

Caribbean Efficient and Green-Energy Buildings Project

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Task 5

His Majesty's Prison

Grenada - September 2025

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1. Site Description and Scope of Works

1.1. Subproject Scope

This Environmental and Social Management Plan (ESMP) has been developed under the Caribbean Efficient and Green-Energy Buildings Project (CEGEB) supported by the World Bank, under the responsibility of the Organization of Eastern Caribbean States (OECS) at the regional level, and the Grenada's Ministry of Climate Resilience, the Environment and Renewable Energy (MCRERE) at the national level.

The ESMP document aligns with the requirements of the CEGEB Environmental and Social Management Framework -ESMF (March 2025 Draft)-. It aims to ensure that energy efficiency and renewable energy improvements are implemented sustainably, minimizing potential adverse impacts while enhancing positive outcomes.

The subproject addresses **His Majesty's Prison** located at Richmond Hill, Saint George's, Grenada. The Prison operates under the authority of the Ministry of National Security, Home Affairs, Public Administration, Information and Disaster Management.

The prison complex occupies a total building area of approximately 4,700 m² within a secure compound that was originally developed as a hospital. It comprises ten main buildings, including security gates, reception and administration areas, office facilities with a water tank, male and female guard accommodation blocks, male and female prisoner accommodation blocks, a rehabilitation unit, a trade complex with joinery and sewing workshops, and a vehicle workshop. The complex contains a mix of single- and two-storey buildings constructed in concrete with traditional masonry and plastered walls with smooth interiors. Roofs are covered with zinc sheets supported by wood-based structures, and overall thermal insulation is limited.

Implementation of the CEGEB Project at His Majesty's Prison will result in a range of positive impacts, including:

- Reduced energy consumption, contributing to lower operational costs and a decrease in greenhouse gas emissions.
- Generation of clean, renewable energy through the integration of solar photovoltaic systems, supporting Grenada's national goals for energy independence and climate resilience.
- Improved indoor comfort and air quality within the facility buildings.
- Enhanced institutional awareness of environmental sustainability, as the facility serves as a demonstrative example of energy-efficient design and renewable energy integration, promoting sustainable operational practices within the national correctional system.
- Local job creation and skills development, by involving contractors and technicians in the deployment of clean energy technologies and environmentally responsible construction

methods, with potential to build capacity in the local workforce for green technology installation and maintenance.

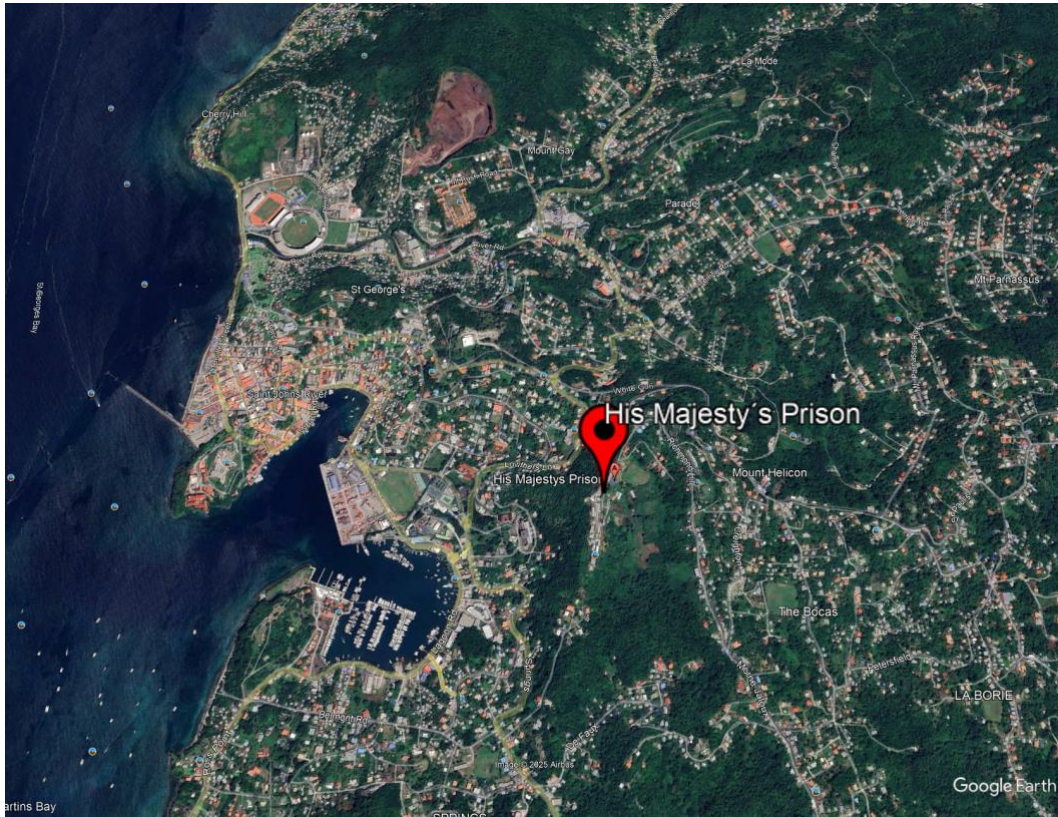


Figure 1.1. Location of His Majesty's Prison



Figure 1.2. Aerial view of the prison buildings

1.2. Geographic Conditions

The State of Grenada is located in the south-eastern Caribbean Sea and forms part of the Windward Islands in the Lesser Antilles. It comprises three main islands: Grenada, the largest and most populous; Carriacou, located approximately 32 kilometres to the north-east; and Petite Martinique, a small island situated just east of Carriacou. While Grenada serves as the administrative, economic, and infrastructural centre of the country, Carriacou and Petite Martinique are more rural in character and maintain strong cultural and economic ties to traditional livelihoods such as fishing, boat building, and small-scale agriculture.

Grenada is a volcanic island. Its topography is shaped by a north–south ridge of mountains, with steeper slopes on the western side and a more gradual incline towards the east and south-east. The highest point is Mount Saint Catherine, which rises to 840 metres above sea level. The terrain is rugged, characterised by steep-sided valleys and a landscape that is both ecologically rich and visually striking. Numerous rivers and streams originate in the central highlands, providing freshwater resources that are essential for domestic use, agriculture, and biodiversity conservation. The soils, derived from volcanic parent materials, are generally fertile but prone to erosion, particularly in areas with steep gradients or insufficient vegetation cover.

Grenada’s forested areas are of high environmental value. Nearly half of the country’s total land area is covered by forests—approximately 10,000 acres (4,000 hectares). These forests fulfil multiple functions, including the production of timber, the provision of wildlife habitat, and the maintenance of essential ecosystem services such as watershed protection and carbon sequestration. Moreover, Grenada’s forests significantly contribute to the country’s tourism sector, offering a pristine and biodiverse landscape that supports eco-tourism and enhances the national economy.

The country experiences a tropical maritime climate, with warm temperatures year-round, high humidity, and a pronounced wet season. Rainfall is heaviest from June to November, coinciding with the Atlantic hurricane season. Annual precipitation varies significantly with elevation, ranging from approximately 1,500 millimetres in lowland coastal areas to over 3,800 millimetres in upland zones. Grenada is highly vulnerable to natural hazards, particularly hurricanes, tropical storms, landslides, and flooding.

His Majesty’s Prison is located at Richmond Hill, in the capital city of Saint George’s, Grenada. It occupies a secure compound on elevated terrain overlooking the city.

1.3. Social and Institutional Conditions

According to the preliminary results of the 2021 Population and Housing Census conducted by the Central Statistical Office, the total population of the State of Grenada, comprising the main island

of Grenada and the smaller islands of Carriacou and Petite Martinique, stands at 109,021. This represents a 2.2% increase from the 106,669 recorded in the 2011 Census.

The Parish of Saint George, situated on the southwestern coast of Grenada, is the country's most populous and densely populated administrative division, with approximately 44,777 inhabitants—around 41% of the national total. It encompasses the capital city of Saint George's and serves as Grenada's primary administrative, commercial, and institutional hub. The parish hosts the national Parliament, key government ministries, the main public hospital, and a wide range of essential public services.

His Majesty's Prison at Richmond Hill is Grenada's primary correctional facility, accommodating both male and female inmates. Its location within the capital city of Saint George's places it in close proximity to judicial, administrative, and law enforcement institutions, making it a central component of the national correctional system.

Over the past few decades, Grenada's economy has experienced a structural transformation, shifting from a predominantly agriculture-based model to one increasingly driven by the services sector. Tourism now accounts for the largest share of gross domestic product (GDP), supported by government efforts to promote the country as a clean, safe, and unspoilt destination through strategic investments and international marketing campaigns. This evolution has heightened the importance of environmental protection and the development of sustainable infrastructure, particularly in public buildings that reflect national identity and support essential services.

In addition to its administrative and institutional significance, Saint George's plays a central role in the national economy, particularly in the tourism and services sectors. The urban core of the parish features hotels, restaurants, marinas, retail centres, and public markets, and sustains a high level of daily activity from both residents and international visitors.

