Project

5 X Solar Hybrid Power System SB-SP-192654-0223-0S-SHP

CONSTRUCTION ENVIROMENTAL

AND SOCIAL MANAGEMENT PLAN

Employer:
SOLOMON POWER

Contractor:
JV GAMMA SOLUTION GAMMA ENERGY SFERAONE

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Acronyms

AR	Administration Responsible
BMP	Building Material Permit
CESMP	Construction Environmental and Social Management Plan
CM	Construction Manager
DC	Direct Current
DMI	Daughters of Mary Immaculate
ECD	Environment Conservation Department
EDCF	Economic Development Cooperation Fund
EHS	Environment Health & Safety
EIA	Environmental Impact Assessment
EOD	Explosive Ordnance Department
EOU	Explosive Ordnance Unit
EPC	Engineering Procurement Contract
ERP	Emergency Response Plan
ESM	Environment Safety Manager
ESMP	Environmental and Social Management Plan
GBV	Gender Based Violence
GCC	General Contract Conditions
GEF	Global Environment Facility
GRM	Grievance Redressal Mechanism
H&S	Health & Safety
HIV	Human Immunodeficiency Virus
HSM	Health & Safety Manager
HSP	Health & Safety Plan
JSA	Job Safety Analysis
JV GSGESF	JV Gamma Solutions- Gamma Energy - Sefraone
Kw	KiloWatt

Kwp	Kilowatt per Hour
MID	Ministry of Infrastructure and Development
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NEP	National Energy Plan
O&M	Operation & Maintenance
OHS	Occupational Health & Safety
OP	Operational Manual
PE	Perpetual Estate
PER	Public Environment Report
PM	Project Manager
PMU	Project Management Unit
PPE	Personal Protective Equipment
PV	Photovoltaics
QM	Quality Manager
RSIPF	Royal Solomon Island Police Force
SCADA	Supervisory Control and Data Acquisition
SEA	Sexual Exploitation Abuse
SIDS DOCK	Small Islands Development State Initiative Multi Donor Trust Fund
SIEA	Solomon Island Electricity Authority
SIEAREEP	Solomon Islands Electricity Access and Renewal Energy Expansion Project
SOP	Standard Operating Procedure
SP	Solomon Power
STD	Sexual Transmitted Disease
STI	Sexual Transmitted Infection
SWM	Safe Work Method
TMP	Traffic Management Plan
UXO	Unexploded Ordnance

WB	World Bank
WMP	Waste Management Plan

Executive Summary

JV Gamma Solutions- Gamma Energy - Sfraone (JV GSGESF) (hereafter referred as “The Contractor") has been contracted by Solomon Island Electricity Authority (SIEA) trading as Solomon Power (SP) (hereafter referred as “Employer”) to design, procurement, construction and commissioning of Solar Hybrid mini plants in 5 key locations within Solomon Islands. The 5 key locations are Visale (Guadalcanal Province), Tingoa (Rennell Bellona Province), Baolo (Isabel Province) and Bina & Dala (Malaita Province).

The Solar Hybrid in 5 locations are sub projects under component 1 of the Solomon Islands Electricity Access and Renewal Energy Expansion Project (SIEAREEP). The SIEAREEP is a capital works financed by the World Bank (WB), Global Environment Facility (GEF), Strategic Climate Fund and Small Islands Development State Initiative Multi Donor Trust Fund (SIDS DOCK). The project development objective is to increase access to grid-supplied electricity and increase renewable energy generation in Solomon Islands.

Construction activities for the solar hybrid carried out by JV GSGESF will be restricted to creating a driveway onto the site, removal of vegetation from the site, installing foundations for the solar arrays, erection of a secure building to house storage batteries, a diesel generator for generation backup and other ancillary equipment, installing the solar arrays and controllers, and installing of security fencing.

The WB Policy has been triggered (refer to table 2.1) for this sub project[1]. As a result, the Construction Environmental and Social Management Plan (CESMP) is required to comply with the SP Environment Social Management Plan (ESMP) for the SIEAREEP. The CESMP document will outline the procedures and requirements for environmental and social safeguards.

It is envisaged the subproject impacts are minor and mostly contained within the work site which can be satisfactorily mitigated and managed at acceptable levels. All impacts and activities are addressed by an environmental social management plan in chapter five.

JV GSGESF has prepared this CESMP taking in account the General Conditions of Contract, Solar PV Hybrid Power Plants- Specifications, the Contractor Site Safety Standard and Guide for Projects Supervisors OHSC034 and SP Environment Social Management Plan (ESMP) / Public Environment Report (PER) for each Solar Hybrid Project sites.

[1] SIEAREEP is the project, subproject are referred to as individual sites where specific works are to be delivered

1.0 PROJECT DESCRIPTION

1.1 Project Introduction

JV GSGESF is employed by SP for design and installation of 5 Solar Hybrid Power plants in key locations within Solomon Islands. The 5 key locations are Visale (Guadalcanal Province), Tingoa (Rennell Belona Province) , Baolo (Isabel Province) and Bina & Dala (Malaita Province).JV GSGESF is responsible for design, procurement, construction and commissioning of the subproject as per the Engineering Procurement Contract (EPC). The installation will be carried out in compliance to SP specification and specification for Solar Hybrid installations. The Contractor will design and furnish all materials and equipment to be fully compatible with electrical, environmental and space conditions of the site. It will include all equipment to safely support the full demands of the solar hybrid and be designed for unattended operation.

WB Safeguards Policies and Solomon Islands Legislation for Environment were triggered for this subproject. The subproject is triggered as category B under the WB safeguards policy[2].As a result, JV GSGESF has prepared this CESMP to meet these policy and legislative requirements. This CESMP integrates the following plans:

- Risk Management Plan
- Health and Safety Plan
- Security Plan
- COVID-19 Management and Prevention Plan
- Trainings (GBV and HIV trainings)
- Traffic Management Plan
- Waste Management Plan
- Community engagement plan
- Management of Grievances and Complaints
- UXO management plan; and
- Emergency Response Plan

1.2 Project Location

1.2.1 Bina

Bina is located in West Malaita, Malaita Province. Bina is approximately an hour drive from the provincial capital, Auki. Bina comprises four main communities, schools, clinics and a catholic station. This region of Malaita is known as West Kwaio. Bina was earmarked by the Solomon Island Government for development of an onshore processing plant and pineapple processing plant.

Table 1.1: Bina System components

[2] The four categories defined in the OP4.01 in World Bank Safeguard Policies

Component	Description
Generator	106 KW Generator
PV	360 kWp Solar Panel String Inverters
Storage	3 x Tesla Battery & Inverters (50kW, 228kWh each)

Source: Solomon Power ESMP/PER Bina Solar Hybrid Project May 2021

Detailed site location map and layout is in Annex 15.1.1 and Annex 15.1.2

1.2.2 Dala

Dala is located west of the Malaita Island, Malaita Province. It is approximately one hour by truck from Auki, the provincial capital. Malaita consists of a number of islands and are inhabited by mostly Melanesian. According to the provisional count released in January 2020 based on the recent 2019 census, the population of Malaita is 173, 347 people.

Table 1.2: Dala System components

Component	Description
Generator	132 kW Generator
PV	496 kWp Solar Panel String Inverters
Storage	5 x Tesla Battery & Inverters (50kW, 228kWh each)

Source: Solomon Power ESMP/PER Dala Solar Hybrid Project Feb 2021

Detailed site location map and layout is in Annex 15.2.1 and 15.2.2

1.2.3 Baolo

Baolo is located on the western end of Isabel Province and is fifteen minutes by OBM from the nearest airport, Suavanau. The proposed solar site is located on a Perpetual Estate (PE) land in Baolo area.

Table 1.3: Baolo System components

Component	Description
Generator	132 kW Generator

PV	kWp Solar Panel String Inverters
Storage	336 kWh

Source: Solomon Power ESMP/PER Baolo Solar Hybrid Project May 2021

Detailed site location map and layout is in Annex 15.3.1 and 15.3.2

1.2.4 Visale

Visale is located 40 km west of Honiara, the capital of Solomon Islands. It is approximately one half hours' drive by land transport and an hour by sea transport. Visale is a catholic station. The catholic mission operates the area health center, primary and secondary schools, The Daughters of Mary Immaculate and a training college. The proposed solar site is located on The Daughters of Mary Immaculate (DMI) registered land in Visale.

Table 1.4: Visale System components

Component	**Description**
Generator	53 kW Generator
PV	232 kWp Solar Panel String Inverters
Storage	430 kWh

Source: Solomon Power ESMP/PER Visale Solar Hybrid Project Dec 2020

Detailed site location map and layout is in Annex 15.4.1 and 15.4.2

1.2.5 Tingoa

Tingoa is the provincial capital of Rennell and Bellona Province. It is approximately one hour by plane from Honiara. Rennell and Bellona are inhabited by Polynesians with a population of 3041, 2009 census. The island, located south of the main Solomon group lies in the path of annual cyclones and are frequently hit by the cyclones that usually originate and pass through the Solomon group in southeast and southwest directions.

Table 1.5: Tingoa System components

Component	**Description**
Generator	53 kW Generator
PV	232 kWp Solar Panel String Inverters

Storage	263 kWh

Source: Solomon Power ESMP/PER Tingoa Solar Hybrid Project Oct 2020

Detailed site location map and layout is in Annex 15.5.1 and 15.5.2

1.3 Project Objectives

The subproject development objective is to increase access to solar grid-supplied electricity and increase renewable energy generation in Solomon Islands. This will, in turn:

- Promote clean, renewable energy
- Assist in reducing green-house gas emission
- Promote environmental benefits by reducing fossil fuel and oil usage including disposal
- Supports the realization of the National Energy Plan (NEP) renewable energy target; and
- Reduce reliance on diesel-generated electricity

1.4 Project Scope of Works

The work shall be carried out as stipulated in the Table below

Table 1.6: Project Scope

Activity	**Description**
Site Investigation	The Contractor shall be responsible for ensuring the UXO scans and clearance of ordinance or other obstructions detected shall be completed as required for the sites along with any other surveys or site tests required before mobilization and construction can commence. The Contractor shall undertake Site geotechnical investigations and geodetic surveys as necessary to affect its Bid and detailed design.
Site Clearance and Earthwork	Clear any large trees, rocks, or other obstacles from the entire construction area regardless of whether or not the space is needed so as to provide a clear area for future structures or equipment installed as part of future works. The Contractor to be responsible for moving existing services such as wells, pipes, antennas, dilapidated structures etc. as necessary in order to clear the site as needed to perform works as required and to coordinate with the community as required should any works affect existing residents. The Contractor shall be responsible for all necessary earthworks. The Contractor is responsible for excavating, filling, leveling, compaction, stabilizing slopes and ground treatments necessary to suit the Employer's intended standards and specifications.

Fencing and Security	The subproject site will be fenced off with twenty-four hours security surveillance. The specification recommends a chain-link fence and five layers of barb wire. The Contractor will provide secure perimeter fencing to prevent the ingress of unauthorized personnel, general populace and animals such as cats and dogs. Positioning shall be nominally at the property boundaries. Fencing for the system shall attach to and expand the area boundary of the existing system. Fencing should not shade the solar PV panels during prime generation periods.
Installation and Mounting of Solar Panels	The main component of the system is an array of solar panels mounted above ground level. There will be a walkway between the solar rows and or columns to enable maintenance and regular inspection.
String and Inventors	The Contractor is required to specify the appropriate inverters for the site with respect to the capacity and suitability for the designed PV System.
Solar System Integration and Electrical Interconnections	Electrically a string of PV modules is connected in series to form a PV string with a higher output Direct Current (DC) voltage.
Buildings	Relevant buildings will have the necessary components of standard building codes such as storerooms, toilets facilities, and sewage system to the agreed standard.
Diesel generators	A diesel generator shall be installed as standby and automatically start when the PV and battery cannot support the load.
Commissioning	The Contractor shall submit a Testing and Commissioning Plan at least four weeks before the scheduled start of the inspection and testing program date.

1.5 Manpower Requirements

Expatriate workers will be accommodated in rented motels/homestays and local workers will be recruited trough local Subcontractors from the local community or Honiara. The estimated amount of labour needed during the construction phase is as follows:

Table 1: Manpower Requirements in construction phase

	Job Description	No. Of Employees
1	Construction Manager	1
2	Solar Responsible (Subcontractor)	1
3	Civil Responsible (Subcontractor)	1
4	Mechanical (Subcontractor)	1
5	Operators (Subcontractor)	3

6	Foreman (Subcontractor)	1
7	Environment and Social Manager	1
8	Health and Safety Manager	1
9	General Worker (Casuals) (Subcontractor)	3
10	House Assistant (Subcontractor)	1
	Total	14

The Contractor, wherever possible, prioritizes employment of people and subcontractors from within the project communities, in order to maximize benefits for the local populations. The Contractor will do so taking in consideration that there may be differences between islands cultures that may lead to conflict should labor of outsiders be employed at the given Site. JV GSGE will encourage subcontractors for employment of women in support activities such site administration, clerical and site clearance.

