public gathering for stakeholder consultation and awareness is limited to 20 to 25 persons. Notwithstanding, meaningful dialogue with Project Affected Persons (PAP) will be open and continuous with the use of social media and other technological alternative these include;

- Text blast with the use of the telephone to send various messages
- Newspaper announcement
- Radio announcement
- Flyers and other individual distribution pamphlet with contact information of the project communication personnel or project coordinator.
- Government website

Some suggestions for community engagement during a COVID-19 outbreak are listed below.

- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings;

- If smaller meetings are permitted, conduct consultations in small-group sessions of no more than 10 people, such as small group meetings in an outside area which chairs place 6 feet apart;

- If in person meetings are not permitted, make efforts to conduct meetings through online channels, including Webex, Zoom and Skype;

- Use social media and online channels to share activity information. Where possible and appropriate, create dedicated online platforms and chat groups appropriate for the purpose;

- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) if a stakeholder does not have access to online channels or does not use them frequently;

- Where direct engagement with project affected people or beneficiaries is necessary, identify channels for direct communication with each affected household via a combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators, or direct calling by the project team.

Communication and engagement activities under the MIU will also follow the publication from the WHO Risk Communication and Community Engagement (RCCE) readiness and response to the 2019 novel coronavirus (2019-nCoV). The RCCE will guide messaging about the COVID - 19 preparedness and response measures under the and gives broader guidance and checklists for national level communication during different phases of a disease outbreak.

7.3 Grievance and Redress Mechanism

The Grievance Mechanism for the MIU's will follow the GRM for the OECS Regional Health Project and is summarized below.

Process:

1. Signage on the GRM will be strategically placed at the locations for the MIU's.

2. Grievances will be received in writing, telephone or email. All grievance in writing can be addressed to Health Project Grievance Officer.

3. All grievance shall be registered in the grievance log. Contact with the aggrieved must be within 10 days (please see GRM for Health Project for further detail).

Sample Notification to the Public on how to submit grievance

All grievances relating to the development of this project are to be directed to:

Roselle Solomon
Health Project Grievance Officer
OECS Regional Health Project – Isolation Facility
Ministry of Health, Wellness and the Environment
First Floor Ministerial Building, Kingstown
Telephone: 784 534 4325
Email – mohesvg@gmail.com
cc. Cenplan@svgcpd.com

This sample notification can be place at strategic points at each facility.

Annex 1. Screening Tool for E&S Risks

The form below identifies potential impacts of the proposed activities envisioned under CERC actions. Many of the actions or activities have low or negligible potential negative impacts, such as purchase of equipment or supplies. Some may have impacts that are typical for small construction or rehabilitation projects, such as repair of damaged infrastructure, buildings, or clinics. Others, particularly those dealing with management of infectious disease control such as COVID-19, may have moderate to high risk.

Subproject Name		Mobile Isolation Unit	
Subproject Location		St Vincent and the Grenadines – Kingstown,	
Subproject Proponent		Ministry of Health, Wellness and the Environment	
Estimated Investment			
Start/Completion Date			
	Subprojects/Activities	Potential E&S Risks or Impacts	E&S Risk Level
1	Purchase of medical equipment and supplies	None	Low
2	Repair of damaged infrastructure including, but not limited to: water supply and sanitation systems, dams, reservoirs, canals, roads, bridges and transportation systems, energy and power supply, telecommunication, and other infrastructure damaged by the event	Increased dust, noise, water pollution, solid/hazardous/toxic wastes, waste oil/fuels, public health and safety; possible use of asbestos-contaminated construction materials and land acquisition; and, impacts on ethnic and vulnerable groups	Moderate
3	Re-establishment of urban and rural solid waste system, water supply and sanitation (including urban drainage)	Same as 2 above	Moderate
4	Repair of damaged public buildings, including schools, hospitals and administrative buildings	Same as 2 above	Moderate
5	Repair, restoration, rehabilitation, retro-fit schools, clinics, or hospitals	Same as 2 above	Moderate
6	**Establish emergency isolation and quarantine facilities and locations for mobile facilities**	**Highly variable depending on locations chosen, risks associated with community concern, information sharing, and occupational health and safety**	**Moderate to substantial**
7	Removal and disposal of debris associated with any eligible activity	Waste management and disposal	Moderate to substantial
8	Disposal of medical wastes (at camp site, small clinics/hospitals), asbestos-based materials, other toxic/hazardous wastes	Increased health risks, need management of medical waste, toxic materials, asbestos-contaminated debris	Moderate to substantial
9	Temporary toilets for emergency facilities	Hygiene, waste management	Moderate to substantial

The form is intended to be used as guidance by the implementing agency to screen potential environmental and social (E&S) risk levels of a proposed subproject or activity, determine the relevance of environmental and social safeguards, propose its environmental and social risk level, and whether or not an ESMP needs to be prepared for the sub project.