1.4. Utility Services and Public Infrastructure

Water Supply and Sewerage System

At the national level, water supply and sewerage services in Grenada are managed by the National Water and Sewerage Authority (NAWASA), which is responsible for the sourcing, treatment, and distribution of potable water, as well as the oversight of sewerage systems, particularly in urban and semi-urban areas. Most of the national water supply is drawn from surface sources such as rivers and springs originating in the island's central highlands. In line with other facilities located in the Parish of Saint George, His Majesty's Prison at Richmond Hill is connected to the public water supply and has access to basic sanitation infrastructure.

Electricity

Electricity generation, transmission, and distribution in Grenada are managed by the Grenada Electricity Services Ltd. (GRENLEC). The national grid is primarily powered by imported diesel fuel,

although efforts to integrate renewable energy—particularly solar photovoltaic systems—are steadily advancing. Electricity supply in the Parish of Saint George is supported by GRENLEC's central substation infrastructure.

His Majesty's Prison is connected to the national grid and experiences high electricity demand, primarily due to the use of lighting, ventilation, air conditioning, water heating, security systems, and administrative equipment. Energy efficiency measures are therefore important to reduce operational costs and support the sustainable operation of the facility.

Waste Management

Waste management in Grenada is overseen by the Grenada Solid Waste Management Authority (GSWMA), the statutory agency mandated to coordinate the collection, transport, treatment, and final disposal of solid waste throughout the tri-island state of Grenada, Carriacou, and Petite Martinique.

A waste collection schedule is in place nationwide, with frequencies ranging from two to seven times per week, depending on the population density and waste generation rates in each area. This system services both residential and commercial zones, including key public institutions such as schools, hospitals, and government buildings. In addition to routine waste collection, GSWMA offers on-demand special collections for bulky or potentially hazardous materials, including appliances, batteries, scrap metal, acids, vehicle fluids, and certain chemicals, to ensure safe and appropriate disposal.

The island's only official disposal facility is the Perseverance Landfill, located in the parish of Saint George, which also functions as the operational hub for several waste diversion initiatives. GSWMA has implemented systems at this site for metal baling, fluorescent bulb crushing, and wood chipping, as part of broader efforts to reduce the environmental footprint of landfill operations. The Authority also collaborates with a network of private sector actors (e.g. Spice Isle Recycling, Ecocell, and Southern Waste Management Services) to support localized recycling, recovery, and outreach initiatives.

Grenada is a party to the Basel Convention and permits the export of hazardous and classified wastes under its provisions, in line with international environmental and safety protocols. Exports must follow national regulations and include prior informed consent, appropriate labelling and packaging, and full traceability through transport documentation.

An example of waste exports relevant to the CEGEB project refers to the shipment and recycling off island of mercury, that is safely collected in the process of bulb crushing and stored in special containers. This process is carried out at the Hazardous Waste Treatment Plant at Perseverance landfill. Similarly, a metal baling process is carried out for metal waste, which is compacted, processed, and subsequently shipped off island for recycling purposes.

Challenges persist in areas such as waste segregation at the source, public awareness, and the volume of recyclable or reusable materials entering the landfill stream. These constraints underscore the need for institutional engagement, source separation policies, and integration of sustainable waste management practices into public infrastructure projects.

Transportation and accessibility

Saint George's is connected to the rest of the island via a network of paved roads, with public transportation primarily provided by privately operated minibuses. His Majesty's Prison is accessible via Richmond Hill Main Road, a primary route ascending the elevated terrain above the city, which connects to the city centre and surrounding districts. Its central location facilitates ready access for judicial, administrative, and correctional functions.

Communications

Grenada has a well-developed telecommunications sector, with several service providers offering mobile, fixed line, and broadband internet services. His Majesty's Prison is equipped with broadband internet and internal communications infrastructure, supporting administrative functions, security operations, and coordination across the facility.

Emergency services

Emergency services in Grenada are centrally coordinated and available in the Parish of Saint George through the Royal Grenada Police Force, which includes the Fire and Rescue Services and emergency medical response teams. The General Hospital provides primary and secondary health care services and emergency medical care. Fire stations and police headquarters are located within Saint George's. Given the secure nature, high occupancy, and continuous operation of His Majesty's Prison, coordinated planning is essential to ensure that the facility is equipped with appropriate fire safety systems, clearly marked evacuation routes, and unobstructed access for emergency responders.

1.5. Cultural and Historic Sensitivity

Grenada possesses a rich and diverse cultural heritage shaped by its Indigenous Kalinago past, African ancestry, European colonial history, and Caribbean identity. This heritage is reflected in its architecture, oral traditions, festivals, religious practices, and historical sites. Many of the island's urban and rural areas, particularly within Saint George's, contain buildings and features of cultural, historical, and architectural significance. The historic town of Saint George's itself, with its colonial-era forts, churches, and the Carenage harbor, is recognized for its cultural value and scenic character.

The principal authority responsible for the protection, preservation, and promotion of Grenada's tangible and intangible cultural heritage is the Grenada National Trust, established under the National Trust Act. The Trust identifies and conserves sites and structures of historical or

architectural interest and works in collaboration with the Ministry of Culture and other agencies to raise public awareness, manage restoration programs, and maintain heritage registers. Additional institutional frameworks, such as the National Heritage Protection Act and the Physical Planning and Development Control Act, include provisions for the safeguarding of culturally significant buildings and landscapes, particularly in cases of infrastructure development or land-use change.

His Majesty's Prison is not a formally designated heritage site; however, it holds historical significance as one of Grenada's longstanding correctional institutions, located on the site of a former hospital. While it does not retain original historic architectural features, its role within the national justice system and its longstanding presence in the capital contribute to its institutional importance.

2. Legal and Administrative Framework

2.1. National and Local Legal Framework

Grenada has a legal and institutional framework to support energy transition, environmental management, and social safeguards, aligned with the objectives of the CEGEB Project. Relevant instruments include:

Energy Policy and Regulatory Framework

- o Electricity Supply Act (2016, Act No. 19): Establishes Grenada's legal framework for electricity sector liberalization. Promotes renewable energy development and efficient electricity generation. Amended in 2017 (Act No. 33) to expand the mandate for energy efficiency and require procurement procedures for new generation licenses.
- o National Energy Policy (2011; updated 2022–2035): Provides Grenada's long-term energy vision. The 2022 update emphasizes achieving a sustainable, affordable, resilient, and secure energy system while moving toward full decarbonization. It highlights the need for a dedicated Energy Efficiency and Conservation Act and supports market-based mechanisms for energy efficiency.
- o Public Utilities Regulatory Commission (PURC) Acts (2016, 2017): Create the PURC and outline its regulatory role, including licensing, consumer complaint procedures, and tariff oversight. PURC plays a central role in regulating the electricity sector, especially for renewable energy and consumer protections.
- o Grenada Vision 2030 (2012): Includes a target of 100% renewable electricity and transport by 2030, focusing on utility-scale solar development.

Environmental Protection and Planning

- o Environmental Management Act (2005): Creates the legal basis for environmental governance, including pollution control, environmental permits, and the protection of natural resources.

Land Use and Conservation

- o Physical Planning and Development Control Act (2016, Act No. 23; amended 2017): Governs land development and construction activities in Grenada. It establishes the Planning and Development Authority under the Ministry of Climate Resilience, the Environment and Renewable Energy (MCRERE) and empowers it to oversee development control, review applications, and require environmental and social assessments, including Environmental Impact Assessments (EIAs) for projects with potential significant impacts.

Waste Management

- o Grenada Solid Waste Management Authority Act (1995): Establishes the GSWMA to manage solid waste across the tri-island state. While not directly energy-related, proper waste handling is referenced in Grenada's Nationally Determined Contributions as a GHG mitigation sector alongside energy and forestry.

Social Protection and Labour Laws

- o Labour Code of Grenada: Provides the legal framework for labour relations, workers' rights, occupational health and safety, and social protections in the workplace.

Disaster Risk and Climate Resilience

- o Disaster Management Act (2016): Defines disaster risk reduction and response measures under the National Disaster Management Agency (NaDMA). Key to ensuring infrastructure, including energy systems, are climate resilient.

Climate Change

- o National Climate Change Policy (2007): Integrated climate change into all national development sectors, forming the foundation for subsequent instruments like the NAP and NDCs.
- o National Adaptation Plan (NAP): Grenada's National Adaptation Plan 2017–2021 was developed as the country's principal instrument for climate change adaptation under the UNFCCC framework, providing strategic guidance for building national resilience. Designed as a "living document," it allows for periodic updates. As of 2024, the government has initiated a revision process to establish a new planning cycle. Progress has been made through stakeholder consultations, technical assessments, and the continued implementation of sector-specific adaptation measures. The plan outlines strategies for key sectors, including energy, water, and infrastructure. In the energy sector, actions focus on promoting energy efficiency and renewable energy as means to enhance resilience.
- o Nationally Determined Contribution (NDC): Grenada's Second NDC, submitted in 2020 to the United Nations Framework Convention on Climate Change (UNFCCC), reaffirms the national commitment to reducing greenhouse gas emissions by 40% by 2030 compared to 2010 levels, conditional upon international financial and technical support. It adopts a cross-sectoral, integrated approach, targeting key areas such as energy (including transport), waste, forestry, and industrial processes, while also recognising the mitigation co-benefits of adaptation measures. Although a third NDC has not yet been formally submitted, Grenada is actively engaged in the preparatory processes to update its climate commitments.