1.6 Project Management

The Employer has established a Project Management Unit (PMU) to manage and implement major projects. A designated Project Manager will be appointed through whom the Contractor shall communicate as its primary point of contact.

2.0 Policy, Legal and Administrative Framework

Table 2.0: Legislation

Legislation	Year	Objective
Environment Act	1998	An Act to make provision for the protection and conservation of the environment; the establishment of the environment and conservation division and the environment advisory committee and for matters connected therewith or incidental thereto. The objects of the act is to provide for and establish integrated systems of development control, environmental impact assessment and pollution control.
Environment Regulation	2008	The Environment Regulations 2008 covers detailed requirements for EIA. The Act has a schedule which lists all "prescribed' developments' that need to undergo the EIA process. All prescribed developments require a simple assessment through "screening" or "scoping" process to see what form of additional assessment is required. Most development projects require a PER, while many major projects will also need a second stage of appraisal which include technical, economic, environmental and social investigations presented in an EIA or environmental impact statement (EIS) report. Forms 1 and 3 are relevant forms in the second schedule of the environmental regulation that provides guidelines to assist in the preparation and drafting of the EIS/PER. This ESMP/PER report is a fulfillment of the environmental regulation and Act.
Electricity Act	1996	Under the Electricity Act 1969, SIEA trading as SP is an autonomous, government-owned entity, endowed with the necessary powers to carry out its functions as the responsible authority for the generation, transmission, distribution and sale of electrical energy throughout the Solomon Islands. The Authority falls under the portfolio of the MMERE, and in accordance with the Electricity Act, SP is responsible to the Minister for MMERE.
Land and Title (Amendment) Act	2016	The Act consolidates the law relating to the tenure acquisition, and registration of land in Solomon Islands. It deals with both customary and alienated lands. The Act recognizes customary rights and states "the manner of holding, occupying, using, enjoying and disposing of customary lands shall be in accordance with the current customary usage applicable thereto, and all questions relating thereto shall be determined accordingly".
Town and Country Planning Board (Amendment) Act	2017	An Act for the administration of town and country planning in Solomon Islands, the making of local planning schemes, the control and development of land and for matters connected therewith and incidental thereto. The object of this Act is to ensure that land in Solomon Islands is developed and used in accordance with properly considered policies that are formulated on adequate information.
Mines and Minerals Act (Amendment) Act	2008	Provide management for mining and mineral prospecting by regulating controls in all mining and prospecting associate activities including alluvial mining. Part II of the Act regulates the mandate of the Minister to designate any area as a reserved area and prohibit the carrying out of reconnaissance, prospecting or mining thereon. The

		same section regulate reconnaissance, prospecting and mining are prohibited in or any village, place of burial, tambu or other site of traditional significance, inhabited house or building, any cultivated land or land rendered fit for planting and habitually used for the planting of crops, any land designated as town land, under the Lands and Titles Act, any state forest or controlled forest within the meaning of the Forest Resources and Timber Utilization Act unless some kind of arrangement authorized by the Minister in consultation with landowners and commissioner of forestry are established. Section 65 outlines the format of the Building Materials Permit (BMP) application that will be made to the Director of Mines with a prescribed fee that is usually paid at the Inland Revenue Division (IRD) and a receipt attached to the application. Section 66 outlines the forms and content of the Building Materials Permit (BMP) application, and Sections 67 and 68 have provisions regarding the rights and obligations of the BMP holder respectively. While Section 69 provides for exemptions for the national government or provincial government to mine building materials on any land that is owned by a government department or a provincial government.
Environmental Health Act	1980	The Environmental Health Act (Public Health Act), enacted on 1st August 1980, provides for the management and control of community health in Solomon Islands. Mainly administered by the Minister, the provisions also identify Enforcement Authorities for purposes of preventing the occurrence or for checking the spread of any noticeable diseases, provision and protection of water supplies and management of drainage and sanitation practices. The Public Health Act serves as the Health Impact Assessment reference in identifying the necessary practicable measures for preventing all conditions liable to injurious or dangerous to health arising from the erection, or occupation of the subproject.
Safety at Work Act		This Act consists of 4 parts. ● Part II: Article 4 states that it is the duty of every employer to ensure the health and safety at work of his employees. ● Article 6: states that it is the duty of the employer to provide a safe workplace for persons other than his employees. ● Articles 7 and 8: requires manufacturers, suppliers of tools and equipment and suppliers of chemicals and other hazardous substances to ensure that these are safe and without health risks. ● Article 12: states that any employer who operates unsafe machinery or substances and is injured will be responsible for the damages. ● Part III: Article 15 requires the employer to protect people from dust, fumes, etc. Article 16 provides for limits of exposure to dust and fumes. ● Articles 17, 18, 19 and 20 require employers to comply with the operating requirements for: (i) pressure and vacuum systems; (ii) machinery; (iii) dangerous machinery; and (iv) electrical installations. ● Articles 21 and 22 require workplaces to have fire protection and to take precautions against explosions

Labor Act	1978	This Act makes provisions for the protection of workers and their rights. It establishes the Office of the Commissioner of Labour to address all labour related issues. The legislation broadly covers the roles and powers of the office, identifies the commissioner as the relevant administrative body, and outlines specific guidance on minimum wages and hours of work for all workers in the country. It also makes provision for the manner in which contracts for employment are made for both national and foreign workers. The provisions of both the Act will be important during the construction phase.
Workmen's Compensation Act		This Act makes provision for compensation to injured workmen/workwomen. The Act provide definitions of those eligible and ineligible for workers compensation. This Act is governed by the Ministry of Commerce, Industry, Labour and Immigration.
Wildlife Protection and Management Act	2010	The Wildlife Protection and Management Act 2010 provides for the conservation, management and protection of wild flora and fauna in the country. It regulates the export and import of wildlife ensuring compliance to obligations set under the Convention on International Trade in Endangered Species (CITES). The Solomon Islands is a refuge for many species of wildlife (that includes rare and endemic). Their need for protection and a sound management is remarkable. The act prohibits the poaching of wild fauna and flora as well as harvesting of protected species.

2.1 World Bank Safeguard Policies

OP 4.01

The SP screened the subproject in the planning stages triggering the OP4.01 that led to formulation of the ESMPs for the five mini grids. OP4.01 (Environmental Assessment) sets out the general policies and principles for environmental and social protection for projects or sub projects financed by WB and the requirements for assessment of impacts and implementation of plans and measures to mitigate or manage impacts. The OP4.01 has been used to classify projects or subprojects.

The four categories defined in the OP4.01 are

- Category A. The subprojects are likely to have significant adverse impact on sensitive and valuable ecosystems (protected areas, wetlands, wild lands, coral reefs, and habitats of endangered species), cultural heritage sites (archaeological, historical sites or existing cultural sites), densely populated areas where resettlement is required or pollution may be significant, heavy development areas and conflict in natural resource allocation, water bodies and land or water containing valuable resources. Since the impacts are adverse, the level of assessment is an Environment Impact Assessment (EIA) or EIS as for Solomon Islands.
- Category B. Potential adverse impacts on human population and environmentally important areas (e.g. wetlands, forest, grasslands and natural habitats) are less adverse, temporary, reversible and can be mitigated more readily than those of category A subprojects. The level of assessment required is equivalent to the SIG PER.
- Category C. The subprojects are likely to have minimal or no adverse environmental impacts.

Category C subprojects do not require an EIA/EIS or PER. The subprojects require an ESMP.

- Category FI. Subprojects involve credit lines or an equity investment in a financial intermediary. Involves sub projects that will have insignificant environmental social impacts and do not require ESMP.

The Environmental and Social Management Framework (ESMF) was prepared to guide SP's social and environment safeguards requirements for the SIEAREEP. Following the screening exercise (see Annex 1 for screening checklist), the subproject is classified as Category C because it is expected to have minimal environmental, social impacts. These impacts are expected to be temporary and can be readily mitigated.

2.2 Other WB Policies that are applied to the proposed subprojects.

Table 2.1: Other WB policies

Policy	**Policy Triggered**	**Reasons**
OP4.04 (Natural Habitats)	No	The original vegetation cover was cleared in the provincial government
OP4.36 (Forests)	No	No natural forest present.
OP4.09 (Pest Management)	No	The subproject does not involve pesticides.
OP4.11 (Physical Cultural Resources)	Yes	There is no physical, cultural resources present, but excavation of earth may uncover some cultural resources.
OP4.10 (Indigenous People)	No	The site is located in a provincial government boundary, crown land. Transmission and distribution line easement will be covered under the negotiated agreement (MOU/MOA)
OP4.12 (Involuntary Resettlement)	No	SP has acquired the site for the solar farms. No need for involuntary resettlement. However, SP has prepared an ARAP.
OP 7.50 Projects on International Waterways	No	No subproject activities are in international waters.

3.0 Roles and Responsibilities: CESMP Implementation and Management

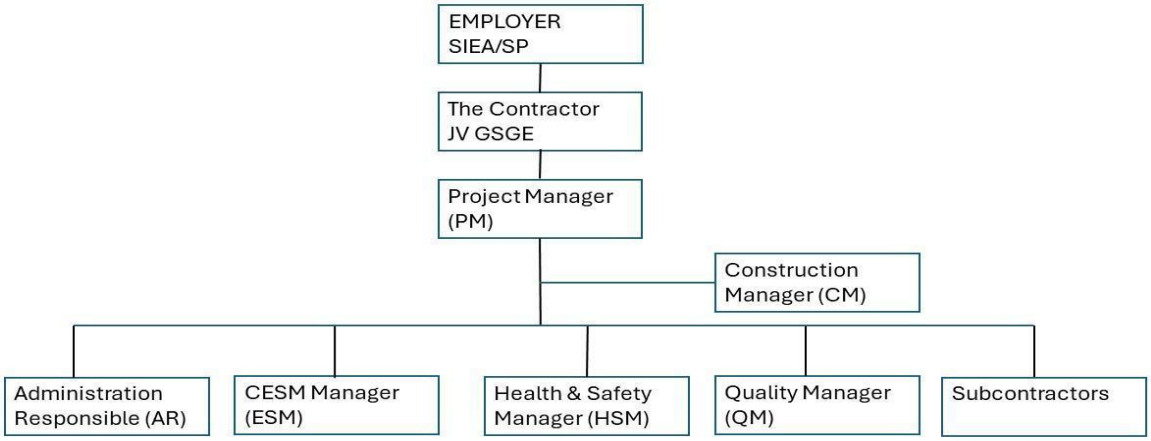
Based on General Conditions of Contract , Solar PV Hybrid Power Plants- Specifications , The Contractor Site Safety Standard and Guide for Projects Supervisors OHSC034 and SP Environment Social Management Plan (ESMP) / Public Environment Report (PER) for each Solar Hybrid Project sites , The Contractor has prepared this CESMP to ensure appropriate socio-environmental management during the project.

In responding to the Project's ESMP, the CESMP is site and activity specific reflecting the Contractor's construction methodology and approach and include all sub-plans (e.g. risk management plan, health & safety plan, Security plan, COVID 19 management plan , traffic management plan, Waste management plan, community engagement plan , GBV & HIV training, Grievance & Complaints management, UXO management plan) as required. It also outlines the mitigating measures to be applied by the Contractor in the development and implementation of the Project.

3.1 Organizational Structure

The proposed organizational structure showing the reporting lines and responsibilities is shown below for the construction phase.

Figure 1.0: Organization Chart



The project team will consist of six members: the Construction Manager (CM), Project Manager (PM), Administrative Representative (AR), Environmental and Social Manager (ESM), Health and Safety Manager (HSM), and Quality Manager (QM). Each team member will be responsible for specific project activities across all sub-projects. Roles are designed with flexibility so that team members can cover each other's responsibilities.

Table 2: Positions and Names

Position	Names	Status
Construction Manager	To be inserted	Recruitment in progress
Project Manager	Miguel Angel Delgado Durán	Developing all activities
Administration Officer	To be inserted	Recruitment in progress
Environment Social Manager	To be inserted	Recruitment in progress (Interview of candidates completed)
Health and Safety Manager	To be inserted	Recruitment in progress
Quality Manager	To be inserted	Recruitment in progress

3.2 Solomon Power

The overall management of all monitoring and inspection tasks comes under the SP. This covers all aspects of the required activities including coordination with other agencies that have national responsibilities over some of the tasks. The company is responsible for general project execution and with day-to-day subproject management activities, as well as monitoring.

SP will be responsible for compliance monitoring during construction and operation of the project. The ECD will also be responsible for verifying the monitoring undertaken by the SP through audits and spot-checks. The outcomes of the monitoring will be included in the monthly progress report.

SP, through the PMU will be the key contact for the subproject.