Activities and actions with low potential E&S risk require no further safeguards actions. Those with moderate potential risk will be managed using the general ESMF for the OECS Regional Health System Strengthening project, and will typically require that an ESMP be developed. Those with moderate to substantial potential risk will be managed using the tools in the general ESMF for the OECS Regional Health Project along with the additional safety guidance and information provided in this CERC-ESMF, and will also require than an ESMP be developed.

Annex 2. Infection and Prevention Control Protocol (IPCP)

The following information was adapted from the CDC Interim Infection Prevention and Control Recommendations for patients with confirmed COVID-19 or persons under investigation for COVID-19 in Healthcare Settings. The original reference should be consulted for any updates.

HEALTH CARE SETTINGS

1. **Minimize Chance of Exposure (to staff, other patients and visitors)**
   - Upon arrival, ensure patients with symptoms of any respiratory infection is taken to a separate, isolated and well-ventilated section of the health care facility to wait, and issue a facemask.
   - During the visit, make sure all patients adhere to respiratory hygiene, cough etiquette, hand hygiene and isolation procedures. Provide oral instructions on registration and ongoing reminders with the use of simple signs with images in local languages
   - Provide alcohol-based hand sanitizer (60-95% alcohol), tissues and facemasks in waiting rooms and patient rooms
   - Isolate patients as much as possible. If separate rooms are not available, separate all patients by curtains. Only place together in the same room patients who are all definitively infected with COVID-19. No other patients can be placed in the same room.

2. **Adhere to Standard Precautions**
   - Train all staff and volunteers to undertake standard precautions - assume everyone is potentially infected and behave accordingly.
   - Minimize contact between patients and other persons in the facility. Health care professionals should be the only persons having contact with patients and this should be restricted to essential personnel only.
   - A decision to stop isolation precautions should be made on a case-by-case basis, in conjunction with local health authorities.

3. **Training of Personnel**
   - Train all staff and volunteers in the symptoms of COVID-19, how it is spread and how to protect themselves. Train on correct use and disposal of personal protective equipment (PPE), including gloves, gowns, facemasks, eye protection and respirators (if available) and check that they understand
   - Train cleaning staff on most effective process for cleaning the facility. Use a high-alcohol based cleaner to wipe down all surfaces; wash instruments with soap and water and then wipe down with high-alcohol based cleaner; dispose of rubbish by burning etc.

4. **Manage Visitor Access and Movement**
   - Establish procedures for managing, monitoring, and training visitors.
   - All visitors must follow respiratory hygiene precautions while in the common areas of the facility, otherwise they should be removed.

- Restrict visitors from entering rooms of known or suspected cases of COVID-19 patients. Alternative communications should be encouraged, for example by use of mobile phones. Exceptions only for end-of-life situation and children requiring emotional care. At these times, PPE should be used by visitors.
- All visitors should be scheduled and controlled, and once inside the facility, instructed to limit their movement.
- Visitors should be asked to watch out for symptoms and report signs of acute illness for at least 14 days.

CONSTRUCTION SETTINGS IN AREAS OF CONFIRMED CASES OF COVID-19

1. Minimize Chance of Exposure

- Any worker showing symptoms of respiratory illness (fever + cold or cough) and has potentially been exposed to COVID-19 should be immediately removed from the site and tested for the virus at the nearest local hospital.
- Close co-workers and those sharing accommodations with such a worker should also be removed from the site and tested.
- Project management must identify the closest hospital that has testing facilities in place, refer workers, and pay for the test if it is not free.
- Persons under investigation for COVID-19 should not return to work at the project site until cleared by test results. During this time, they should continue to be paid daily wages.
- If a worker is found to have COVID-19, wages should continue to be paid during the worker's convalescence (whether at home or in a hospital).
- If project workers live at home, any worker with a family member who has a confirmed or suspected case of COVID-19 should be quarantined from the project site for 14 days, and continued to be paid daily wages, even if they have no symptoms.