2.2. Environmental Permits and Documentation

Under Section 22 of the Physical Planning and Development Control Act No. 23 of 2016, the Planning and Development Authority may require an Environmental Impact Assessment for any development that could significantly affect the environment. An EIA is mandatory for projects listed in the Third Schedule, unless the Authority grants an exemption for justified reasons, and no development approval can be issued without first reviewing and considering the EIA report.

The Draft Environmental Impact Assessment (EIA) Administrative Manual (2022), issued by the Ministry of Climate Resilience, Environment and Renewable Energy (MCRERE), provides detailed

guidance on the administrative procedures to be followed for conducting the EIA process in Grenada.

According to Appendix 15 of the Act (Schedule III), which specifies the types of activities that normally require an EIA, it is anticipated that the procedure will not be required for the CEGEB subproject, as the planned works are limited in scope and will be carried out entirely within existing buildings. However, the Contractor should consult the MCRERE, through the Planning and Development Authority (PDA), to obtain confirmation and complete any required screening forms prior to commencing the works.

For managing any hazardous or special wastes generated, such as refrigerants, mercury-containing lamps, or electronic components, the Contractor shall notify the Grenada Solid Waste Management Authority (GSWMA). All handling, storage, and disposal activities must comply with the relevant procedures defined by the authority.

Approvals must be obtained from the Royal Grenada Police Force-Traffic Department to coordinate detours and ensure public safety, in case project works cause road closures, restricted access, or diversions.

Securing required approvals is estimated to take approximately two to four weeks, depending on the completeness of the submissions and previous institutional arrangements.

1.1. Risk Assessment and Mitigation

Environmental, Health and Safety Guidelines

Project implementation shall align with World Bank Environmental, Health, and Safety Guidelines, as indicated in table below.

Environmental, Health and Safety Guidelines		
EHS Guideline	Applicability	Observations
Environmental		
Air Emissions and Ambient Air Quality	Applicable	Due to dust and minor exhaust emissions during construction (e.g., from drilling, machinery, or vehicles), particularly relevant within an active correctional environment that includes on-site accommodation for personnel and inmates.
Energy Conservation	Applicable	Core project goal is to improve energy efficiency and the use of renewable energy sources.
Wastewater and Ambient Water Quality	Limited applicability	Wastewater may result from cleaning activities, use of sanitary facilities, and stormwater runoff during construction.

Water Conservation	Limited applicability	Water-saving fixtures and practices are encouraged in building retrofits.
Hazardous Materials Management	Applicable	Refrigerants, mercury lamps and other potentially hazardous materials must be safely handled.
Waste Management	Applicable	Non-hazardous and hazardous waste will be generated during retrofits and panel installation.
Noise	Applicable	Construction noise may temporarily disrupt prison routines and affect personnel duties.
Contaminated Land	Limited applicability	No prior contamination is anticipated. However, any leaks, spills or runoff should be contained and managed immediately to prevent localised impact.
Occupational Health and Safety		
General Facility Design and Operation	Applicable	Project activities must follow safe design principles, especially for electrical and structural works.
Communication and Training	Applicable	Workers must be trained in safety protocols, correct equipment use, and emergency procedures, with particular attention to the security requirements of a prison environment.
Physical Hazards	Applicable	Common construction risks include slips, trips, and falls, work at heights, and electrical hazards, all of which require strict control measures in a secure correctional environment.
Chemical Hazards	Applicable	Exposure risks from paints, sealants, refrigerants, cleaning agents.
Biological Hazards	Applicable	The presence of moisture and localised fungal growth in poorly ventilated areas poses biological risks due to airborne spores, compounded by overcrowding conditions that increase the potential for transmission of communicable diseases, pest infestations (e.g., rodents, insects), and poor indoor air quality, affecting the health of inmates, staff, and contractors during works.
Radiological Hazards	Not applicable	No radiological sources have been identified.
Personal Protective Equipment (PPE)	Applicable	Required for all on-site workers.
Special Hazard Environments	Applicable	High-security setting where the presence of inmates, strict access controls, and the potential for security incidents require enhanced safety protocols for all personnel and activities.
Monitoring	Applicable	Environmental and Health and Safety indicators must be tracked (noise, air, PPE, waste).
Community Health and Safety		
Water Quality and Availability	Limited applicability	No direct impact on supply expected; relevance is limited to preventing any on-site contamination.

Structural Safety of Project Infrastructure	Applicable	Relevant for rooftop interventions such as solar panel installation. Structural integrity must be ensured.
Life and Fire Safety	Applicable	Essential to comply with fire codes and design standards post-retrofit, ensuring safe evacuation procedures and adequate fire protection measures for inmates, staff, and visitors within the secure environment of the prison.
Traffic Safety	Limited applicability	Attention should be given to managing vehicle movements within the prison compound and along Richmond Hill Main Road to ensure safe access for service vehicles, staff, and authorised visitors during works.
Transport of Hazardous Materials	Applicable	Refrigerants and other potentially hazardous material must be transported following safety protocols.
Disease Prevention	Applicable	Relevant where vector control and enhanced sanitation measures are required during construction, particularly given the high occupancy and confined conditions of the prison environment.
Emergency Preparedness and Response	Applicable	Emergency routes, fire exits, and evacuation protocols must remain fully functional and clearly marked during works, with strict safety and security procedures in place to manage the presence of external contractors in the prison environment.
Construction & Decommissioning		
Environment	Applicable	Dust, noise, waste, stormwater management and spill prevention measures are required during the works.
Occupational Health & Safety (Construction)	Applicable	All construction health and safety standards must be strictly observed and enforced, with additional security measures to protect workers and maintain prison safety.
Community Health & Safety (Construction)	Limited applicability	Access control, nuisance minimisation, and safe circulation must be maintained within the prison compound. Direct impacts on external community are not anticipated.

Table 2.1. World Bank Environmental, Health, and Safety Guidelines relevant to CEGEB implementation at His Majesty's Prison.

2.3. World Bank Environmental and Social Standards

The World Bank Environmental and Social Standards (ESSs) provide the overarching framework to identify, assess, and manage environmental and social risks and impacts associated with project activities financed by the World Bank. Their application ensures that project interventions are designed and implemented in a manner that promotes sustainability, protects people and the environment, and supports inclusive stakeholder engagement.

For the CEGEB project, eight Environmental and Social Standards (ESSs) are applicable: ESS1 through ESS6, ESS8, and ESS10. These cover areas such as environmental and social risk management, labour and working conditions, pollution prevention, community health and safety, biodiversity, cultural heritage, and stakeholder engagement.

The following section presents the environmental and social screening undertaken for His Majesty's Prison subproject, which documents the applicability of these ESSs.

2.4. Environmental and Social Screening

The table below indicates the World Bank Environmental and Social Standards (ESSs) that must be considered for the CEGEB subproject involving retrofitting and renewable energy installations at His Majesty's Prison.

Environmental and Social Screening			
Question	Yes	No	Comments / Required Actions
ESS1 - Assessment and Management of Environmental and Social Risks and Impacts			
Is the subproject likely to have significant adverse environmental impacts that are sensitive and unprecedented that trigger the 'Ineligible Activities' and exclusion?		x	The activities are limited in scope and do not entail operations with significant environmental sensitivity.
Does the subproject involve renovation or rehabilitation/upgrading of any small-scale infrastructure, such as windows, doors, ceilings, or shelters?	x		The subproject may involve ceiling renovations, dismantling of outdated lighting and air conditioning systems, and other minor works that do not compromise the building structural integrity. Photovoltaic panels will be installed in areas that meet the required structural conditions.
Is the site close to a water body?		x	His Majesty's Prison is located inland, at a considerable distance from the coast.
Will the subproject require clearing of vegetation?		x	The subproject is confined to the existing built-up area of the prison premises, and no vegetation clearing is expected.
Will the subproject be close to terrestrial/marine protected areas or sensitive area?	x		The wooded slopes surrounding Richmond Hill are not formally protected, yet they serve important environmental functions—providing erosion control, green buffer zones, and habitat for locally significant species such as the Grenada Dove.
Will the subproject lead to sedimentation or soil erosion?		x	Works will take place entirely within existing prison buildings, with no earthmoving or alteration of slopes.
ESS2 - Labour and Working Conditions			
Does the subproject involve use of goods and equipment involving forced labour, child labour, or other harmful or exploitative forms of labour?		x	The project will adhere to national and international labour standards and will be contractually monitored.
Does the subproject involve recruitment of workforce including	x		The subproject will involve recruitment of direct, contracted, and primary supply workers.