3.3 The Contractor

The Contractor is responsible for preparing a CESMP at construction stage and during implementation through a risk assessment, based on the engineering and design information. These include an emergency response plan, health and safety plan and waste management plan as part of their CESMP. The Contractor will also be responsible for implementing all environmental, health and safety actions included in the CESMP. As a condition to contract, The Contractor will recruit an Environmental Social Manager (ESM) and Health & Safety Manager (HSM) whose responsibilities will include:

- Coordinating with SP for preparing the CESMP
- Provide training and awareness on environment, health and safety
- Undertake STIs, HIV/AIDS, Malaria, Dengue, GBV, SEA and COVID-19 briefings and awareness raising amongst The Contractor's employees
- The Contractor complies with the clauses in the contract and bidding documents in respect of environment, health and safety
- Participating in monitoring with SP to ensure environmental, social management and health and safety activities are reported as required
- Produce monthly environment, social and health and safety monitoring reports to SP; and
- Facilitating consultation with the affected stakeholders and ensuring smooth implementation of the project.

3.4 Project Manager

The Project Manager has ultimate responsibility to:

- Promote at all times policies, procedures and standards relating to environmental management and ensure compliance;
- Ensure sufficient resources are available to achieve the objectives and targets of the Project, and that those resources have sufficient skills to conduct the roles competently;
- Report performance on a regular basis to internal and external stakeholders;
- Report significant incidents internally and externally;
- Ensuring the Project achieves legislative compliance;
- Provide leadership in the ongoing development and implementation of the CESMP;
- Ensure that all staff and subcontractors are familiar with and implement all relevant environmental control measures;
- Periodically review all environmental control measures to assess their ongoing applicability and effectiveness;
- Encourage all employees to maintain acceptable standards of environmental work practices and foster awareness of environmental matters; and
- Encourage the reporting of incidents, events and other concerns and ensure appropriate feedback on proposed corrective actions.

3.5 Responsibilities

E&S activities will be carried out at all sites based in a proper coordination of the Team.

Table 3.0: CESMP Implementation Responsibilities (applies to all subproject)

Responsibilities	**PM**	**CM**	**HSM**	**ESM**
Responsibility to ensure compliance with environmental and social processes		★	X	X
Preparing, reviewing & maintaining the CESMP including – establishment and upkeep of objectives and targets / aspect and impact register / document control / records	X	X	★	★
Managing the Implementation of site environmental and social Control measures		★	X	X
Coordinate Communications with Interested parties, including complaints (i.e. a grievance redress mechanism)		X	X	★
Train employees & Communicate importance of environmental and social management i.e. Induction onto CESMP and associated procedures and policies		X	X	★
Communicate with subcontractors/expatriate and local staff on environmental and social expectations		★	X	X
Comply with applicable regulatory requirements		X	★	★
Coordinate emergency response efforts		★	X	X

Manage Environmental and Social Incidents & Reporting Requirements		X	★	★
Chance finds of UXO		★		X
Internal Inspections		x	★	★

★ *Lead Person* *X Responsible Personnel*

4.0 Competency, Training and Communication

4.1 Scope

Any personnel who work on the Contract will undergo the following induction training.

- JV GSGESF Contract Induction;
- Solomon Power Induction; and
- Specific Skill or knowledge inductions as required.

Before commencing work for JV GSGESF on the Project, specific inductions will be performed by JV GSGESF. These inductions will address specific issues as well as JV GSGESF general induction information and topics. Every new employee will also be inducted and trained about environmental compliance and what is required by local authorities, as per Table 6.0 below.

Table 6.0: Inductions

Training or Induction Type	**Target Group**	**Induction Provided by:**	**Frequency**
Project Induction	All Personnel	Project Manager	Prior to entering site
Site Induction	All Personnel	Construction Manager , CESMP Manager, Health & Safety Manager	Upon Entering Site
Safe Work Method (SWM)	All Personnel and Project Managers	Construction Manager , Health and Safety Manager	Prior to carrying out New Task

4.2 Project Induction

The Project induction shall include the following topics and may vary from time to time for the improvement of the Induction methodology:

- Project Brief/ Scope of Works;
- Health and Safety Policies and Regulations (SP Policy adopted); and
  Safe Work Methods based on task to be carried out and hazard analysis using JSA (Annex 2, Appendix 4).

4.3 Site Specific Induction

The Project Site Induction shall include the following topics and may vary from time to time for the improvement of the induction methodology:

- Site specific scope of works;
- Site specific health and safety policies and regulations;
- Safe work methods;

- Site limits of works;
- Waste Management briefing (Annex 5); and
- Emergency escape route and assembly points.

4.4 Safe Work Method Statement

It is the responsibility of the Construction Manager to carry out analysis for hazards associated with each task being carried out at each site. The analysis will be discussed prior to commencing work every day when a task is to be carried out on site. A list of hazards present on site will be discussed daily in the daily Toolbox/ Pre Start Meeting to ensure that all workers on site are aware of the hazards. It is the responsibility of the CM to ensure all site works are carried out in safe manner on site and that all staff are working within the parameters of the health and safety regulations as well as general safe work practices. Job Safety analysis (Annex 2, Appendix 4) can be used to identify the safe work method for every task.

5.0 Management Plans

The sub-management plans prepared for successfully implementing the CESMP and revealing the management controls of the risks and impacts related to all environmental and social issues addressed within the scope of PERS are presented in the Annexes section. Each plan includes mitigation measures specific to the topics they are addressing and sets out the actions and procedures to be used in the Project. The sub-management plans presented within the scope of ESMP and their contents are given in Table 5.0. The Contractor has developed and will implement the sub-management plans for each site as per the Annexes provided in the table below.

Table 5.0: Sub Management Plan

Sub- Management Plans	**Scope**	**Annex Reference**
Risk Management Plan	Evaluation of potential environmental, health and safety, security, and social risks during the construction phase will be conducted using a 5x5 Risk Assessment Matrix, as outlined in Table 5.1. Additionally, a Job Hazard Analysis (JHA), in accordance with the health and safety plan, will be applied to identify and assess any emerging hazards throughout the construction process.	Annex 1.0
Health & Safety Plan	It determines requirements for an adequate workplace environment by setting out necessities of the occupational health and safety in terms of risk assessment methodology, hazard prevention and site security. Each site will have temporary facilities which basically will consist of offices, bathrooms, and resting areas.	Annex 2.0
Security Plan	Outlines the process of security at site to avoid the unwanted entry of people and animals that could pose a risk to the project construction and work	Annex 3.0
Covid-19 Management & Prevention Plan	Outlines the procedure and process for management and prevention of COVID 19 in case of break out during the project.	Annex 4.0
Traffic Management Plan	The Contractor will manage the risks associated with the increase in traffic during the construction and transportation of materials.	Annex 6.0
Waste Management Plan	It includes identification of waste and waste management activities, including minimizing, recycling, collection, storage, treatment and disposal of waste that will occur during the land preparation and construction.	Annex 5.0
Community Engagement Plan	Outlines the plan JV GSGESF will implement for community consultation and engagement strategy to establish and maintain good working and amiable social relationship with the immediate communities, residents of the affected	Annex 7.0

	communities, affected parties, businesses, landowners and the general public.	
GBV and STI prevention Plan	It determines the framework for awareness, prevention and addressing the Gender Based Violence at workplace and awareness/prevention of STI.	Annex 8.0
Grievances Management Plan	The framework to manage concerns and complaints that will possibly raise about the project personnel involved in the project. It will outline the process that will be to address these concerns and complaints efficiently and in a transparent manner.	Annex 9.0
UXO Management Plan	UXO Clearance framework and Guide.	Annex 10.0

Annex 1.0 Risk Management Plan

A risk assessment was conducted to identify the project activities which might present a hazard or risk relating to Project activities (relating to pre-construction and construction). This is presented in the Annex 1.1 applicable to all 5 sites (Bina, Dala, Baolo, Visale and Tingoa).

Operation activities impacts and hazards are not included as part of this CESMP since the operation is the responsibility of the Employer not the Contractor.

A range of mitigation measures and management approaches were identified, to achieve a reduction in the initial perceived risk.

The objective in implementing these measures and approaches is to reduce the level of residual risk to a lower (and acceptable) level.

The initial risks identified for each activity; associated impacts, and residual risks (after implementation of mitigation measures) have been captured in a ‘live’ risk register (Annex 1.1) for the project, which is maintained by the Construction Manager. The activities, risks and impacts presented in SP ESMP / PER are consistent with those listed in the register. The register will be used by JV GSGESF and SP as a tool to monitor the effectiveness of mitigation measures in reducing risk across the Project, and will be regularly reviewed and updated as the Project progresses.

Annex 1.1 Risk Register

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Pre-Construction Phase							
UXO Survey	Contact with UXO	Completion of the UXO survey by qualified personnel.	Moderate	Minor	Medium	The Contractor / Subcontractor	Survey to be carried by approved personals
	Accidental Discovery of UXO.	Should UXO be discovered, The Contractor is to immediately cordon off the area to arrange the evacuation of nearby residences and inform the RSIPF of the find.	Likely	Medium	Medium	The Contractor Subcontractor	UXO find guideline to be follow
Construction Phase							
Site Clearance	Removal of grass, shrubs and trees.	Minimize clearance to construction perimeter and area acquired by Solomon Power. Unnecessary clearance avoided.	Moderate	Minor	Medium	The Contractor/ Subcontractor	Only the area of construction to be cleared.

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Operation of construction machinery generating emissions.	Emission of exhaust from vehicles and machinery. Emissions of CO2 and POPs.	Maintain construction equipment. Prohibit the use of equipment that causes excessive pollution	Moderate	Medium	Medium	The Contractor/ Subcontractor	Air Quality emissions
	Dust caused by construction vehicles running at high velocity, Degrade air quality/ Increase TSS in the atmosphere.	Thorough watering to avoid dust. Restrict operations if particulates are causing nuisance to sensitive receptors.	Likely	Medium	Medium	The Contractor/ Subcontractor	

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Operation of construction machinery creating noise	Noise impacts.	Construction machine exhaust systems and noisy equipment will be maintained to minimize noise. Limit noisy construction activities to day time hours, Agree works schedule with stakeholders.	Moderate	Minor	Medium	The Contractor	Agreed Work Schedule
	Impacts on construction workers.	Workers limit of exposure to noise will be strictly below 70 decibels per 8-hour shift (See WB guideline in heading 2.1) Provide workers with noise abatement equipment (ear-muffs, etc.). Complaints through the GRM will be addressed by The Contractor.	Moderate	Minor	Medium	The Contractor Subcontractor	Health & Safety and GRM

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Stockpile of Construction Materials.	Construction materials washed out into the marine environment Increase siltation and turbidity.	Construction materials will be stockpiled away from the drain and covered when necessary. Placement of diversion ditches around stockpiles.	Unlikely	Insignificant	Very Low	The Contractor Subcontractor	Avoid Stockpile near water bodies
	Dust from exposed stockpiles.	Material stockpiles located in sheltered areas and to be covered.	Unlikely	Minor	Low	The Contractor Subcontractor	Keep Stockpile minimum and possibly covered if needed

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Excavation work, installation of the solar farm	Risks of accidents.	Standard Operating procedures (SOP) for installment correctly executed. Workers wear personal protective equipment including clothing, helmets, safety boots, earmuff etc.	Moderate	Medium	Medium	The Contractor Subcontractor	Health & Safety
Excavation work, installation of the solar farm	Silt generation.	Keep road side vegetation	Rare	Insignificant	Very Low	The Contractor Subcontractor	Only clear vegetation within the construction area.
	Accidental release of hydrocarbons from the construction machinery.	Ensure that all construction machines are well maintained. A prestart on a construction machine is carried out every morning.	Moderate	Minor	Medium	The Contractor Subcontractor	Always carry our maintenance on machines and vehicles
		Oil/fuel remediation agents, oil pads, oil booms and geo-fabric clothes are procured for usage as part of the emergency response plan	Moderate	Minor	Medium	The Contractor Subcontractor	Spots check regularly

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Excavation work, installation of the solar farm	Direct discharge to adjacent creeks or streams.	Development footprint will be provided with effective drainage systems which will avoid direct discharge to creeks or streams/ when the need arises.	Moderate	Minor	Medium	The Contractor Subcontractor	Spots check regularly
	Access and Mobility at several road sections will be prohibited temporarily during the construction.	The Contractor to allow sections of the road area to be continuously accessed by the public. Signs and other appropriate safety features will be used to indicate construction works are being undertaken. Contractor to develop Traffic Management Plan as part of CESMP	Rare	Insignificant	Very Low	The Contractor	Signage Traffic Management

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Fueling construction machines and storage of Hydrocarbons	Hydrocarbon leakage/spills from the construction sites/workshops	Detailed Emergency Response Plan (as part of CESMP) prepared by The Contractor to cover hazardous materials/oil storage, spills and accidents to land and water. Chemicals will be stored in secure containers away from the water bodies. Chemicals stored in bund area or compound with concrete floor or similar solution and weatherproof roof and fire extinguishers. Protective Equipment (PPE) to workers directly involved in handling hazardous substances. Ensure all construction machines are well maintained. Accidents reported to police within 24 hours.	Moderate	Medium	Medium	The Contractor Subcontractor	Proper Storage Place Hazard material as per health and Safety plan