2. Training of Staff and Precautions

- Train all staff in the signs and symptoms of COVID-19, how it is spread, how to protect themselves and the need to be tested if they have symptoms. Allow Q&A and dispel any myths.
- Use existing grievance procedures to encourage reporting of co-workers if they show outward symptoms, such as ongoing and severe coughing with fever, and do not voluntarily submit to testing.
- Supply face masks and other relevant PPE to all project workers at the entrance to the project site. Any persons with signs of respiratory illness that is not accompanied by fever should be mandated to wear a face mask.
- Provide handwash facilities, hand soap, alcohol-based hand sanitizer and mandate their use on entry and exit of the project site and during breaks, via the use of simple signs with images in local languages.
- Train all workers in respiratory hygiene, cough etiquette and hand hygiene using demonstrations and participatory methods.
- Train cleaning staff in effective cleaning procedures and disposal of rubbish.

3. Managing Access and Spread

- Should a case of COVID-19 be confirmed in a worker on the project site, visitors should be restricted from the site and worker groups should be isolated from each other as much as possible;
- Extensive cleaning procedures with high-alcohol content cleaners should be undertaken in the area of the site where the worker was present, prior to any further work being undertaken in that area.

Annex 3. Health and Safety Guidelines for Retrofitting/Rehabilitation of medical facilities

The following table lists the health and safety risks and impacts associated with small civil works financed by the Bank for retrofitting and rehabilitation of medical facilities (including isolation units and respiratory facilities) in response to the COVID-19 outbreak. Potential mitigation measures and references to sources of additional advice and information are provided as guidelines for the PIU to use in preparing the appropriate environmental instrument such as the Environmental and Social Management Plan (ESMP).

Activity	**Risks and Impacts**	**Mitigation Measures**
Design activity – hospitals, clinics	The focus on treatment and care is progressed disproportionately with the need for adequate medical waste infrastructure.	Ensure that the designs for medical facilities also consider the collection, segregation and treatment of medical waste. The treatment of healthcare wastes produced during the care of COVID-19 patients should be collected safely in designated containers and bags, treated and then safely disposed. Open burning and incineration of medical wastes can result in emission of dioxins, furans and particulate matter, and result in unacceptable cancer risks under medium (two hours per week) or higher usage. If small-scale incinerators are the only option available, the best practices possible should be used, to minimize operational impacts on the environment. Best practices in this context are: ✓ effective waste reduction and segregation, ensuring only the smallest quantities of combustible waste types are incinerated; ✓ an engineered design with sufficient residence time and temperatures to minimize products of incomplete combustion; ✓ siting incinerators away from health-care buildings and residential areas or where food is grown; ✓ construction using detailed engineering plans and materials to minimize flaws that may lead to incomplete destruction of waste and premature failures of the incinerator; ✓ a clearly described method of operation to achieve the desired combustion conditions and emissions; for example, appropriate start-up and cool-down procedures, achievement and maintenance of a minimum temperature before waste is burned, use of appropriate loading/charging rates (both fuel and waste) to maintain appropriate temperatures, proper disposal of ash and equipment to safeguard workers; ✓ periodic maintenance to replace or repair defective components (including inspection, spare parts inventory and daily record keeping); and ✓ improved training and management, possibly promoted by certification and inspection programs for operators, the availability of an operating and maintenance manual, visible management oversight, and regular maintenance schedules.