direct, contracted, primary supply, and/or community workers?			
Do workers need PPE relative to the potential risks and hazards associated with their work?	X		PPE must be required for all tasks, following national and international regulations.
Is there a risk that women may be underpaid when compared to men when working on the project construction?		X	There is no inherent risk that women will be underpaid compared to men for performing equal work within the project. All contractors and subcontractors must comply with national labour legislation and international labour standards, including those relating to gender equality and non-discrimination in employment.
Does the project lead to any risks and impacts on individuals or groups who, because of their circumstances, may be disadvantaged or vulnerable.		X	The site is a secure correctional facility, and project activities are not expected to create additional impacts on vulnerable populations beyond the existing managed inmate population.
ESS3 - Resource Efficiency and Pollution Prevention and Management			
Is the project likely to generate solid or liquid waste that could adversely impact soils, vegetation, rivers, streams, or groundwater?	X		Efficient use of materials must be ensured, and a detailed solid and liquid waste management plan must be implemented by contractors.
Do any of the construction works involve the removal of asbestos or other hazardous materials related to construction works?	X		No asbestos was identified during the building assessment. Other hazardous materials (such as refrigerants and mercury-containing lamps) may require proper handling during retrofitting activities
Are works likely to cause negative impacts to air and/or water quality?	X		Potential impacts to air and water quality are expected to be minor and can be effectively mitigated with appropriate measures.
Does the activity rely on existing infrastructure that is inadequate to prevent environmental impacts?		X	The subproject is designed to align with existing building infrastructure, which is considered functional and sufficient to support planned interventions without causing adverse impacts.
Does the activity require civil works to support project activities?	X		Minor civil works will be carried out.
Does the activity require the use of pesticides, mildewcides or other chemicals?	X		The project does not directly involve the use of pesticides, mildewcides, or other chemicals as part of its core scope. Targeted pest control may be required as an ancillary measure prior to or during construction. Any such intervention must be carefully planned and carried out in coordination with prison authorities, using approved methods and substances in accordance with national health and environmental regulations, and in a manner that does not interfere with or delay project implementation.
Is there a potential that the works will involve sites that are affected by issues related to mold?	X		Any mold-affected areas encountered during the works must be remediated using safe, approved methods in coordination with prison authorities, ensuring health risks are minimised and construction activities remain on schedule.
Could the construction activities be a nuisance to other activities at the site, such as from dust, noise, construction vehicles etc.?	X		Construction activities could cause temporary nuisance to prison operations due to dust, noise, vibrations, and construction vehicle movements.

ESS4 - Community Health and Safety			
Is an influx of workers, from outside the community, expected?		X	The workforce is anticipated to be drawn from the local area, and no significant influx of external workers is foreseen.
Could the construction activities be a nuisance to community members, such as dust, noise, traffic etc.?		X	No significant effects on the external community are expected, given the prison's location and controlled access.
Could the construction activities disrupt the primary use of the site?	X		Construction works could interfere with the operational routines of the Prison, including security procedures, inmate management, and staff activities.
ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement			
Does the subproject involve involuntary land acquisition?		X	Not applicable.
Does the subproject involve physical and/or economic displacement of people?		X	Not applicable.
ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources			
Do project activities alter or cause destruction to critical or sensitive natural habitats?		X	Not applicable.
ESS8 - Cultural Heritage			
Will the subproject involve any civil works that could involve demolition, renovations, or refurbishment to a historical or archaeological or culturally significant site or facility?		X	Not applicable.

Table 2.2. World Bank Environmental and Social Standards (ESSs) relevant to CEGEB implementation at His Majesty's Prison.

In addition, ESS10 –Stakeholder Engagement and Information Disclosure– is applicable. Meaningful and inclusive stakeholder engagement, along with ongoing, transparent information disclosure, is essential given the involvement of public institutions and the operational sensitivities of a correctional facility, ensuring effective coordination with relevant authorities and stakeholders.

2.5. Environmental and Social Risks

Environmental and social risks have been identified and must be properly managed to ensure that the implementation of subprojects is conducted in a safe, compliant, and sustainable manner. The probability and severity of the main risks and impacts associated with the subproject, as well as the description of risks, are shown in the tables below.

Risk	Probability of risk	Severity of risk			
		Low	Moderate	Substantial	High
Waste generation	High		X		
Air pollution and noise	Moderate		X		
Water and soil pollution	Low	X			
Worker health & safety	Substantial		X		
Inmate and staff health & safety	Moderate		X		
Disturbance to prison operations	Substantial		X		
Public safety	Low	X			
Weather-related risks	Moderate		X		
Participation and transparency risks	Low	X			

Table 2.3. Probability and severity of the main risks and impacts relevant to His Majesty's Prison subproject.

Environmental and Social Risks	
E & S Aspect	Risks
Waste generation	<p>Mixed disposal of hazardous and non-hazardous waste can result in contamination, regulatory violations, and increased disposal costs.</p> <p>Lack of on-site segregation (e.g., metals, cardboard, electronic components) may reduce recyclability and overload landfill systems.</p> <p>Components such as fluorescent tubes, ballasts, circuit boards, inverters, and wiring may contain lead, mercury, cadmium, and other toxic substances.</p> <p>Improper handling or disposal of e-waste can lead to soil and groundwater contamination or occupational exposure for workers.</p> <p>Fluorinated gases from the HVAC components may imply high global warming potential.</p> <p>Demolition debris, wood, plastic wraps, and foam packaging from delivered equipment may become wind-blown litter or block storm drains.</p> <p>Inadequate removal or cleanup of these materials can create trip hazards and visual pollution.</p> <p>Leftover adhesives, sealants, solvents, and cleaning agents can pollute the environment if not stored or disposed of correctly.</p> <p>Some materials may be classified as hazardous waste under national or international standards, requiring special permits and treatment.</p>
Air pollution and noise	<p>Activities such as drilling, cutting, or equipment installation may generate airborne dust, which could compromise air quality and infiltrate indoor spaces, potentially affecting the health and comfort of building users</p> <p>Use of machinery and hand tools may result in temporary noise levels that disturb building occupants and nearby public areas.</p> <p>Spores may be released in building sectors where mold is present.</p>
Water and soil pollution	While unlikely, minor leaks of fuel, oils, or chemicals from machinery or stored materials may potentially contaminate soil or local drainage systems.
Worker health & safety	<p>Safety risks associated with working within a secure correctional facility.</p> <p>Fall hazards for workers operating at heights in the absence of proper protective systems.</p>

	<p>Heat-related stress (e.g., dehydration, fatigue, heat exhaustion) for workers performing outdoor tasks under high temperatures and humidity.</p> <p>Risk of contact with pests (rodents, insects) during indoor or outdoor interventions.</p> <p>Exposure to spores during works in environments affected by mold.</p> <p>Electric shock or arc flash risks may arise during disconnection of electrical systems or modification of electrical panels, particularly if lockout/tagout procedures are not followed.</p> <p>Injury from tools, ladders, or machinery if personal protective equipment (PPE) and safety protocols are not enforced.</p>
Inmate and staff health & safety	<p>Discomfort or health risks from dust, noise, and vibration generated during construction works in areas occupied or accessed by personnel and inmates.</p> <p>Potential exposure to spores if hidden moisture or mold is uncovered during works.</p> <p>Accidental exposure to tools, debris, or chemical substances (e.g., adhesives, sealants, cleaning agents) left unattended in secure or circulation areas.</p>
Disturbance to prison operations	<p>Restricted access to essential facilities such as accommodation blocks, restrooms, exercise yards, medical rooms, or designated emergency assembly points.</p> <p>Interference with secure movement routes, including congestion or confusion in corridors, entryways, or control points, due to temporary blockages or simultaneous movement of inmates, staff, and workers.</p> <p>Interruptions or restrictions to normal prison routines, including inmate movement, security procedures, rehabilitation programmes, training, and administrative functions.</p> <p>Limited availability of space for the temporary storage of materials, equipment, or waste may interfere with normal facility operations.</p>
Public safety	<p>Minimal safety risk for authorised visitors, service providers, or personnel accessing or moving within designated areas of the prison during works, with no anticipated impacts on the external public.</p>
Weather-related risks	<p>Tropical storms or heavy rainfall events may damage partially installed systems, such as solar panels, lighting, or air conditioning units, and displace construction materials or scaffolding if not secured properly.</p> <p>Frequent weather changes may disrupt construction schedules and access.</p>
Participation and transparency risks	<p>Limited involvement of key institutional stakeholders, prison staff, contractors, or relevant government agencies could reduce transparency, weaken coordination, and overlook valuable operational knowledge in project planning and implementation.</p>

Table 2.4. Environmental and social risks relevant to CEGEB implementation at His Majesty's Prison.

Based on the integrated assessment of the risks and impacts associated with the subproject at His Majesty's Prison, the site has been classified as Moderate Risk based on the following considerations:

- The potential risks and impacts on human populations and/or the environment are not expected to be substantial or highly significant.
- Most identified risks and impacts are anticipated to be temporary, reversible, and manageable within the operational constraints of the prison environment.
- The magnitude of most risks and impacts is considered moderate or low.
- Safety concerns specific to the prison environment need to be especially addressed.

- As with all CEGEB subprojects, particular attention must be given to waste management during the construction phase, as it represents a high-probability risk compounded by the existing challenges of waste handling within the prison environment.
- The subproject's impacts are expected to be compensated or mitigated through defined measures implemented in coordination with prison management to maintain security and operational continuity.