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Fueling construction machines and storage of Hydrocarbons	Spill associated with Hazardous substances.	Store kerosene, diesel, petrol and lubricants in a bunded area with an impervious surface and with storm water drainage provisions. Store paint, and chemicals in a hazardous materials storage shed with walls, roof, ventilation and a bunded floor with an impervious surface; Ensure that the storage capacity of each bunded area is at least 105% of the total volume of hazardous material stored; Secure the areas and sheds used to store hazardous materials by erecting a security fence of minimum height 1.80m around each facility with the fence located outside the bund; Locate the hazardous materials storage areas at least 10.0m away from any watercourse; Contain and mop up spills of hazardous materials in accordance with manufacturer's specifications.	Moderate	Medium	Medium	The Contractor Subcontractor	Proper Storage Place Hazard material as per health and Safety plan

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Fueling construction machines and storage of Hydrocarbons	Smoking near storage and workshop areas causing a fire	Prohibit smoking close to fuel storage areas. Put up signs of no go smoking zones. Provide extinguishers and train workers on their use.	Unlikely	Minor	Low	The Contractor Subcontractor	Signage
Presence of construction workers	Waste generated at construction and installation sites causing nuisance and potential contamination to adjacent water bodies	Garbage receptacles will be set up at construction sites, which will be regularly cleared. Prepare waste management plan (as part of CESMP). All wastes from the work sites shall be disposed of in approved landfill/areas by the provincial authority.	Unlikely	Minor	Low	The Contractor Subcontractor	Waste Management Plan

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Presence of construction workers	Waste generated at construction and installation sites causing nuisance and potential contamination to adjacent water bodies	Provide sufficient training in appropriate waste disposal methods. No wastes shall be dumped in waterways. Ensures wastes not discharged to rivers or coastal waters and that all wastes disposed of in proper areas. Provide adequate and safe drinking water.	Unlikely	Minor	Low	The Contractor Subcontractor	Waste Management Plan
	Possibility of conflicts or antagonism between the public and the workers	Facilitate reconciliation between parties- affected person, Contactor to involve in resolving the issue. Call the Police once it goes beyond control. Facilitate grievances through the GRM process if it's relevant	Unlikely	Minor	Low	The Contractor Subcontractor	GRM Plan

Project activities	Potential Environmental and Social Impacts	Mitigation Approaches	Probability	Impact Level	Risk Level	Responsibility	Notes
Presence of construction workers	Risk of contractor engaged in GBV	All workers will be required to undertake GBV training and sign the associated code of conduct prior to commencement of civil works.	Moderate	Medium	Medium	The Contractor Subcontractor	GBV Plan
	Climate Change and Natural disasters.	Inspection and maintenance.	Unlikely	Minor	Low	The Contractor Subcontractor	CESMP

Annex 2.0 Health and Safety Management Plan

1. Introduction

The Contractor will commit to achieving the required standards of health and safety (H&S) within its operational areas for the construction period. The Employer's needs and expectations (as per GCC clause 22.2.7) for this period are anticipated and will be met through safe and timely operating procedures, actions and solutions that will minimize risk of accidents and harm to people and the environment. Further to this, SP Contractor Site Safety Standard and Guide for Project Supervisors OHSC034 (OHSC034) are to be used as a guideline in formulating the Health and Safety Plan (HSP).

During the construction period of this project, the Contractor will respect this Health and Safety (H&S) Management System to ensure that project activities comply with regulatory, reporting, operational and document control requirements.

Health and Safety management system include the following components:

- The H&S Policy, target and objectives;
- Organization/Employer and responsibilities;
- Employees responsibilities;
- HS documents and communication;
- HS Construction control;
- Training, awareness, and competence;
- Workers Health and Safety; and
- Health and Safety measures recommended for each activity.

Through continuous improvement our goal is to create an environment and culture where all employees, and non-employees who work with us, can be free from injury and illness. Through consultation, the sharing of ideas and mutual respect and understanding we will continue to build on our culture of safe working practices.
The JV GSGESF leadership team believes the safety and welfare of employees, clients and visitors is a prime business concern. It is an integral part of everyday business operations and our decision making process.
The leadership team is committed to ensuring we, as a company, have sound health and safety practices in place. These practices are supported by SP Contractor Site Safety Standard and Guide for Project Supervisors OHSC034 that provide guidance to all employees to ensure we meet our H&S commitments on an ongoing basis.

2. Health and Safety Policy

JV GSGESF will adopt Solomon Power Health and Safety Policy (Appendix 1).

3. The Contractor Responsibility

The contractor responsibility through its H&S Manager includes but is not limited to the following:

- Ensure compliance to the requirements of Employer guide (OHSC034).
- Ensure H&S induction training is undertaken by employees, agents and contractors of the contractor entering SP''s premises;
- Prepare, implement, update and make available contract specific H&S management

plans;

- Ensure that each subcontractor provides written safe work method statements before commencing work;
- Direct and monitor compliance with applicable legislation and any safe work method statements or procedures;
- Keep a register of, and other records in relation to, all hazardous and other substance on site;
- Communicate any major H&S issues as they arise, including all notifiable events.

4. Contractor Management

Independent monitoring and supervision by the SIEA / SP Project Management Unit (PMU) ensures that the Contractors operations are conducted in accordance with:

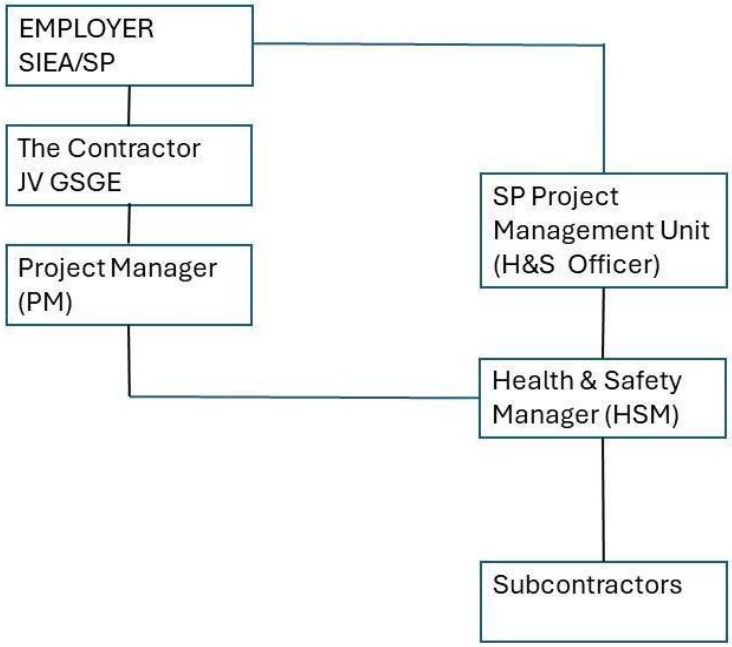
- Health and Safety Legislations, Codes of Practice and standards.
- Health and safety requirements outlined in the contract documents.
- Contract specific health and safety requirement as detailed in the Risk Assessment and Health and Safety Plan prepared by the Contractor.

In order to perform this function, Contract managers or supervisors should have:

- Access to the contract document and specifications;
- Good understanding of health and safety requirements set out in the contract documents;
- Access to other document referred to in the contract, e.g. Risk Assessment and Health and Safety Plan; and
- Adequate contract supervision training, and suitable health and safety knowledge and skills relevant to the contract.

5. Health and Safety Organization chart

Figure 2.0: H&S Organization Chart



6. Workforce

6.1. Skilled and Unskilled workers

The number of Skilled and unskilled workers will depend on the requirement of each subproject site. This will be addressed through sub-contractor.

6.2. Accommodation

Since the workforce will be through sub-contractor, the accommodation will not be provided at the site. The sub-contractor will have responsibility for accommodating the employees. It is likely that employees will be accommodated in house in village away from site

6.3. Sanitation at Construction Site

A hand basin (for washing) will be provided at each site. There will be 2 toilets (male & female) at each site. The waste from the hand basin and toilet will be disposed via septic and soak pit concept.

6.4. Worker's Care

The lunch and drinking for workers at site shall be provided by contractor and sub-contractor as required by Solomon Island Laws

Annex 2.1: Health and Safety Plan - Bina

1. Site Safety Requirement

Before any work can commence, a General Permit will need to be issued by SIEA to the Contractor. The permit will be completed by the Contractor in conjunction with the Project Supervisor and signed off by the General Manager Capital Works or Chief Engineer or any person delegated by them. Without the sign off of the SIEA issuing authority, the permit remains invalid. The original of the General Permit is to be kept by the Contractor and a copy with the Project Supervisor for the duration of the works. The General Permit will be canceled at the completion of the contract by sign off in the designated space (Appendix 2 – General Permit).

Under the General Permit, other supplementary permits for high risk activities such as Hot Works (Appendix 6), Confined Space (Appendix 9) and isolation of high voltage plants and equipment may be issued. The Project Supervisor will issue the Hot Works and Confined Space Entry Permits as required however, the Permit to isolate HV plant and equipment will be issued by the SIEA Switching Coordinator who will require at least one weeks' request notice for any HV isolations.

2. Qualified and Experienced Personnel

JV GSGESF will ensure that all employees (including sub-contractors) are adequately trained and/or licensed to carry out their particular duties or tasks including driving plant and operating equipment. The Construction Manager may at any time request to view the licenses of contractor personnel and stop work if he/she is satisfied they do not possess the necessary licenses to operate heavy or specialized machinery.

Work conducted by apprentices or assistants will be closely supervised, inspected and approved by the Construction Manager.

The Employer will only appropriately qualified, licensed and experienced personnel are used on

SIEA premises. For example, only licensed electrical workers are to carry out work on any electrical item, other than minor, user approved (as per operator's manual) equipment maintenance.

3. Inductions

3.1. General Induction

The Employer through its PMU Safety officer and project Supervisor will carry out the general induction with the contractor prior to the commencement of the project. Similarly, the Contractor through its Health and Safety Manager will carry out induction for the sub-contractors.

The induction will include:

- Health and Safety Policy (Appendix 1).
- Site Safety Rules (Point 4 within this Annex).
- Any high Risk or Hazard that need to be aware of and make provision for it.
- Site Safety rules or safe work method can be signed off.
- General Permit can be issued.

3.2. Site Induction

A site induction is to be conducted by the Health & Safety Manager with the sub-contractor prior to commencement of works. Form OHSC14, Onsite Contractor Induction - Appendix 3 provides a general checklist and is to be completed.

3.3. Supervision of Safe Work

It is the responsibility of the contractor to ensure appropriate level and frequency of supervision of all work on SIEA premises to ensure safe operations. This applies to the contractor, contractor's employees and subcontractors. High risk tasks (such as; work involving fall risks (2m or more), crane use, working in confined spaces, hot works, work on electrical systems) are to be closely supervised.

4. General Safety Rules

4.1. Access

Only authorized personnel should have access to the site. Visitors must be accompanied at all times. It is imperative for all employees to ensure they do not run on work sites, and use appropriate paths. All unsafe or inadequate access ways should be reported to the manager or immediate supervisor immediately. This is also the part of the Security Plan in Annex 3 with relevant site access forms.

4.2. Housekeeping

Housekeeping is an essential safety requirement for all safe work environments. Untidy workplace can cause accidents, inefficiencies, and create fire and other hazards. Employees and subcontractors should use bins provided and not leave rubbish on the ground or throw materials or equipment of any kind down from elevated work areas. Protruding nails must be pulled out or hammered over.

Wire or cabling should not be left around work areas, as it may cause someone to trip and sustain a serious injury.

All employees and sub-contractors are responsible for keeping their workplace and amenities clean and tidy. Food scraps, drink bottles, empty cartons or cans must be placed in the bin. Bins

will be placed throughout the site to encourage this behavior.

4.3. Manual Handling

Manual handling is defined as any work activity that requires human force to lift, lower, carry, push, pull, restrain or hold a load. Regulations require employers and employees to identify assess and control risks involved in manual handling.

Manual handling risks assessments takes into account the actions and movements for the task, workplace layout, duration, frequency, load characteristics, location and distances to be moved.

Many injuries are caused by incorrect methods of lifting and moving awkward and heavy loads.