Activity	Risks and Impacts	Mitigation Measures
		Single-chamber, drum and brick incinerators do not meet the BAT requirements under Stockholm Convention. Small-scale incineration should be viewed as a transitional means of disposal for health-care waste. Alternative treatments should be designed into longer term projects, such as steam treatment methods. Steam treatment should preferably be on site, although once treated, sterile/non-infectious waste may be shredded and disposed of in suitable waste facilities. See WHO Safe management of wastes from health-care activities
Construction activity – hospitals, clinics, mortuary	Land acquisition for the construction of new and expansion of existing hospitals. Injury during the construction of new buildings or refurbishment of existing buildings.	Follow OP4.12 and IPF Policy para 12 on E&S requirements in situations of urgent need of assistance. Apply ESHGs to implementation of projects.
Design and operation of facilities, including triage, isolation(or quarantine) facilities	The design of the facility and the operating procedures will help prevent spread of infection	For patients with possible or confirmed COVID-19, isolation rooms should be provided and used at medical facilities. Isolation rooms should: ✓ ideally be under negative pressure (neutral pressure may be used, but positive pressure rooms should be avoided); ✓ be sited away from busy areas (areas used by many people) or close to vulnerable or high-risk patients, to minimize chances of infection spread; ✓ have dedicated equipment (for example blood pressure machine, peak flow meter and stethoscope), but should avoid excess equipment or soft furnishings; ✓ have signs on doors to control entry to the room, with the door kept closed; ✓ have an ante-room for staff to put on and take off PPE and to wash/decontaminate before and after providing treatment. An operation manual should be prepared prior to the opening of isolation rooms to describe the working procedures to be taken by healthcare workers to protect themselves and prevent infection escape while providing treatment. The operational procedures should be of a standard to meet guidance from WHO and/or CDC on infection control:

Activity	Risks and Impacts	Mitigation Measures
		➢ WHO interim guidance on Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected; ➢ WHO technical brief water, sanitation, hygiene and waste management for COVID-19; ➢ WHO guidance on infection prevention and control at health care facilities (with a focus on settings with limited resources); ➢ WHO interim practical manual for improving infection prevention and control at the health facility; ➢ CDC Guidelines for isolation precautions: preventing transmissions of infectious agents in healthcare settings; and ➢ CDC guidelines for environmental infection control in healthcare facilities.
Improve access to support and treatment for disadvantaged vulnerable groups	Some vulnerable groups (especially the elderly or those with pre-existing medical conditions) may be severely affected by COVID-19 and may need additional support to access treatment.	Projects should develop and commit to specific actions to ensure disadvantaged and vulnerable groups have effective treatment, whether in medical facilities or in the community. Similarly, where IP communities are involved, need to follow ESS7 and IPF policy Para 12 on emergency provision.
Employment of workers	Workers do not receive the care needed if infected with COVID-19.	Contractors should ensure that contracted workers have medical insurance, covering treatment of COVID-19.
Transient and expat workforce	Workers that are mobilized from abroad or returning from abroad become vectors for transmission of disease to construction projects. Workers that travel from other regions may also provide a vector for	Expats or transient workers should adhere to national requirements and guidelines with respect to COVID-19. Expats or transient workers coming from countries/regions with cases of the virus: • Should not return if displaying symptoms • Should self-isolate for 14 days following their return For self-isolation, workers should be provided with a single room that is well-ventilated (i.e., with open windows and an open door). If a single room is not available for each worker, adequate space should be provided to maintain a distance of at least 1 m between workers sharing a room. Workers in isolation should limit their movements in shared space, for example through timed use of shared

Activity	Risks and Impacts	Mitigation Measures
	passing infection onto work sites.	spaces (such as kitchens and bathrooms) with cleaning prior to and after use of the facilities. Visitors should not be allowed until the worker has shown no signs and symptoms for 14 days, and the number of staff involved in caring for those in isolation should eb kept to a minimum. Healthcare professionals and cleaners should visit each day (wearing the appropriate PPE and observing hygiene requirements and make appropriate arrangements for supplying food and water to the kitchens for the workers in isolation. Further information is provided by WHO in Home care for patients with suspected novel coronavirus (COVID-19).
Labor camps	Close working and living conditions of workforce may create conditions for the easy transmission of COVID-19 and the infection of large numbers of people.	Develop contingency plans with arrangements for accommodation, care and treatment for: • Workers self-isolating • Workers displaying symptoms • Getting adequate supplies of water, food and supplies Contingency plans also should consider arrangements for the storage and disposal arrangements for medical waste, which may increase in volume and which can remain infectious for several days (depending upon the material). Ensure medical facilities are stocked with adequate supplies of medical PPE, as a minimum: ✓ Gowns, aprons ✓ Medical masks and some respirators (N95 or FFP2) ✓ Gloves (medical, and heavy duty for cleaners) ✓ Eye protection (goggles or face screens) Medical staff at the facilities should be trained and be kept up to date on WHO advice and recommendations on the specifics of COVID19. The medical staff/management should run awareness campaigns and posters on site advising workers: • how to avoid disease spread (cough/sneeze in crook of elbow; keep 1m or more away, sneeze/cough in tissue and immediately through tissue away, avoid spitting, observe good hygiene) • the need to regularly wash hands with soap and water – many times per day • to self-isolate if they think they may have come in contact with the virus • to self-isolate if they start to display any symptoms, but alert and seek medical advice Wash stations should be provided regularly throughout site, with a supply of clean water, liquid soap and paper towels (for hand drying), with a waste bin (for used paper towels) that is regularly emptied.