The risk of Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) is not anticipated, as it falls under the provisions of labour regulations. However, it should be explicitly addressed in the workers' Code of Conduct, together with other key labour standards.

Waste generation warrants particular attention during the construction phase. Table 2.5 provides an overview of the types of waste likely to be generated due to subproject implementation and the associated potential risks.

Waste type	Risk	Possible waste material
Construction and Demolition Waste	Non-Hazardous	Concrete, masonry, and brick debris from minor structural adjustments or reinforcements. Wood offcuts and discarded pallets, including untreated packaging wood. Insulation materials, such as fiberglass batts or foam board scraps. Metal components, such as mounting brackets or steel supports, recyclable as scrap.
Electrical and Electronic Waste	Potentially hazardous	Retired lighting fixtures and lamps, including fluorescent tubes, HID lamps, and LEDs. Wiring looms, control panels, sensors, switches, circuit boards, meters, and controllers removed during upgrades. Inverters and other PV system electronics that are damaged or replaced. May contain heavy metals (e.g., lead, cadmium, mercury) and must be handled as e-waste.
HVAC-Specific	Hazardous	Fluorinated refrigerants (R410A), which are ozone-depleting or high global warming potential gases. Used compressor oils that may contain pollutants or refrigerant traces. Contaminated filters, which may carry dust, mold, or biological matter, potentially requiring sanitary or biomedical disposal. Electronic control units from HVAC systems that may contain hazardous components.
Solar PV System Waste	Potentially hazardous	Damaged or substandard PV modules, composed of glass, silicon cells, and aluminum frames. Cable assemblies, junction boxes, and mounting hardware removed or left over from installation. PV packaging waste, which may be bulky and include foam, cardboard, and plastics.

Chemical and Toxic Residues	Hazardous	Solvents, adhesives, sealants, and other chemical products used during retrofitting. Leftover cleaning agents or degreasers, often requiring proper labelling and disposal. Soldering residues, flux, or small capacitors from old equipment, potentially containing PCBs or heavy metals.
General Site and Office Waste	Non-Hazardous	Paper waste, food containers, and beverage bottles from workers' rest and meal areas. Used PPE (e.g., gloves, masks, disposable coveralls) and cleaning rags. Miscellaneous consumables, such as air filters, zip ties, and packaging films.
Packaging Waste	Non-hazardous	Cardboard boxes, wooden crates, and pallets from equipment and material deliveries. Plastic wraps, foam inserts, and cushioning materials from lighting, HVAC, and PV packaging. Strapping (metal or plastic) and other delivery packing residuals.

Table 2.5. Types of waste that may be generated during CEGEB project construction phase.

The environmental and social mitigation measures defined for the subproject have been organised in the table below to provide the technical basis for implementation and contractual obligations. The measures identified establish the requirements to manage environmental and social risks during construction and must be incorporated into the Contractor's Management Strategies and Implementation Plans (MSIPs).

Environmental and Social Management Matrix		
E&S Aspect	Potential Impacts	Mitigation Measures
Waste generation	Improper management of construction debris, electronic waste, hazardous substances, and packaging materials associated with PV components may result in pollution, health and safety risks, or regulatory non-compliance.	Waste management within a high-security correctional facility requires strict access control procedures for the entry and removal of all materials and waste. These controls are essential to prevent contraband risks, ensure accurate inventory tracking, and maintain compliance with security protocols while safeguarding environmental and occupational health standards. Develop and implement a Waste Management Plan detailing procedures for waste collection, segregation, on-site storage, transport, recovery or recycling, and final disposal. Coordinate with the Grenada Solid Waste Management Authority (GSWMA) in advance and throughout the construction phase to ensure proper handling, transport, and disposal of all waste streams.

		<p>Provide training to workers on proper waste segregation, labelling, and safe handling procedures.</p> <p>Designate secure temporary storage areas within the prison compound to hold waste until collection.</p> <p>Do not mix project implementation waste with prison waste.</p> <p>Segregate waste streams at the source to facilitate appropriate handling, treatment, and disposal; ensure that incompatible waste types, particularly hazardous and non-hazardous materials, are not mixed.</p> <p>Maximize recycling and recovery of waste to the extent possible, with the aim of minimizing final disposal.</p> <p>Ensure safe recovery, labelling, and containment of refrigerants in accordance with standard operating procedures (SOPs) and arrange for their transport to licensed facilities.</p> <p>Ensure that all e-waste and hazardous materials are handled and disposed of by licensed and authorized entities.</p> <p>All waste removal activities must be supervised by authorised prison staff to prevent unauthorised materials leaving the facility.</p> <p>Contract waste collection and transport services only through entities authorized by GSWMA and by prison authorities.</p>
Air pollution and noise	Dust and noise from construction activities may affect prison indoor air quality.	<p>Wet surfaces during dust-generating activities.</p> <p>Whenever possible restrict noisy tasks to non-peak prison activity hours.</p> <p>Install dust barriers where needed.</p> <p>Regularly inspect and maintain equipment to minimise emissions.</p>
Water and soil pollution	Spills or leaks during construction activities may affect water and soil in the surrounding area.	<p>Minor spills or leaks must be contained immediately to prevent soil or water contamination.</p>
Worker health & safety	Risk of falls, electrical shock, heat stress, mold exposure, injury from equipment use, or safety issues within the prison compound.	<p>Security induction prior to commencing works, covering prison rules, prohibited items, access and movement controls, emergency procedures, and interaction protocols with inmates and staff.</p> <p>Conduct daily hazard-specific safety briefings.</p> <p>Enforce use of PPE for all workers and tasks.</p> <p>Ensure hydration and rest periods.</p> <p>Install fall protection systems.</p> <p>Pest control, if required, carried out by specialized contractors.</p> <p>Maintain continuous supervision of contractor personnel within the secure perimeter.</p>

Inmate and staff health & safety	Temporary health or safety concerns for inmates and staff due to dust, noise, vibrations, restricted movement, or interaction with construction activities within the secure environment.	<p>Strictly segregate all construction areas from spaces accessible to inmates, ensuring that contractor movements and material handling are continuously monitored by authorised prison staff. Implement and enforce comprehensive security screening for personnel, tools, equipment, and materials at all entry and exit points throughout the duration of the works.</p> <p>Minimise dust infiltration by sealing openings and ensuring proper ventilation controls in accommodation areas, health service rooms, and other occupied indoor spaces.</p>
Disturbance to prison operations	Noise, dust, and temporary access restrictions may interfere with daily routines, security procedures, rehabilitation programmes, and administrative functions. Inadequate coordination with prison management could exacerbate operational disruptions and compromise security protocols.	<p>Establish and communicate a work schedule in advance with prison management to avoid interfering with essential security procedures, administrative operations, or rehabilitation programmes.</p> <p>Erect temporary noise barriers around work zones adjacent to accommodation blocks, administrative offices, or areas where inmate activities are conducted.</p> <p>Clearly demarcate and secure construction zones to prevent inmate or staff entry into hazardous areas.</p> <p>Maintain unobstructed access to essential operational routes and ensure that emergency exits remain clear at all times.</p> <p>Appoint a designated liaison officer to maintain ongoing communication with prison authorities and promptly address any concerns related to disruptions or security risks.</p>
Public safety	Trip hazards, falling objects, or blocked access routes may pose a risk to authorised visitors, service vehicles, or staff moving within or near the prison entrance.	<p>Secure construction zones with fencing, controlled access points, and clear signage.</p> <p>Ensure that works or vehicle movements near the Richmond Hill access road and prison gates do not obstruct essential services or create safety risks.</p>
Weather-related risks	Construction runoff and exposure to tropical weather may cause localised water pooling, minor erosion, or equipment damage	<p>Protect storm drains with barriers.</p> <p>Store materials off the ground and under cover.</p> <p>Keep temporary waste deposits covered to prevent wind or rain exposure.</p> <p>Schedule outdoor works during dry weather periods, whenever possible, to minimise environmental impacts and safety risks.</p> <p>Develop a storm preparedness plan aligned with national regulations and early warning systems.</p>
Participation and transparency risks	Limited engagement or information-sharing with prison management, security authorities, or other key stakeholders may lead to reduced transparency, weakened coordination, and missed opportunities to	<p>Implement a site-specific communication strategy, while ensuring that no disclosed information compromises prison security protocols.</p> <p>Provide regular updates to prison management and designated focal points.</p>

	integrate operational and security considerations into project planning and implementation.	Ensure visibility of works schedule via noticeboards and digital channels. Activate and monitor a grievance mechanism accessible to prison personnel and service providers.
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Table 2.6. Potential impacts and mitigation measures for the construction phase at His Majesty's Prison.

To ensure proper planning, accurate costing, and enforceability, the contractual clauses related to the proposed mitigation measures are presented in the table below. These clauses are intended for integration into the bidding documents and the General Conditions of Contract (GCC).