Avoid injury by observing the following rules:

- Size up the load- if it is too heavy get help;
- Position your feet as close as possible to the load;
- Adopt a balance position with your knees bent;
- Get a safe, secure grip, diagonally opposite the object with the palms of your hands;
- Beware of sharp edged materials – wear safety gloves if appropriate only;
- Keep you upper body erect and as straight as possible;
- Tuck your chin in, draw, push your shoulders back and use your body weight to take-up load weight;
- Complete the lift with your back held straight;
- Hold and carry the load close to your body to reduce the strain on your arms, shoulders and back;
- Use your weight to counterbalance the load weight by leaning slightly backwards as you move;
- Use your feet to change direction – do not twist your body, hips or shoulders;
- Avoid carrying loads that obstruct your view, particularly on inclines, declines and stairways;
- Avoid repetitive lifts from below mid-thigh height and above shoulder height;
- Avoid single handed repetitive lifts and avoid lifting while leaning over to reach the load; and
- Use team lifts for heavy, long or awkward loads and control and coordinate team movements by signals.

4.4. Drugs and Alcohol

All personnel/ sub-contractors shall be made aware that random drug and alcohol testing may be performed throughout the project cycle if there is any suspicion of the person being under the influence of drug and alcohol.

All personnel / sub-contractors shall be advised that many common medications and even some energy drinks may produce a “presumed positive” result.

Alcohol/non-pharmaceutical drugs shall not be carried on to a workplace or be consumed immediately before or during working times.

JV GSGESF shall have a Zero tolerance policy for drug and substance abuse on site.

4.5. Smoking

Smoking is prohibited on construction sites (except in designated smoking areas). All cigarette butts are to be extinguished and disposed of in a suitable place.

4.6. Betel Nut

Betel Nut chewing is prohibited on construction site.

4.7. Electrical Safety

4.7.1. Isolation, Lockout, Tag out and Test

Where there is endangerment in your work by the presence or operation of machinery, flow of electricity, steam, gas, compressed air, liquids or any other form of energy, you are required to take preventative action.

You must isolate the potential danger; prevent others from operating the source by locking out the isolator, tag the switch or isolating device, and test to ensure it is safe for you to proceed.

4.7.2. Danger Tags

Danger tags must be securely attached to the isolator/control switch or device so there is no risk of becoming dislodged. They must be clearly visible to ensure inadvertent restoration of power does not occur.

Danger Tag rules:

- A Danger Tag is to be affixed by each person working on the equipment;
- Each Danger Tag must bear the employer's name, and an employee's printed name, as well as that employee's signature and date;
- Each person is responsible for placing their own Danger Tag prior to commencing work, and removal of their Tag when work is completed;
- Danger Tags must be in good condition before use; and
- Whilst Danger Tags can only be removed by the person who signed and affixed the tag, in exceptional circumstances such as sickness or inability.

5. Clothing and Personal Protective Equipment(PPE)

All Subcontractors and employees must have PPE in accordance with the task being carried out. PPE is required at every workplace.

The Health and Safety Manager and Construction Manager will ensure that the subcontractors are aware of PPE required for each task and sub-contractors comply with as indicated in table 6.0.

Table 6.0: PPE Guideline

PPE	Description
Clothing	All clothing should be purpose designed (example reflect vest for high visibility).
Safety footwear	Safety footwear is to be worn or closed shoes may be permitted in some workplaces. Sandals and thongs are not permitted.

Safety Hard Hat	Safety hard hats are a requirement on all construction sites and must be worn where applicable.
Safety gloves	Safety gloves of appropriate protective material are to be worn when handling armored cables, sharp or hot materials, chemicals or dangerous liquids.
Ear muffs	Ear muffs or ear plugs must be used where there is loud or high frequency noise.
Safety Glasses	Safety Glasses are required to be worn for particular jobs, and in addition to eye protection, face protection is also required in jobs involving high speed abrasive cutting.

6. Risk Assessment and Hazard Management

6.1. Risk Assessment

The Construction Manager is to ensure that all subcontractors or personnel follow safe work practices for all work conducted on SIEA premises or on behalf of the SIEA. Any medium to high risk, non-routine tasks are to have a job safety assessment (JSA) (appendix 5) completed prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions.

Similarly, any medium to high risk, routine tasks are to have a safe work method statement (SWMS) available prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions. The SWMS will be developed once a task is identified after JSA

The SIEA JSA & Risk Assessment form OHSC11 Appendix 5 can be used for this exercise.

6.2. Site Specific Risk

Table 6.1: Risk & Mitigation

Possible Risk	**General Action**
Heavy Lifting	As per Manual Handling.
Welding (Hot Works)	Trained or qualified welders. Permit from SIEA for hot works.
Power Tools and Electrical Leads	Test tag, Good Housekeeping, Keep out of wet places /water.
Machinery , Vehicle and Cranes	Trained Operators, appropriate qualification and licenses.
Noise and Dust	PPE.
Climbing / Working at height	Ladders, Scaffold, handrails, rope of area, caution/danger tape. Harness, safety barriers.
Trip / Fall	Barricade excavated areas.

Fire	Remove combustible, firefighting equipment such fire extinguisher.
Visitors and Vehicle traffic	Security plan and Signage.
Trench Working	Confined Space Permit from SIEA.
Heat Exhaustion	Shade tents, plan work in cool conditions, Substitution with Machine, controlled work time in heat area.

7. Hazardous Material

7.1. General

The contractor shall ensure that risk assessments have been undertaken by a competent person for all products intended for use during the works or materials evolved during the work and that written procedures for the handling, application, storage and disposal of hazardous products have been prepared.
The Project Manager must be informed in writing of all substances intended for use on site which are classified as toxic, very toxic, corrosive, flammable, highly flammable or explosive.

7.2. Asbestos

On discovering any asbestos the contractor shall immediately notify the Project Supervisor. NO ATTEMPT SHALL BE MADE TO REMOVE THE ASBESTOS. It shall be left undisturbed until further instructions are given by the Project Supervisor. In addition, notices warning others of the presence of the asbestos should be posted.

Managing asbestos at construction sites requires strict adherence to safety protocols to protect workers and the environment. First, conduct a thorough asbestos survey before any work begins to identify its presence. If asbestos is found, the plan will include proper containment, removal, by certified asbestos professionals. Use personal protective equipment (PPE), such as respirators and protective clothing, and establish controlled zones to prevent contamination. Proper disposal of asbestos-containing materials is crucial, following local regulations for hazardous waste. Regular training and monitoring ensure ongoing safety compliance during construction activities.

7.3. Design and Planning

Where hazardous substances have been specified the contractor must evaluate to see if:

7.3.1. They are strictly necessary for the process.
7.3.2. They can be substituted for a safer alternative substance.
7.3.3. An alternative method or process can be used to eliminate or reduce the hazard.
7.3.4. If it is not possible to adequately eliminate or control exposure to a hazardous substance then the contractor will need to ensure that suitable and sufficient personal protective equipment is provided to all affected employees and that they are adequately instructed on how, why and when it is to be used. The potential effects to other persons must also be considered by the contractor.

7.4. Hazardous Material Assessments

7.4.1. A material assessment shall be carried out for every substance brought onto site, copies of assessment and material data sheets shall be readily available for the Project Supervisor to examine. A suitable and sufficient risk assessment should be made.

7.4.2. When necessary, an operating procedure shall be produced for the safe handling, storage and use of a particular substance. A copy shall be given to the Project Supervisor.

7.4.3. All personnel shall be informed of any potential health hazards associated with any substance they may use or handle. The contractor shall ensure that correct use is made of the appropriate safety equipment provided by him.

7.4.4. All personnel shall have sight of the assessment which shall be available in the event of an incident that requires first aid medical treatment or firefighting.

8. Community Effects.

The contractor's materials risk assessment, selection procedure and exposure control measures must adequately consider the possible effects of products such as fumes, sprays or dust etc. both on and off the site. Examples would be the use of solvent based paints and adhesives.

9. Handling.

9.1. After handling hazardous substances personnel shall wash their hands prior to eating, drinking and smoking.

9.2. Personnel shall not eat, drink or smoke in the proximity of stored hazardous substances.

10. Explosives.

The bringing of explosives onto the site is strictly forbidden.

11. Incident or Injury Treatment/ Reporting

11.1. First Aid Kit Station

The Contractor/Subcontractor must ensure that First Aid Kit is available at site as required or permitted by SIEA. First Aid Kit Content - Appendix 7

The contractor must ensure that subcontractors have personnel who are first aid trainers and have a current First Aid Certificate. First Aid stations should be clearly marked and regularly checked by the contractor/subcontractor. The above first aid facilities are to be made available to all persons working on or visiting the site.

The contractor shall verbally report all incidents to the SIEA Project Supervisor immediately and not later than one hour of the incident occurring. The incident investigation form (Appendix 8 – SIEA Incident Report Form) must be completed and handed in to the SIEA Project Supervisor within 24 hours.

All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions within 5 working days. The contractor shall give a copy of all reports to SIEA.

Hazard Reporting

Any identified hazards that cannot be immediately resolved, must be reported to the SIEA's Project Supervisor as soon as possible. If the task or area is unsafe, cease work until the safety issue is resolved.

11.2. Treatment Facility

11.2.1. Hospital or Medical Centre

Nearest medical treatment facility is Auki Health Centre or Kilu 'ufi hospital

11.2.1.1. Kilu 'ufi hospital

Kilu' ufi hospital, Malaita province is the third largest hospital in Solomon Islands and located 4km North from Auki.

Figure 3.0: Kilu 'ufi hospital

Kilu 'ufi hospital is a well-run unit, and volunteers are very much welcome, and can be easily organized by contacting Dr. Henry Kako (Director of Medical Services – Kilu 'ufi Hospital). The hospital has a number of Land cruiser troop carriers, which are used for transporting patients and staff.
Contact +677 40272

11.2.1.2. Auki Health Centre

Figure 4.0: Auki Medical Centre

Opens from 8:30am – 4:30pm Monday to Friday and are closed on public holidays and weekends (except for emergency cases)
Services Provided:

- General clinical services and essential trauma care:
- Reproductive, Maternal , New born , Child and Adolescent Health
- Communicable and Non communicable Diseases
- Community based Health service

12. Workplace Inspections

Inspection programs undertaken by Contractors and also by SIEA officers are a key element in monitoring the health and safety standards of the Contractor's operations.

A General Health and Safety Checklist - Form OHSC06 (Appendix 10 – General Health & Safety Checklist) may be used for inspections. The checklist is designed to consider a broad range of general health and safety issues in the workplace. Where appropriate, the checklist can be modified based on specific safety aspects associated with the contract. Frequency of inspection is to be determined on the basis of practicability.

12.1. Who Should Carry out Inspections?

The Contractor as an employer has a duty of care to provide and maintain a safe workplace and consequently has an important responsibility to conduct workplace inspections on a regular basis. The Contractor should then make available copies of health and safety inspection reports for review when requested by the SIEA Project Supervisor. SIEA also has a responsibility to monitor health and safety aspects of Contractor Operations. The Project Supervisor should check that the Contractor has adequately fulfilled its health and safety obligations, as far as they can reasonably establish.

12.2. Non Conformance Reporting

The attached non-conformance report Form OHSC032 – SIEA Contractor OHS Non-Conformance Report (Appendix 10) shall be completed where areas of non-conformance are identified as a result of Contractor operations.

The report should be issued following consultation with the Contractor H&S Manager and an agreed timeframe should be documented on this report for rectification purposes.

The report should be signed by the SIEA officer and Contractor H&S manager and actioned within the agreed time frame. Where the Contractor does not rectify the issues within the agreed time frame a second Non-conformance report may be issued or SIEA may consider suspension or termination of the contract if the issues are of sufficient significance.

13. Monthly OHS Reporting

The Contractor is required to fill in the details of the Form OHSC33 – SIEA Contractor Monthly OHS Performance Report, (Appendix 12) on a monthly basis. It is the H&S Manager's responsibility to ensure this is reported.

14. Contract Records

Effective contract management involves adoption of a systematic approach to record keeping during the period of the contract. Relevant health and safety records retained by the Contractor

to provide documentary evidence of SIEA's due diligence in relation to the health and safety of Contractors.
These records will be particularly important in situations where the Contractor is in breach of health and safety requirements or a significant incident or accident occurs from activities performed by the Contractor.
Relevant health and safety records that should be retained by the Contractor should include:

- Risk Assessment;
- Health and Safety Plan;
- Contract Documents;
- Health and Safety Inspection Reports;
- Minutes of Safety meetings and site meetings;
- Incident investigation reports;
- Monthly OHS performance reports;
- Non-conformance reports;
- Photographs and test results; and
- Site instructions and diary notes.

For the duration of each contract, relevant health and safety documents should be consolidated and retained in the contract file. These are important documents that may be required even some time after the contract has been completed.

15. Emergency Phone Numbers

Location	Fire	Police	Search & rescue	Ambulance	National Disaster	Weather
Auki	40999	999	21609	111	27936	40412

Annex 2.2: Health and Safety Plan - Dala

1. Site Safety Requirement

Before any work can commence, a General Permit will need to be issued by SIEA to the Contractor. The permit will be completed by the Contractor in conjunction with the Project Supervisor and signed off by the General Manager Capital Works or Chief Engineer or any person delegated by them. Without the sign off of the SIEA issuing authority, the permit remains invalid. The original of the General Permit is to be kept by the Contractor and a copy with the Project Supervisor for the duration of the works. The General Permit will be canceled at the completion of the contract by sign off in the designated space (Appendix 2 – General Permit).