Activity	Risks and Impacts	Mitigation Measures
		Wash stations should be provided wherever there is a toilet, canteen/food and drinking water, or sleeping accommodation, at waste stations, at stores and at communal facilities. Where wash stations cannot be provided (for example at remote locations), alcohol-based hand rub should be provided. Enhanced cleaning arrangements should be put in place, to include regular and deep cleaning using disinfectant of catering facilities/canteens/food/drink facilities, latrines/toilets/showers, communal areas, including door handles, floors and all surfaces that are touched regularly (ensure cleaning staff have adequate PPE when cleaning consultation rooms and facilities used to treat infected patients) Worker accommodation that meets or exceeds IFC/EBRD worker accommodation requirements (e.g. in terms of floor type, proximity/no of workers, no 'hot bedding', drinking water, washing, bathroom facilities etc.) will be in good state for keeping clean and hygienic, and for cleaning to minimize spread of infection. To minimize pressure on PPE resources: WHO advice on the effectiveness and use of PPE by general public should be followed to ensure that the supplies are not exhausted through ineffective use – this is equally important on construction sites. Other measures (such as working water sprinkling systems at crushers and stock piles, covered wagons, water suppression or surfacing of haul roads etc.) should be used for dust suppression on site before relying upon the use of dust masks (which could unnecessarily reduce the availability of N95/FFP2 masks for use by medical staff performing some duties)

References and sources of further information

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance
https://www.cdc.gov/coronavirus/2019-ncov/lab/lab-biosafety-guidelines.html
https://www.cdc.gov/coronavirus/2019-nCoV/hcp/index.html
https://www.gov.uk/government/collections/coronavirus-covid-19-list-of-guidance#guidance-for-health-professionals

Annex 4. Example of BioBox

SYSTEM OF BIOLOGICAL PROTECTION

ISOLATION NEGATIVE PRESSURE CHAMBER BIOBOX EBXT-06

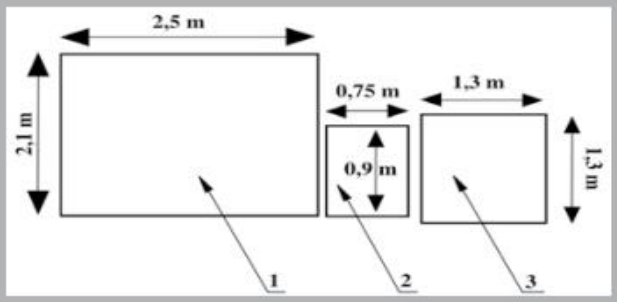
The isolation negative pressure chamber Biobox EBXT-06 with inflatable tubular construction designed for isolation and hospitalization of individuals with highly dangerous infection. The protective Biobox function is based on negative pressure creation inside the isolation chamber, thereby protecting the surroundings from highly dangerous infection transmission.

- quickly erected and serviceable within 15 minutes by two persons
- balanced air distribution inside the chamber through double roof
- filtration-ventilation unit ensures complete air exchange in the isolation chamber every 2 minutes
- expelled air goes through HEPA-filter with built-in source of UV radiation which destroys captured organism
- filtration efficiency is 99,9995%
- through the use of entrance port it is possible to connect medical devices outwardly and thereby protect them from contamination, ports are also used for connection of infusions, respiratory device, etc.
- facility for staff and equipment decontamination after exiting the chamber in attached decontamination module

Equipment for Isolation under pressure chamber Biobox EBXT-06

The plan lay-out of complex – internal dimensions

1. Biobox
2. airlock of Biobox
3. decontamination module



Inflation blower

Filtration - ventilation unit

Decontbox, water distribution, barrels

The isolation negative pressure chamber offers an immediate and highly effective isolation of contagious individuals, decontamination and follow on safe contact of medical staff with patient. It offers BSL-3 standard of protection.

The product is certified by accredited testing centre TÜV CZ and it is classified in the category of class 1 medical supplies. This product was also clinically tested in the Teaching Hospital Na Bulovce in Prague, CZ.

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