E&S Contractual Requirements	
E&S Aspect	Proposed GCC Clause
Waste generation	<p><i>The Contractor shall develop and implement a comprehensive Waste Management Plan as part of the MSIPs. The Plan shall detail procedures for the segregation, secure storage, controlled collection, transport, recycling, and final disposal of all waste streams and shall be approved by both prison management and the Grenada Solid Waste Management Authority (GSWMA) prior to implementation.</i></p> <p><i>The Contractor shall comply with all security protocols governing the entry, handling, and removal of materials and waste within the facility. Waste removal schedules, authorized personnel lists, vehicle registrations, and equipment inventories shall be submitted in advance for clearance by designated prison security officers.</i></p> <p><i>All hazardous waste shall be safely recovered, clearly labelled, securely stored, and transported only by licensed entities in full compliance with national regulations, GSWMA requirements, and prison security procedures. Transport activities shall be logged and escorted as required by facility rules.</i></p> <p><i>The Contractor shall maintain continuous coordination with prison management and the GSWMA to ensure that all waste handling, storage, and removal activities comply with environmental, occupational health, and security standards.</i></p> <p><i>The Contractor shall ensure that all workers and subcontractors receive mandatory training on waste segregation, labelling, secure storage, safe handling procedures, and specific security protocols applicable to working within a high-security correctional facility.</i></p>
Air pollution and noise	<p><i>The Contractor shall implement effective measures to control dust, noise, and emissions during all construction activities within and around the facility, using low-noise equipment and construction techniques wherever feasible.</i></p> <p><i>Dust screens and noise barriers shall be installed where necessary, giving priority to sensitive areas such as cells, administrative offices, medical facilities, and visiting zones.</i></p> <p><i>The Contractor shall ensure that all machinery, vehicles, and equipment are properly maintained to minimise emissions and operational noise, and shall conduct regular air</i></p>

	<p><i>quality and noise monitoring to verify compliance with environmental regulations and ESMP requirements.</i></p>
Worker health & safety	<p><i>The Contractor shall prepare and implement a site-specific Occupational Health and Safety (OHS) Plan, as part of the MSIPs, in compliance with ESS2 and the World Bank EHS Guidelines.</i></p> <p><i>The approved OHS Plan shall be implemented throughout construction and compliance shall be documented.</i></p> <p><i>The Contractor shall prepare and enforce a Worker Code of Conduct that complies with all applicable national labour regulations and the World Bank's Labour and Working Conditions, approved by prison authorities.</i></p> <p><i>The Contractor shall comply with and support the implementation of the Project's Grievance Mechanism for workers.</i></p>
Prison staff and inmate health & safety	<p><i>The Contractor shall develop and implement a contingency plan tailored to the specific operational needs and occupancy type of the correctional facility.</i></p> <p><i>The Contractor shall coordinate and communicate work activities in advance with prison management to ensure health and safety risks prevention for inmates and prison personnel.</i></p> <p><i>Construction zones shall be clearly demarcated and secured to prevent unauthorised access.</i></p> <p><i>Dust infiltration shall be minimised by sealing openings and implementing adequate ventilation controls in areas adjacent to work zones.</i></p> <p><i>External and internal circulation routes, as well as safety exits, shall always remain clear and unobstructed.</i></p>
Disturbance to prison operations	<p><i>The Contractor shall coordinate the work schedule in advance with prison management ensuring that activities are sequenced to avoid operational disruptions, while upholding security protocols and supporting the continuity of both security operations and rehabilitation programmes.</i></p> <p><i>The Contractor shall install temporary noise barriers near sensitive areas, including cells, administrative offices, medical facilities, and visiting zones, during noisy operations.</i></p> <p><i>Regular communication with the appointed liaison officer must be maintained to promptly address any disruption-related concerns.</i></p> <p><i>The Contractor shall comply with and support the implementation of the Project's Grievance Mechanism for staff, inmates and authorised visitors, according to the conditions in a high-security facility.</i></p>
Public safety	<p><i>The Contractor shall ensure public safety around the prison facility during construction, in strict adherence to prison security protocols.</i></p>

Weather-related risks	<p><i>The Contractor shall implement measures to minimise weather-related risks during construction. Outdoor works shall, whenever possible, be scheduled during dry weather periods.</i></p> <p><i>Storm drains shall be protected with barriers; materials shall be stored off the ground and under cover; waste deposits shall be secured to prevent wind or rain exposure.</i></p> <p><i>A storm preparedness plan shall be developed and implemented in line with prison protocols, national regulations and early warning systems, in coordination with the National Disaster Management Agency (NaDMA) when required.</i></p>
Participation and transparency risks	<p><i>The Contractor shall develop and implement a site-specific communication strategy to ensure transparency and effective stakeholder engagement throughout all construction phases.</i></p> <p><i>The Contractor shall establish, activate, and monitor the performance of the Project's Grievance Mechanism in coordination with prison management, ensuring timely responses and proper documentation of all complaints and resolutions in accordance with security protocols.</i></p>

Table 2.7. Environmental and social contractual requirements for the construction phase at His Majesty's Prison.

3. Monitoring and Reporting

3.1. Monitoring Objectives

Effective monitoring is essential to ensure that the environmental and social risks identified for His Majesty's Prison subproject are properly managed throughout implementation. Monitoring should aim to:

- Ensure that mitigation measures are implemented as planned.
- Assess the effectiveness of mitigation measures
- Allow for corrective actions where needed.
- Track performance indicators to detect deviations or unexpected impacts.
- Enable timely corrective actions to minimise risks.
- Provide documentation for reporting to national authorities, the World Bank, OECS and project stakeholders.

3.2. Monitoring and Reporting Responsibilities

The monitoring and reporting responsibilities outlined below may be adjusted, if necessary, to align with the final arrangements established in the Project Operations Manual (POM).

Building Level Focal Point:

The Building Level Focal Point, designated by prison management, shall support monitoring and reporting by serving as the liaison between the Contractor, S&C Consultant, and prison managers. Responsibilities include facilitating site access, communicating building-specific requirements, and relaying relevant feedback from staff or inmates.

Contractor:

The Contractor shall be responsible for implementing and monitoring all environmental and social mitigation measures defined in the ESMP and the bidding documents. The Contractor shall appoint a qualified Environmental, Social, Health and Safety (ESHS) Officer to oversee effective performance and maintain accurate day-to-day monitoring records.

Supervision & Commissioning (S&C) Consultant:

The S&C Consultant shall ensure that all construction activities comply with the approved technical designs, contract, ESMP requirements, and work plans. The Consultant shall conduct regular site inspections, review the Contractor's monitoring data, and consolidate findings into monthly reports submitted to the National PIU. A dedicated Environmental and Social (E&S) Officer shall be appointed by the Consultant to verify the Contractor's performance and oversee and inform the effective implementation of all mitigation measures.

National Project Implementation Unit (National PIU):

The National PIU shall be responsible for managing the implementation of environmental and social requirements at the country level. Its responsibilities include reviewing monitoring reports, conducting spot checks, coordinating closely with Contractors and S&C Consultants, and preparing consolidated progress reports. These reports shall be submitted to the OECS Regional PIU in accordance with the reporting procedures established in the Project Operations Manual (POM).

Ministry of Climate Resilience, the Environment, and Renewable Energy (MCRERE):

Shall provide national-level oversight and coordination with relevant national agencies to ensure compliance with regulatory requirements, permits, and policy priorities, and to ensure that subproject implementation remains consistent with Grenada's national development and climate resilience goals.

OECS Regional Project Implementation Unit (OECS PIU):

The OECS PIU shall receive consolidated reports from the National PIUs across participating countries, validate overall environmental and social performance, and submit aggregated reports to the World Bank in accordance with the reporting procedures established in the Project Operations Manual (POM).

All documents and reports relevant to project monitoring shall be stored in the project files and made available for review in accordance with the responsibilities of the key institutions.

3.3. Monitoring Indicators

The table below presents monitoring indicators associated with the environmental and social aspects relevant to the implementation of the CEGEB project. Additional indicators may be proposed as needed during subproject implementation.