Under the General Permit, other supplementary permits for high risk activities such as Hot Works (Appendix 6), Confined Space (Appendix 9) and isolation of high voltage plants and equipment may be issued. The Project Supervisor will issue the Hot Works and Confined Space Entry Permits as required however, the Permit to isolate HV plant and equipment will be issued by the SIEA Switching Coordinator who will require at least one weeks' request notice for any HV isolations.

2. Qualified and Experienced Personnel

JV GSGESF will ensure that all employees (including sub-contractors) are adequately trained and/or licensed to carry out their particular duties or tasks including driving plant and operating equipment. The Construction Manager may at any time request to view the licenses of contractor personnel and stop work if he is satisfied they do not possess the necessary licenses to operate heavy or specialized machinery.

Work conducted by apprentices or assistants will be closely supervised, inspected and approved by the Construction Manager.

The Employer will only appropriately qualified, licensed and experienced personnel are used on SIEA premises. For example, only licensed electrical workers are to carry out work on any electrical item, other than minor, user approved (as per operator's manual) equipment maintenance.

3. Inductions

3.1. General Induction

The Employer through its PMU Safety officer and project Supervisor will carry out the general induction with the contractor prior to the commencement of the project.

Similarly, the Contractor through its Health and Safety Manager will carry out induction for the sub-contractors.

The induction will include:

- Health and Safety Policy (Appendix 1);
- Site Safety Rules (Point 4 within this Annex);
- Any high Risk or Hazard that need to be aware of and make provision for it;
- Site Safety rules or safe work method can be signed off; and
- General Permit can be issued.

3.2. Site Induction

A site induction is to be conducted by the Health & Safety Manager with the sub-contractor prior to commencement of works. Form OHSC14, Onsite Contractor Induction - Appendix 3 provides a general checklist and is to be completed.

3.3. Supervision of Safe Work

It is the responsibility of the contractor to ensure appropriate level and frequency of supervision of all work on SIEA premises to ensure safe operations. This applies to the contractor, contractor's employees and subcontractors. High risk tasks (such as; work involving fall risks (2m or more), crane use, working in confined spaces, hot works, work on electrical systems) are to be closely supervised.

4. General Safety Rules

4.1. Access

Only authorized personnel should have access to the site. Visitors must be accompanied at all times. It is imperative for all employees to ensure they do not run on work sites, and use appropriate paths. All unsafe or inadequate access ways should be reported to the manager or immediate supervisor immediately. This is also the part of the Security Plan in Annex 3 with relevant site access forms.

4.2. Housekeeping

Housekeeping is an essential safety requirement for all safe work environments. Untidy workplace can cause accidents, inefficiencies, and create fire and other hazards. Employees and subcontractors should use bins provided and not leave rubbish on the ground or throw materials or equipment of any kind down from elevated work areas. Protruding nails must be pulled out or hammered over.

Wire or cabling should not be left around work areas, as it may cause someone to trip and sustain a serious injury.

All employees and sub-contractors are responsible for keeping their workplace and amenities clean and tidy. Food scraps, drink bottles, empty cartons or cans must be placed in the bin. Bins will be placed throughout the site to encourage this behavior.

4.3. Manual Handling

Manual handling is defined as any work activity that requires human force to lift, lower, carry, push, pull, restrain or hold a load. Regulations require employers and employees to identify assess and control risks involved in manual handling.

Manual handling risks assessments takes into account the actions and movements for the task, workplace layout, duration, frequency, load characteristics, location and distances to be Moved.

Many injuries are caused by incorrect methods of lifting and moving awkward and heavy loads.

Avoid injury by observing the following rules:

- Size up the load- if it is too heavy get help;
- Position your feet as close as possible to the load;
- Adopt a balance position with your knees bent;

- Get a safe, secure grip, diagonally opposite the object with the palms of your hands;
- Beware of sharp edged materials – wear safety gloves if appropriate only;
- Keep you upper body erect and as straight as possible;
- Tuck your chin in, draw, push your shoulders back and use your body weight to take-up load weight;
- Complete the lift with your back held straight;
- Hold and carry the load close to your body to reduce the strain on your arms, shoulders and back;
- Use your weight to counterbalance the load weight by leaning slightly backwards as you move;
- Use your feet to change direction – do not twist your body, hips or shoulders;
- Avoid carrying loads that obstruct your view, particularly on inclines, declines and stairways;
- Avoid repetitive lifts from below mid-thigh height and above shoulder height;
- Avoid single handed repetitive lifts and avoid lifting while leaning over to reach the load; and
- Use team lifts for heavy, long or awkward loads and control and coordinate team movements by signals.

4.4. Drugs and Alcohol

All personnel/ sub-contractors shall be made aware that random drug and alcohol testing may be performed throughout the project cycle if there is any suspicion of the person being under the influence of drug and alcohol.

All personnel / sub-contractors shall be advised that many common medications and even some energy drinks may produce a “presumed positive” result.

Alcohol/non-pharmaceutical drugs shall not be carried on to a workplace or be consumed immediately before or during working times.

JV GSGESF shall have a Zero tolerance policy for drug and substance abuse on site.

4.5. Smoking

Smoking is prohibited on construction sites (except in designated smoking areas). All cigarette butts are to be extinguished and disposed of in a suitable place.

4.6. Betel Nut

Betel Nut chewing is prohibited on construction site.

4.7. Electrical Safety

4.7.1. Isolation, Lockout, Tag out and Test

Where there is endangerment in your work by the presence or operation of machinery, flow of electricity, steam, gas, compressed air, liquids or any other form of energy, you are required to take preventative action.

You must isolate the potential danger; prevent others from operating the source by locking out the isolator, tag the switch or isolating device, and test to ensure it is safe for you to proceed.

4.7.2. Danger Tags

Danger tags must be securely attached to the isolator/control switch or device so there is no risk of becoming dislodged. They must be clearly visible to ensure inadvertent restoration of power does not occur.

Danger Tag rules:

- A Danger Tag is to be affixed by each person working on the equipment;
- Each Danger Tag must bear the employer's name, and an employee's printed name, as well as that employee's signature and date;
- Each person is responsible for placing their own Danger Tag prior to commencing work, and removal of their Tag when work is completed;
- Danger Tags must be in good condition before use; and
- Whilst Danger Tags can only be removed by the person who signed and affixed the tag, in exceptional circumstances such as sickness or inability.

5. Clothing and Personal Protective Equipment (PPE)

All Subcontractors and employees must have PPE in accordance with the task being carried out. PPE is required at every workplace.

The Health and Safety Manager and Construction Manager will ensure that the sub-contractors are aware of PPE required for each task and sub-contractors comply with as indicated in table 6.0.

Table 6.0: PPE Guideline

PPE	Description
Clothing	All clothing should be purpose designed (example reflect vest for high visibility).
Safety footwear	Safety footwear is to be worn or closed shoes may be permitted in some workplaces. Sandals and thongs are not permitted.
Safety Hard Hat	Safety hard hats are a requirement on all construction sites and must be worn where applicable.
Safety gloves	Safety gloves of appropriate protective material are to be worn when handling armored cables, sharp or hot materials, chemicals or dangerous liquids.
Ear muffs	Ear muffs or ear plugs must be used where there is loud or high frequency noise.
Safety Glasses	Safety Glasses are required to be worn for particular jobs, and in addition to eye protection, face protection is also required in jobs involving high speed abrasive cutting.

6. Risk Assessment and Hazard Management

6.1. Risk Assessment

The Construction Manager is to ensure that all subcontractors or personnel follow safe work practices for all work conducted on SIEA premises or on behalf of the SIEA. Any medium to high risk, non-routine tasks are to have a job safety assessment (JSA) (appendix 5) completed prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions.

Similarly any medium to high risk, routine tasks are to have a safe work method statement (SWMS) available prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions. The SWMS will be developed once a task is identified after JSA

The SIEA JSA & Risk Assessment form OHSC11 Appendix 5 can be used for this exercise.

6.2. Site Specific Risk

Table 6.1: Risk & Mitigation

Possible Risk	**General Action**
Heavy Lifting	As per Manual Handling.
Welding (Hot Works)	Trained or qualified welders. Permit from SIEA for hot works.
Power Tools and Electrical Leads	Test tag , Good Housekeeping , Keep out of wet places /water.
Machinery , Vehicle and Cranes	Trained Operators, appropriate qualification and licenses.
Noise and Dust	PPE.
Climbing / Working at height	Ladders, Scaffold, handrails, rope of area, caution/danger tape. Harness, safety barriers.
Trip / Fall	Barricade excavated areas.
Fire	Remove combustible, firefighting equipment such fire extinguisher.
Visitors and Vehicle traffic	Security plan and Signage.
Trench Working	Confined Space Permit from SIEA.
Heat Exhaustion	Shade tents, plan work in cool conditions, Substitution with Machine, controlled work time in heat area.

7. Hazardous Material

7.1. General

The contractor shall ensure that risk assessments have been undertaken by a competent person for all products intended for use during the works or materials evolved during the work and that

written procedures for the handling, application, storage and disposal of hazardous products have been prepared. The Project Manager must be informed in writing of all substances intended for use on site which are classified as toxic, very toxic, corrosive, flammable, highly flammable or explosive.

7.2. Asbestos

On discovering any asbestos the contractor shall immediately notify the Project Supervisor. NO ATTEMPT SHALL BE MADE TO REMOVE THE ASBESTOS. It shall be left undisturbed until further instructions are given by the Project Supervisor. In addition, notices warning others of the presence of the asbestos should be posted.

Managing asbestos at construction sites requires strict adherence to safety protocols to protect workers and the environment. First, conduct a thorough asbestos survey before any work begins to identify its presence. If asbestos is found, the plan will include proper containment, removal, by certified asbestos professionals. Use personal protective equipment (PPE), such as respirators and protective clothing, and establish controlled zones to prevent contamination. Proper disposal of asbestos-containing materials is crucial, following local regulations for hazardous waste. Regular training and monitoring ensure ongoing safety compliance during construction activities.

7.3. Design and Planning

Where hazardous substances have been specified the contractor must evaluate to see if:

7.3.1. They are strictly necessary for the process.

7.3.2. They can be substituted for a safer alternative substance.

7.3.3. An alternative method or process can be used to eliminate or reduce the hazard.

7.3.4. If it is not possible to adequately eliminate or control exposure to a hazardous substance then the contractor will need to ensure that suitable and sufficient personal protective equipment is provided to all affected employees and that they are adequately instructed on how, why and when it is to be used. The potential effects to other persons must also be considered by the contractor.

7.4. Hazardous Material Assessments

7.4.1. A material assessment shall be carried out for every substance brought onto site, copies of assessment and material data sheets shall be readily available for the Project Supervisor to examine. A suitable and sufficient risk assessment should be made.

7.4.2. When necessary, an operating procedure shall be produced for the safe handling, storage and use of a particular substance. A copy shall be given to the Project Supervisor.

7.4.3. All personnel shall be informed of any potential health hazards associated with any substance they may use or handle. The contractor shall ensure that correct use is made of the appropriate safety equipment provided by him.

7.4.4. All personnel shall have sight of the assessment which shall be available in the event of an incident that requires first aid medical treatment or firefighting.

8. Community Effects.

The contractor’s materials risk assessment, selection procedure and exposure control measures must adequately consider the possible effects of products such as fumes, sprays or dust etc. both

on and off the site. Examples would be the use of solvent based paints and adhesives.

9. Handling.

9.1. After handling hazardous substances personnel shall wash their hands prior to eating, drinking and smoking.

9.2. Personnel shall not eat, drink or smoke in the proximity of stored hazardous substances.

10. Explosives.

The bringing of explosives onto the site is strictly forbidden.

11. Incident or Injury Treatment/ Reporting

11.1. First Aid Kit Station

The Contractor/Subcontractor must ensure that First Aid Kit is available at site as required or permitted by SIEA. First Aid Kit Content - Appendix 7

The contractor must ensure that subcontractors have personnel who are first aid trainers and have a current First Aid Certificate. First Aid stations should be clearly marked and regularly checked by the contractor/subcontractor. The above first aid facilities are to be made available to all persons working on or visiting the site.

The contractor shall verbally report all incidents to the SIEA Project Supervisor immediately and not later than one hour of the incident occurring. The incident investigation form (Appendix 8 – SIEA Incident Report Form) must be completed and handed in to the SIEA Project Supervisor within 24 hours.

All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions within 5 working days. The contractor shall give a copy of all reports to SIEA.

Hazard Reporting

Any identified hazards that cannot be immediately resolved, must be reported to the SIEA's Project Supervisor as soon as possible. If the task or area is unsafe, cease work until the safety issue is resolved.

11.2. Treatment Facility

11.2.1. Hospital or Medical Centre

Nearest medical treatment facility is Auki Health Centre or Kilu 'ufi hospital

11.2.1.1. Kilu 'ufi hospital

Kilu' ufi hospital, Malaita province is the third largest hospital in Solomon Islands and located 4km North from Auki

Figure 3.0: Kilu 'ufi hospital

Kilu 'ufi hospital is a well-run unit, well supported by volunteers, and staff lead by Dr. Henry Kako (Director of Medical Services – Kilu 'ufi Hospital). The hospital has a number of Land cruiser troop carriers, which are used for transporting patients and staff.
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11.2.1.2. Auki Health Centre

Figure 4.0: Auki Medical Centre

Opens from 8:30am – 4:30pm Monday to Friday and are closed on public holidays and weekends (except for emergency cases)
Services Provided:

- General clinical services and essential trauma care;
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12. Workplace Inspections

Inspection programs undertaken by Contractors and also by SIEA officers are a key element in monitoring the health and safety standards of the Contractor's operations.

A General Health and Safety Checklist - Form OHSC06 (Appendix 10 – General Health & Safety Checklist) may be used for inspections. The checklist is designed to consider a broad range of general health and safety issues in the workplace. Where appropriate, the checklist can be modified based on specific safety aspects associated with the contract. Frequency of inspection is to be determined on the basis of practicability.

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SIEA also has a responsibility to monitor health and safety aspects of Contractor Operations. The Project Supervisor should check that the Contractor has adequately fulfilled its health and safety obligations, as far as they can reasonably establish.

12.2. Non Conformance Reporting

The attached non-conformance report Form OHSC032 – SIEA Contractor OHS Non-Conformance Report (Appendix 10) shall be completed where areas of non-conformance are identified as a result of Contractor operations.

The report should be issued following consultation with the Contractor H&S Manager and an agreed timeframe should be documented on this report for rectification purposes.

The report should be signed by the SIEA officer and Contractor H&S manager and actioned within the agreed time frame. Where the Contractor does not rectify the issues within the agreed time frame a second Non-conformance report may be issued or SIEA may consider suspension or termination of the contract if the issues are of sufficient significance.

13. Monthly OHS Reporting

The Contractor is required to fill in the details of the Form OHSC33 – SIEA Contractor Monthly OHS Performance Report, (Appendix 12) on a monthly basis. It is the H&S Manager's responsibility to ensure this is reported.

14. Contract Records

Effective contract management involves adoption of a systematic approach to record keeping during the period of the contract. Relevant health and safety records retained by The Contractor to provide documentary evidence of SIEA's due diligence in relation to the health and safety of Contractors.
These records will be particularly important in situations where the Contractor is in breach of health and safety requirements or a significant incident or accident occurs from activities performed by the Contractor.
Relevant health and safety records that should be retained by The Contractor should include:

- Risk Assessment;
- Health and Safety Plan;

- Contract Documents;
- Health and Safety Inspection Reports;
- Minutes of Safety meetings and site meetings;
- Incident investigation reports;
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- Photographs and test results; and
- Site instructions and diary notes.

For the duration of each contract, relevant health and safety documents should be consolidated and retained in the contract file. These are important documents that may be required even some time after the contract has been completed.

15. Emergency Phone Numbers

Location	Fire	Police	Search & rescue	Ambulance	National Disaster	Weather
Auki	40999	999	21609	111	27936	40412

Annex 2.3: Health and Safety Plan - Baolo

1. Site Safety Requirement

Before any work can commence, a General Permit will need to be issued by SIEA to the Contractor. The permit will be completed by the Contractor in conjunction with the Project Supervisor and signed off by the General Manager Capital Works or Chief Engineer or any person delegated by them. Without the sign off of the SIEA issuing authority, the permit remains invalid. The original of the General Permit is to be kept by the Contractor and a copy with the Project Supervisor for the duration of the works. The General Permit will be canceled at the completion of the contract by sign off in the designated space (Appendix 2 – General Permit).

Under the General Permit, other supplementary permits for high risk activities such as Hot Works (Appendix 6), Confined Space (Appendix 9) and isolation of high voltage plants and equipment may be issued. The Project Supervisor will issue the Hot Works and Confined Space Entry Permits as required however, the Permit to isolate HV plant and equipment will be issued by the SIEA Switching Coordinator who will require at least one weeks' request notice for any HV isolations.

2. Qualified and Experienced Personnel

JV GSGESF will ensure that all employees (including sub-contractors) are adequately trained and/or licensed to carry out their particular duties or tasks including driving plant and operating equipment. The Construction Manager may at any time request to view the licenses of contractor personnel and stop work if he is satisfied they do not possess the necessary licenses to operate heavy or specialized machinery.

Work conducted by apprentices or assistants will be closely supervised, inspected and approved by the Construction Manager.

The Employer will only appropriately qualified, licensed and experienced personnel are used on SIEA premises. For example, only licensed electrical workers are to carry out work on any electrical item, other than minor, user approved (as per operator's manual) equipment maintenance.

3. Inductions

3.1. General Induction

The Employer through its PMU Safety officer and project Supervisor will carry out the general induction with the contractor prior to the commencement of the project.

Similarly, the Contractor through its Health and Safety Manager will carry out induction for the sub-contractors.

The induction will include:

- Health and Safety Policy (Appendix 1);
- Site Safety Rules (Point 4 within this Annex);
- Any high Risk or Hazard that need to be aware of and make provision for it;
- Site Safety rules or safe work method can be signed off; and
- General Permit can be issued.

3.2. Site Induction

A site induction is to be conducted by the Health & Safety Manager with the sub-contractor prior to commencement of works. Form OHSC14, Onsite Contractor Induction - Appendix 3 provides a general checklist and is to be completed.

3.3. Supervision of Safe Work

It is the responsibility of the contractor to ensure appropriate level and frequency of supervision of all work on SIEA premises to ensure safe operations. This applies to the contractor, contractor's employees and subcontractors. High risk tasks (such as; work involving fall risks (2m or more), crane use, working in confined spaces, hot works, work on electrical systems) are to be closely supervised.

4. General Safety Rules

4.1. Access

Only authorized personnel should have access to the site. Visitors must be accompanied at all times. It is imperative for all employees to ensure they do not run on work sites, and use appropriate paths. All unsafe or inadequate access ways should be reported to the manager or immediate supervisor immediately. This is also the part of the Security Plan in Annex 3 with relevant site access forms.

4.2. Housekeeping

Housekeeping is an essential safety requirement for all safe work environments. Untidy workplace can cause accidents, inefficiencies, and create fire and other hazards. Employees and subcontractors should use bins provided and not leave rubbish on the ground or throw materials or equipment of any kind down from elevated work areas. Protruding nails must be pulled out or hammered over.

Wire or cabling should not be left around work areas, as it may cause someone to trip and sustain a serious injury.

All employees and sub-contractors are responsible for keeping their workplace and amenities clean and tidy. Food scraps, drink bottles, empty cartons or cans must be placed in the bin. Bins will be placed throughout the site to encourage this behavior.

4.3. Manual Handling

Manual handling is defined as any work activity that requires human force to lift, lower, carry, push, pull, restrain or hold a load. Regulations require employers and employees to identify assess and control risks involved in manual handling.

Manual handling risks assessments takes into account the actions and movements for the task, workplace layout, duration, frequency, load characteristics, location and distances to be moved.

Many injuries are caused by incorrect methods of lifting and moving awkward and heavy loads.

Avoid injury by observing the following rules:

- Size up the load- if it is too heavy get help;
- Position your feet as close as possible to the load;
- Adopt a balance position with your knees bent;
- Get a safe, secure grip, diagonally opposite the object with the palms of your hands;

- Beware of sharp edged materials – wear safety gloves if appropriate only;
- Keep you upper body erect and as straight as possible;
- Tuck your chin in, draw, push your shoulders back and use your body weight to take-up load weight;
- Complete the lift with your back held straight;
- Hold and carry the load close to your body to reduce the strain on your arms, shoulders and back;
- Use your weight to counterbalance the load weight by leaning slightly backwards as you move;
- Use your feet to change direction – do not twist your body, hips or shoulders;
- Avoid carrying loads that obstruct your view, particularly on inclines, declines and stairways;
- Avoid repetitive lifts from below mid-thigh height and above shoulder height;
- Avoid single handed repetitive lifts and avoid lifting while leaning over to reach the load; and
- Use team lifts for heavy, long or awkward loads and control and coordinate team movements by signals.

4.4. Drugs and Alcohol

All personnel/ sub-contractors shall be made aware that random drug and alcohol testing may be performed throughout the project cycle if there is any suspicion of the person being under the influence of drug and alcohol.

All personnel / sub-contractors shall be advised that many common medications and even some energy drinks may produce a “presumed positive” result.

Alcohol/non-pharmaceutical drugs shall not be carried on to a workplace or be consumed immediately before or during working times.

JV GSGESF shall have a Zero tolerance policy for drug and substance abuse on site.

4.5. Smoking

Smoking is prohibited on construction sites (except in designated smoking areas). All cigarette butts are to be extinguished and disposed of in a suitable place.

4.6. Betel Nut

Betel Nut chewing is prohibited on construction site.

4.7. Electrical Safety

4.7.1. Isolation, Lockout, Tag out and Test

Where there is endangerment in your work by the presence or operation of machinery, flow of electricity, steam, gas, compressed air, liquids or any other form of energy, you are required to take preventative action.

You must isolate the potential danger; prevent others from operating the source by locking out the isolator, tag the switch or isolating device, and test to ensure it is safe for you to proceed.

4.7.2. Danger Tags

Danger tags must be securely attached to the isolator/control switch or device so there is no risk of becoming dislodged. They must be clearly visible to ensure inadvertent restoration of power does not occur.

Danger Tag rules:

- A Danger Tag is to be affixed by each person working on the equipment;
- Each Danger Tag must bear the employer's name, and an employee's printed name, as well as that employee's signature and date;
- Each person is responsible for placing their own Danger Tag prior to commencing work, and removal of their Tag when work is completed;
- Danger Tags must be in good condition before use; and
- Whilst Danger Tags can only be removed by the person who signed and affixed the tag, in exceptional circumstances such as sickness or inability.

5. Clothing and Personal Protective Equipment(PPE)

All Subcontractors and employees must have PPE in accordance with the task being carried out. PPE is required at every workplace.

The Health and Safety Manager and Construction Manager will ensure that the subcontractors are aware of PPE required for each task and sub-contractors comply with as indicated in table 6.0.

Table 6.0: PPE Guideline

PPE	Description
Clothing	All clothing should be purpose designed (example reflect vest for high visibility).
Safety footwear	Safety footwear is to be worn or closed shoes may be permitted in some workplaces. Sandals and thongs are not permitted.
Safety Hard Hat	Safety hard hats are a requirement on all construction sites and must be worn where applicable.
Safety gloves	Safety gloves of appropriate protective material are to be worn when handling armored cables, sharp or hot materials, chemicals or dangerous liquids.
Ear muffs	Ear muffs or ear plugs must be used where there is loud or high frequency noise.
Safety Glasses	Safety Glasses are required to be worn for particular jobs, and in addition to eye protection, face protection is also required in jobs involving high speed abrasive cutting.

6. Risk Assessment and Hazard Management

6.1. Risk Assessment

The Construction Manager is to ensure that all subcontractors or personnel follow safe work

practices for all work conducted on SIEA premises or on behalf of the SIEA. Any medium to high risk, non-routine tasks are to have a job safety assessment (JSA) (appendix 5) completed prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions.

Similarly any medium to high risk, routine tasks are to have a safe work method statement (SWMS) available prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions. The SWMS will be developed once a task is identified after JSA

The SIEA JSA & Risk Assessment form OHSC11 Appendix 5 can be used for this exercise.

6.2. Site Specific Risk

Table 6.1: Risk & Mitigation

Possible Risk	**General Action**
Heavy Lifting	As per Manual Handling.
Welding (Hot Works)	Trained or qualified welders. Permit from SIEA for hot works.
Power Tools and Electrical Leads	Test tag, Good Housekeeping, Keep out of wet places /water.
Machinery , Vehicle and Cranes	Trained Operators, appropriate qualification and licenses.
Noise and Dust	PPE.
Climbing / Working at height	Ladders, Scaffold, handrails, rope of area, caution/danger tape. Harness, safety barriers.
Trip / Fall	Barricade excavated areas.
Fire	Remove combustible, firefighting equipment such fire extinguisher.
Visitors and Vehicle traffic	Security plan and Signage.
Trench Working	Confined Space Permit from SIEA.
Heat Exhaustion	Shade tents, plan work in cool conditions, Substitution with Machine, controlled work time in heat area.