E&S Aspect	Monitoring Indicators	Means of Verification	Proposed frequency	Responsible for Collecting Data
Waste management	Volume generated for each type of waste (kg or m ³). Percentage of waste streams properly segregated at source. Number of loads collected and removed by licensed waste handlers.	Waste segregation logs. Disposal manifests or receipts issued by licensed waste handlers.	Weekly, and at time of waste removal	Contractor (ESHS Officer); reviewed by S&C Consultant
Air emissions and dust	Dust suppression measures fully implemented (e.g., water spraying, material covering, barriers) (yes/no) Air quality parameters measured where required and compared against national standards or project-specific thresholds. Number of dust-related complaints received and addressed.	Daily visual inspection logs with dust control checklists. Air quality measurement reports, including calibration certificates and laboratory analysis when applicable. Complaints register linked to the project's Grievance Mechanism.	Daily during works	Contractor (ESHS Officer); reviewed by S&C Consultant

Noise levels	LAeq,15min (dB(A)) measured at designated indoor points and the site perimeter, compared with applicable regulatory limits or project-specific thresholds. Number of noise-related complaints received and resolved.	Noise measurement logs. Records confirming maintenance of noise control measures (e.g., schedules, inspections). Complaints register linked to the project's Grievance Mechanism.	Daily during works	Contractor (ESHS Officer); reviewed by S&C Consultant
Water and soil pollution	Number of recorded spills or leaks and corresponding corrective actions. Verification of runoff containment systems in place, where required (yes/no).	Spill/leak incident reports. Runoff containment inspection report.	After rain; and incident-based	
Worker health & safety	Pre-employment medical clearance for all workers (yes/no). All workers using required PPE (yes/no). Number of toolbox talks conducted per week. Percentage of worker attendance to toolbox talks. Number of reported incidents or accidents and corrective actions implemented. Medical evaluations conducted after reported work-related incidents (yes/no). Lost Time Injury Frequency Rate. Number of worker complaints received and addressed.	Valid medical fitness certificates or health cards for 100% of workers, issued by authorised occupational health professionals. PPE compliance checklists. Daily visual inspection logs of work areas. Toolbox talk records, including date, topic, and participant attendance list. Incident/accident log with root cause analysis and corrective measures documented. Post-incident medical evaluation certificates. Worker complaints register linked to the project's Grievance Mechanism.	Daily during works	Contractor (ESHS Officer); reviewed by S&C Consultant
Prison staff and inmate health & safety	Work zones segregation verified (yes/no). Number of incidents affecting staff or inmates. Medical evaluations conducted after reported staff or inmate health & safety issues (yes/no). Number of complaints received from staff or inmates related to health and safety.	Work zone segregation checklists. Daily visual inspection logs. Incident/accident investigation reports. Medical evaluation certificates for affected staff or inmates, issued following reported incidents. Staff and inmates complaint register linked to the project's Grievance Mechanism.	Daily during works	Contractor (ESHS Officer); reviewed by S&C Consultant
Disturbance to prison operations	Verification of planned disruptions communicated in advance (yes/no). Number of unplanned service interruptions. Average duration of unplanned service interruptions. Verification of emergency access routes or critical facilities remaining unobstructed (yes/no). Advance notifications for high-impact works (yes/no). Number of complaints from prison management related to operational disruptions.	Communication records shared with prison management. Copies of distributed notices. Service downtime logs. Contractor incident reports. Inspection checklists. Prison management complaint register linked to the project's Grievance Mechanism.	Daily during works	Contractor (ESHS Officer); reviewed by S&C Consultant

Public safety	Required signage and barriers installed (yes/no). Public safety notices displayed at site surroundings, where required (yes/no). Number of unsafe access incidents reported. Number of complaints from members of the public related to safety issues.	Work zone inspection checklists. Incident reports for unsafe access events. Public health and safety complaints register linked to the project's Grievance Mechanism.	Daily during works	Contractor (ESHS Officer); reviewed by S&C Consultant
Weather-related risks	Materials stored securely and protected (yes/no). Storm preparedness plan active (yes/no). Number of weather-related damages or incidents reported after extreme weather events.	Storage inspection checklists. Approved storm preparedness plan. Storm preparedness plan activation records. Post-event inspection reports.	Weekly; and before and after storms	Contractor (ESHS Officer); reviewed by S&C Consultant
Participation and transparency	Number of stakeholder communication events conducted. Percentage of grievances resolved within the defined timeframe.	Meeting agendas, attendance sheets and minutes. Grievance register linked to the project's Grievance Mechanism, resolution tracking logs, and confirmation records of closed cases.	Ongoing	Contractor (ESHS Officer); reviewed by S&C Consultant; validated by PIU Environmental Specialist
Overall E&S performance	Number of non-compliance findings. Percentage of corrective actions implemented within deadline.	E&S inspection reports, monitoring checklists, and non-compliance tracking logs verified by the S&C Consultant. Corrective action plans, follow-up inspection reports, and contractor's compliance confirmation records.	Weekly	Contractor (ESHS Officer); reviewed by S&C Consultant; validated by PIU Environmental Specialist

Table 3.1. Monitoring indicators proposed for each Environmental and Social Aspect.

4. Implementation Arrangements

The implementation of environmental and social measures under the Caribbean Efficient and Green-Energy Buildings Project (CEGEB) will involve close coordination among national agencies, project entities, and on-site actors. These arrangements will be designed to ensure full compliance with Grenada's environmental legislation and the World Bank's Environmental and Social Standards (ESSs), as outlined in the Environmental and Social Management Framework (ESMF).

The Project Implementation Unit (PIU), established under the Ministry of Climate Resilience, the Environment & Renewable Energy (MCRERE), will be responsible for planning, coordinating, and supervising project activities in full alignment with the ESMF and the Project Operations Manual (POM). The PIU will also oversee stakeholder engagement, environmental and social risk management, and the grievance redress mechanism, ensuring consistent implementation across all interventions.

Prison management representatives will play a central role at the site level, acting as focal points between the PIU, contractors, and facility personnel. They will support day-to-day coordination, ensure that disruptions are properly communicated, and facilitate the monitoring of mitigation measures.

While the MCRERE will provide overall leadership and strategic oversight for the project, the Environmental Management Department (EMD) within the MCRERE will ensure environmental compliance, approve relevant permits, monitor waste management practices, and oversee the implementation of the mitigation and monitoring measures defined in the ESMFs.

A National Coordination Committee (NCC), chaired by the MCRERE, will provide strategic oversight at the national level, facilitate inter-agency coordination, and ensure that CEGEB activities remain aligned with Grenada's energy, environmental, and infrastructure policies.

Other relevant agencies and their expected roles will include, but may not be limited to:

- Ministry of Infrastructure and Physical Development, Public Utilities, Civil Aviation & Transportation: Oversee national infrastructure development, public utilities regulation, and transportation systems coordination.
- Ministry of National Security, Home Affairs, Public Administration, Information and Disaster Management: Responsible for overall administration and security oversight regarding His Majesty's Prison.
- Ministry of Health, Wellness & Religious Affairs: Responsible for coordinating health-related requirements and ensuring compliance with occupational health and safety protocols during project implementation
- Ministry of Finance: Provide oversight on financial compliance and reporting.
- Department of Labour: Ensure that employers and employees comply with all Labour Laws.

- Grenada Electricity Services Ltd. (GRENLEC): Technical coordination, approvals, and grid connection support for solar PV systems and other energy efficiency measures.
- Public Utilities Regulatory Commission (PURC): Oversee the regulation of electricity and other utilities in Grenada, ensuring compliance with technical, environmental, and safety standards.
- Grenada Solid Waste Management Authority (GSWMA): Ensure that contractors follow national waste management regulations and coordinate disposal through licensed facilities.
- Grenada Fire Department: Ensure compliance with fire safety codes, including inspection of upgraded systems and access routes.
- Royal Grenada Police Force: Responsible for traffic control, management of public access, and coordination of overall safety during project implementation.

5. Stakeholder Engagement

5.1. Consultation Process and Outcomes

The Stakeholder consultation for the Caribbean Efficient and Green Energy Buildings (CEGEB) Project in Grenada was carried out in accordance with the Stakeholder Engagement Plan (SEP), with the objective of supporting risk identification, refining mitigation strategies, and ensuring that technical interventions respond to the operational context of each site.

Objectives

The consultation process was designed to:

- o Involve stakeholders in identifying environmental and operational risks associated with project implementation.
- o Collect information on building conditions, infrastructure vulnerabilities, and user priorities.
- o Clarify expectations regarding the long-term operation and maintenance of installed systems.
- o Promote transparency and raise awareness through the early disclosure of project objectives and scope.

Methodology

Stakeholder consultations were carried out using a structured questionnaire distributed primarily through Google Forms. To address potential barriers to digital access, individual interviews were conducted with stakeholders who were either unable or preferred not to respond online. This combined approach facilitated broader participation and ensured greater inclusivity while managing logistical constraints.

In total, 80 stakeholders representing all buildings included under the Grenada CEGEB subprojects were invited to participate. Although engagement presented some challenges, 66 valid responses were successfully collected, providing a solid basis for analysing stakeholder perspectives.

The questionnaire explored:

- o Awareness and perceived relevance of the project.
- o Anticipated environmental and social impacts.
- o Recommended mitigation measures for construction works within operational buildings.
- o Expectations regarding roles and responsibilities for long-term maintenance.
- o Preferred forms of communication and grievance mechanisms during implementation.

Stakeholder Profile

Stakeholders included:

- o Facility and infrastructure managers.

- o Technical and maintenance staff with direct insight into building systems.
- o Public servants and users of government facilities.
- o Representatives of service providers and associated entities.

Although coverage varied across buildings, the sample included in most cases staff with operational responsibilities and building users, ensuring informed feedback. Stakeholders were classified according to their roles, influence, and interest levels.

Key Findings

Stakeholder insights were in general consistent with previous risk assessments and confirmed widespread support for energy efficiency improvements. The findings of the consultation process are summarised below:

- o **Project Awareness:** Approximately 45.5% of respondents reported having prior knowledge of the CEGEB project before completing the survey.
- o **Stakeholder Relevance:** 86.4% of respondents were directly associated with one or more of the assessed buildings, including facility staff, users, and technical personnel.
- o **Perceived Importance:** Following a brief explanation of the project objectives, 94% of respondents rated the initiative as important or very important for both building users and the wider community.
- o **Disruption of Services:** Respondents highlighted the need to minimise interference with routine operations during implementation. Specific concerns included noise, movement of equipment, and workspace disruptions. Emphasis was placed on ensuring close coordination with facility managers to schedule works appropriately and avoid critical times.
- o **Waste Management:** Proper handling, secure temporary storage, and final disposal of obsolete equipment (e.g., air-conditioning units and lighting fixtures) were seen as critical. Respondents underscored the importance of pre-planning and early coordination with the Grenada Solid Waste Management Authority to manage associated waste streams effectively.
- o **Communication:** Stakeholders expressed the need for timely communication prior to any intervention. Preferred channels included:
 - Email notifications
 - Direct updates through designated focal points
 - On-site noticeboards and visual cues
- o **Long-Term Responsibilities:** Some respondents requested further clarification regarding:
 - Responsibility for maintenance of installed systems post-implementation.
 - Training timelines and target staff for system operation.
 - Expected lifespan and replacement planning for the equipment.
- o In the case of His Majesty's Prison, additional concerns involve the strict protocols required when carrying out works in a high-security environment.

The stakeholder consultations underscored the need for a well-structured Grievance Mechanism to ensure that all project and subproject stakeholders have accessible, transparent, and efficient channels to express concerns and receive timely resolutions.

5.2. Grievance Mechanism

A Grievance Mechanism (GM) will be established and maintained throughout the implementation of His Majesty's Prison subproject to ensure that any concerns or complaints raised by stakeholders are received, addressed, and documented in a transparent, timely, and accessible manner.

The GM will be implemented in line with the CEGEB Environmental and Social Management Framework (ESMF) and the Grenada Stakeholder Engagement Plan (SEP) and will comply with the requirements of the World Bank Environmental and Social Standard 10 (ESS10), ensuring inclusivity, accountability, and effective resolution of grievances.

Objectives

- Provide an accessible and confidential platform for stakeholders to raise concerns related to project activities.
- Ensure timely and transparent resolution of grievances.
- Strengthen accountability, trust, and engagement with affected stakeholders.

Scope of complaints

The GM shall address, but not be limited to, the following types of complaints:

- Construction-related impacts (e.g. noise, dust, vibration, restricted access, inconvenience).
- Occupational and public health and safety risks.
- Accessibility and security concerns.
- Disruptions to regular prison operations.
- Any other environmental or social risks identified by stakeholders.

Accessibility and non-retaliation

The GM shall ensure:

- Accessibility to all users, including staff, inmates, authorised visitors, service providers, contractors, workers, and the general public as deemed appropriate.
- Anonymous submissions whenever required.
- Protection from retaliation guaranteed for all complainants.

Focal Points and Responsibilities

The GM shall be implemented through the following focal points:

- Facility-Level Focal Points: Prison managers or designated officers shall act as the initial point of receipt for grievances raised within the facility. They shall collect complaints and promptly forward them to the PIU or the assigned CLO for registration, documentation, and follow-up.

- Community Liaison Officers (CLOs): CLOs shall serve as the primary interface between prison stakeholders and the PIU. They shall register all grievances, ensure proper documentation, track their progress within the central GM system, and provide timely feedback to complainants. CLOs shall also consolidate data received from Facility-Level Focal Points for reporting purposes and support the overall management of grievances at the project level.
- PIU Environmental & Social Specialists: Shall manage, resolve, and document grievances in line with the procedures outlined in the CEGEB Environmental and Social Management Framework (ESMF) and the Stakeholder Engagement Plan (SEP). They shall ensure compliance with the World Bank's ESS10, maintain the central grievance database, prepare periodic reports, and coordinate with the OECS Regional PIU where relevant.
- Contractors: Contractors shall establish and operate a dedicated Worker Grievance Mechanism, aligned with ESS2 and the procedures defined in the SEP. They shall ensure confidentiality, non-retaliation, and fair resolution of workplace-related complaints. Contractor-level mechanisms shall be integrated into the central PIU grievance system to allow consolidated monitoring, reporting, and oversight.

Submission channels

Public noticeboards providing instructions and contacts for submitting grievances shall be widely available. Multiple submission channels shall be implemented, including:

- Secure complaint boxes located in selected places within the facility.
- Dedicated email address and secure web-based form.
- Telephone hotline or WhatsApp number (where feasible).
- In-person submissions to focal points.

Support for Vulnerable Groups

In order to provide support for vulnerable groups, the GM shall ensure that:

- Verbal submissions are accommodated where literacy or accessibility is a barrier.
- Assistance is provided to individuals who require support in preparing and submitting complaints
- Sensitive complaints are handled confidentially, ensuring cultural sensitivity and non-discrimination.

Visibility and Awareness

The GM shall be publicised as widely as possible through:

- Posters and noticeboards in visible selected facility areas.
- Flyers distributed prior to construction works.
- Online resources and accessible formats for persons with disabilities.
- Other means adequate for a prison environment.

Timelines for Response

Responses to grievances shall be made within the following timelines:

- Acknowledgement: Within 3 working days of receipt.
- Formal Response: Within 15 working days, where feasible.
- Extensions: In complex cases, delays shall be justified and documented in the Grievance Log.

Record-Keeping and Reporting

A Grievance Log will be maintained by the PIU, recording:

- Date and method of submission.
- Nature of the complaint.
- Responsible party assigned for resolution.
- Actions taken and outcomes.
- Feedback from the complainant (if provided).

Grievance trends will be analysed and reported regularly by the PIU, consolidated at the national level, and submitted to the OECS Regional PIU, communicating aggregated findings to the World Bank.

6. Implementation and Cost Considerations

6.1. Implementation Scheduling

The implementation of the Environmental and Social Management Plan (ESMP) for His Majesty's Prison subproject must be closely aligned with the overall execution schedule of the Caribbean Efficient and Green-Energy Buildings (CEGEB) Project. The ESMP is intended to serve as a dynamic management tool that supports risk prevention, environmental compliance, and stakeholder engagement throughout the project lifecycle.

Implementation of the ESMP shall commence prior to the mobilisation of works, starting with the integration of environmental and social obligations in tender documents and continuing through the recruitment of contractors and the finalisation of executive project designs. The sequencing of ESMP activities shall follow the project's key milestones, which include:

- Incorporation of ESMP provisions into bidding documents and General Conditions of Contract (GCC).
- Pre-construction planning, including preparation of Management Strategies and Implementation Plans (MSIPs) by the contractor, subject to review and approval by the Supervision Consultant in coordination with the PIU and the prison management representatives.
- Execution of site works, during which all environmental, health and safety, and stakeholder engagement measures must be implemented and monitored in accordance with the approved schedule.
- Ongoing reporting and grievance management.
- Post-construction activities, including clean-up, dismantling of temporary facilities, and restoration of affected areas.

To ensure proper scheduling, the PIU, in coordination with the Supervision & Commissioning Consultant and contractors, shall integrate all ESMP milestones into the master project implementation schedule. This alignment ensures that environmental, health and safety, and stakeholder engagement measures are initiated at the correct stages and tracked against the CEGEB implementation timeline.

6.2. Implementation Costs

The table below outlines the relevant cost categories, representing anticipated expenditures directly associated with environmental and social management measures to be integrated into the overall project budget. Specific amounts for each cost category shall be determined during

procurement planning, based on contractor bids, detailed implementation plans, and the confirmed scope of works.

ESMP Implementation Costs	
Cost Category	Description
Waste Management	Containers for on-site waste segregation. Equipment for safe handling of hazardous waste. Contracted service for transport and disposal of bulky or hazardous waste. Waste management authority fees for specific bulky or hazardous waste.
Worker Health & Safety	Personal Protective Equipment (PPE) for each task. First aid kits and emergency response supplies. Hiring of H&S Technician. Other items as required to address H&S issues specific to the prison environment.
Staff and Inmate Health & Safety	Safety signage in common areas. Temporary barriers to isolate work zones. Portable ventilation or filtration aids. Air quality monitoring and laboratory testing (if required) Noise monitoring equipment. Mold removal and treatment measures. Other items as required to address conditions specific to the prison environment.
Prison Operations	Temporary acoustic panels. Dust suppression barriers or sheeting. Informational signage and floor markings. Other items as required to address operation disturbances specific to the prison environment
Public Safety	Directional and hazard signage. Basic traffic control elements (cones, barricades, temporary signage).
Weather-Related Risks	Stormwater drain protection (e.g., covers, filters). Waterproof storage for materials. Storm readiness and response supplies.
Stakeholder Communication & Grievance Mechanism	Noticeboards, printed schedules, and visual materials. Social media content, WhatsApp, and digital communication. Dedicated staff for public outreach and grievance handling. Complaint boxes, forms, and tracking system (physical or digital) appropriate for a prison environment.
Environmental & Social Supervision	Hiring of Environmental and Social Specialist(s) for monitoring, reporting, and stakeholder engagement.

Table 6.1. Anticipated costs of ESMP implementation for subproject construction.