7. Hazardous Material

7.1. General

The contractor shall ensure that risk assessments have been undertaken by a competent person for all products intended for use during the works or materials evolved during the work and that

written procedures for the handling, application, storage and disposal of hazardous products have been prepared.
The Project Manager must be informed in writing of all substances intended for use on site which are classified as toxic, very toxic, corrosive, flammable, highly flammable or explosive.

7.2. Asbestos

On discovering any asbestos the contractor shall immediately notify the Project Supervisor. NO ATTEMPT SHALL BE MADE TO REMOVE THE ASBESTOS. It shall be left undisturbed until further instructions are given by the Project Supervisor. In addition, notices warning others of the presence of the asbestos should be posted.
Managing asbestos at construction sites requires strict adherence to safety protocols to protect workers and the environment. First, conduct a thorough asbestos survey before any work begins to identify its presence. If asbestos is found, the plan will include proper containment, removal, by certified asbestos professionals. Use personal protective equipment (PPE), such as respirators and protective clothing, and establish controlled zones to prevent contamination. Proper disposal of asbestos-containing materials is crucial, following local regulations for hazardous waste. Regular training and monitoring ensure ongoing safety compliance during construction activities.

7.3. Design and Planning

Where hazardous substances have been specified the contractor must evaluate to see if:

7.3.1. They are strictly necessary for the process.
7.3.2. They can be substituted for a safer alternative substance.
7.3.3. An alternative method or process can be used to eliminate or reduce the hazard.
7.3.4. If it is not possible to adequately eliminate or control exposure to a hazardous substance then the contractor will need to ensure that suitable and sufficient personal protective equipment is provided to all affected employees and that they are adequately instructed on how, why and when it is to be used. The potential effects to other persons must also be considered by the contractor.

7.4. Hazardous Material Assessments

7.4.1. A material assessment shall be carried out for every substance brought onto site, copies of assessment and material data sheets shall be readily available for the Project Supervisor to examine. A suitable and sufficient risk assessment should be made.
7.4.2. When necessary, an operating procedure shall be produced for the safe handling, storage and use of a particular substance. A copy shall be given to the Project Supervisor.
7.4.3. All personnel shall be informed of any potential health hazards associated with any substance they may use or handle. The contractor shall ensure that correct use is made of the appropriate safety equipment provided by him.
7.4.4. All personnel shall have sight of the assessment which shall be available in the event of an incident that requires first aid medical treatment or firefighting.

8. Community Effects.

The contractor’s materials risk assessment, selection procedure and exposure control measures must adequately consider the possible effects of products such as fumes, sprays or dust etc. both on and off the site. Examples would be the use of solvent based paints and adhesives.

9. Handling.

9.1. After handling hazardous substances personnel shall wash their hands prior to eating, drinking and smoking.

9.2. Personnel shall not eat, drink or smoke in the proximity of stored hazardous substances.

10. Explosives.

The bringing of explosives onto the site is strictly forbidden.

11. Incident or Injury Treatment/ Reporting

11.1. First Aid Kit Station

The Contractor/Subcontractor must ensure that First Aid Kit is available at site as required or permitted by SIEA. First Aid Kit Content - Appendix 7

The contractor must ensure that subcontractors have personnel who are first aid trainers and have a current First Aid Certificate. First Aid stations should be clearly marked and regularly checked by the contractor/subcontractor. The above first aid facilities are to be made available to all persons working on or visiting the site.

The contractor shall verbally report all incidents to the SIEA Project Supervisor immediately and not later than one hour of the incident occurring. The incident investigation form (Appendix 8 – SIEA Incident Report Form) must be completed and handed in to the SIEA Project Supervisor within 24 hours.

All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions within 5 working days. The contractor shall give a copy of all reports to SIEA.

Hazard Reporting

Any identified hazards that cannot be immediately resolved, must be reported to the SIEA's Project Supervisor as soon as possible. If the task or area is unsafe, cease work until the safety issue is resolved.

11.2. Treatment Facility

11.2.1. Hospital or Medical Centre

Nearest medical treatment facility is Baolo Health Centre or Buala Hospital.

11.2.1.1. Buala Hospital

Buala hospital is one of the smallest hospitals in the Solomon Islands and at times has struggled to maintain a constant resident doctor. Currently there are two full time doctors Dr Tony Quitty and Dr Irene Eto.

Figure 5.0: Buala hospital

Buala hospital has 43 beds and has one large operating theater with two operating tables and one anesthetic machine. It normally has 2 resident doctors, currently the Tony Quitty and Dr Irene Eto.

11.2.1.2. Baolo Health Centre

Figure 6.0: Baolo Health Centre

Opens from 8:30am – 4:30pm Monday to Friday and are closed on public holidays and weekends (except for emergency cases)

Services Provided:

- General clinical services and essential trauma care;
- Reproductive, Maternal, New born, Child and Adolescent Health;
- Communicable and Non-communicable Diseases; and
- Community based Health service.

12. Workplace Inspections

Inspection programs undertaken by Contractors and also by SIEA officers are a key element in monitoring the health and safety standards of the Contractor's operations.

A General Health and Safety Checklist - Form OHSC06 (Appendix 10 – General Health & Safety Checklist) may be used for inspections. The checklist is designed to consider a broad range of general health and safety issues in the workplace. Where appropriate, the checklist can be modified based on specific safety aspects associated with the contract. Frequency of inspection is to be determined on the basis of practicability.

12.1. Who Should Carry out Inspections?

The Contractor as an employer has a duty of care to provide and maintain a safe workplace and consequently has an important responsibility to conduct workplace inspections on a regular basis. The Contractor should then make available copies of health and safety inspection reports for review when requested by the SIEA Project Supervisor.
SIEA also has a responsibility to monitor health and safety aspects of Contractor Operations. The Project Supervisor should check that the Contractor has adequately fulfilled its health and safety obligations, as far as they can reasonably establish.

12.2. Non Conformance Reporting

The attached non-conformance report Form OHSC032 – SIEA Contractor OHS Non-Conformance Report (Appendix 10) shall be completed where areas of non-conformance are identified as a result of Contractor operations.

The report should be issued following consultation with the Contractor H&S Manager and an agreed timeframe should be documented on this report for rectification purposes.

The report should be signed by the SIEA officer and Contractor H&S manager and actioned within the agreed time frame. Where the Contractor does not rectify the issues within the agreed time frame a second Non-conformance report may be issued or SIEA may consider suspension or termination of the contract if the issues are of sufficient significance.

13. Monthly OHS Reporting

The Contractor is required to fill in the details of the Form OHSC33 – SIEA Contractor Monthly OHS Performance Report, (Appendix 12) on a monthly basis. It is the H&S Manager's responsibility to ensure this is reported.

14. Contract Records

Effective contract management involves adoption of a systematic approach to record keeping during the period of the contract. Relevant health and safety records retained by The Contractor to provide documentary evidence of SIEA's due diligence in relation to the health and safety of Contractors.
These records will be particularly important in situations where the Contractor is in breach of health and safety requirements or a significant incident or accident occurs from activities performed by the Contractor.
Relevant health and safety records that should be retained by the Contractor include:

- Risk Assessment.
- Health and Safety Plan.

- Contract Documents.
- Health and Safety Inspection Reports.
- Minutes of Safety meetings and site meetings.
- Incident investigation reports.
- Monthly OHS performance reports.
- Non-conformance reports.
- Photographs and test results.
- Site instructions and diary notes.

For the duration of each contract, relevant health and safety documents should be consolidated and retained in the contract file. These are important documents that may be required even some time after the contract has been completed.

15. Emergency Phone Numbers

Location	Fire	Police	Search & rescue	Ambulance	National Disaster	Weather
Baolo /Buala	40999	999	21609	111	27936	40412

Annex 2.4: Health and Safety Plan - Visale

1. Site Safety Requirement

Before any work can commence, a General Permit will need to be issued by SIEA to the Contractor. The permit will be completed by the Contractor in conjunction with the Project Supervisor and signed off by the General Manager Capital Works or Chief Engineer or any person delegated by them. Without the sign off of the SIEA issuing authority, the permit remains invalid. The original of the General Permit is to be kept by the Contractor and a copy with the Project Supervisor for the duration of the works. The General Permit will be canceled at the completion of the contract by sign off in the designated space (Appendix 2 – General Permit).

Under the General Permit, other supplementary permits for high risk activities such as Hot Works (Appendix 6), Confined Space (Appendix 9) and isolation of high voltage plants and equipment may be issued. The Project Supervisor will issue the Hot Works and Confined Space Entry Permits as required however, the Permit to isolate HV plant and equipment will be issued by the SIEA Switching Coordinator who will require at least one weeks' request notice for any HV isolations.

2. Qualified and Experienced Personnel

JV GSGESF will ensure that all employees (including sub-contractors) are adequately trained and/or licensed to carry out their particular duties or tasks including driving plant and operating equipment. The Construction Manager may at any time request to view the licenses of contractor personnel and stop work if he is satisfied they do not possess the necessary licenses to operate heavy or specialized machinery.

Work conducted by apprentices or assistants will be closely supervised, inspected and approved by the Construction Manager.

The Employer will only appropriately qualified, licensed and experienced personnel are used on SIEA premises. For example, only licensed electrical workers are to carry out work on any electrical item, other than minor, user approved (as per operator's manual) equipment maintenance.

3. Inductions

3.1. General Induction

The Employer through its PMU Safety officer and project Supervisor will carry out the general induction with the contractor prior to the commencement of the project.

Similarly, the Contractor through its Health and Safety Manager will carry out induction for the sub-contractors.

The induction will include:

- Health and Safety Policy (Appendix 1);
- Site Safety Rules (Point 4 within this Annex);
- Any high Risk or Hazard that need to be aware of and make provision for it;
- Site Safety rules or safe work method can be signed off; and
- General Permit can be issued.

3.2. Site Induction

A site induction is to be conducted by the Health & Safety Manager with the sub-contractor prior to commencement of works. Form OHSC14, Onsite Contractor Induction - Appendix 3 provides a general checklist and is to be completed.

3.3. Supervision of Safe Work

It is the responsibility of the contractor to ensure appropriate level and frequency of supervision of all work on SIEA premises to ensure safe operations. This applies to the contractor, contractor's employees and subcontractors. High risk tasks (such as; work involving fall risks (2m or more), crane use, working in confined spaces, hot works, work on electrical systems) are to be closely supervised.

4. General Safety Rules

4.1. Access

Only authorized personnel should have access to the site. Visitors must be accompanied at all times. It is imperative for all employees to ensure they do not run on work sites, and use appropriate paths. All unsafe or inadequate access ways should be reported to the manager or immediate supervisor immediately. This is also the part of the Security Plan in Annex 3 with relevant site access forms.

4.2. Housekeeping

Housekeeping is an essential safety requirement for all safe work environments. Untidy workplace can cause accidents, inefficiencies, and create fire and other hazards. Employees and subcontractors should use bins provided and not leave rubbish on the ground or throw materials or equipment of any kind down from elevated work areas. Protruding nails must be pulled out or hammered over.

Wire or cabling should not be left around work areas, as it may cause someone to trip and sustain a serious injury.

All employees and sub-contractors are responsible for keeping their workplace and amenities clean and tidy. Food scraps, drink bottles, empty cartons or cans must be placed in the bin. Bins will be placed throughout the site to encourage this behavior.

4.3. Manual Handling

Manual handling is defined as any work activity that requires human force to lift, lower, carry, push, pull, restrain or hold a load. Regulations require employers and employees to identify, assess and control risks involved in manual handling.

Manual handling risks assessments takes into account the actions and movements for the task, workplace layout, duration, frequency, load characteristics, location and distances to be moved.

Many injuries are caused by incorrect methods of lifting and moving awkward and heavy loads.

Avoid injury by observing the following rules:

- Size up the load- if it is too heavy get help.
- Position your feet as close as possible to the load.
- Adopt a balance position with your knees bent.
- Get a safe, secure grip, diagonally opposite the object with the palms of your hands.

- Beware of sharp edged materials – wear safety gloves if appropriate only.
- Keep you upper body erect and as straight as possible.
- Tuck your chin in, draw, push your shoulders back and use your body weight to take-up load weight.
- Complete the lift with your back held straight.
- Hold and carry the load close to your body to reduce the strain on your arms, shoulders and back.
- Use your weight to counterbalance the load weight by leaning slightly backwards as you move.
- Use your feet to change direction – do not twist your body, hips or shoulders.
- Avoid carrying loads that obstruct your view, particularly on inclines, declines and stairways.
- Avoid repetitive lifts from below mid-thigh height and above shoulder height.
- Avoid single handed repetitive lifts and avoid lifting while leaning over to reach the load.
- Use team lifts for heavy, long or awkward loads and control and coordinate team movements by signals.

4.4. Drugs and Alcohol

All personnel/ sub-contractors shall be made aware that random drug and alcohol testing may be performed throughout the project cycle if there is any suspicion of the person being under the influence of drug and alcohol.

All personnel / sub-contractors shall be advised that many common medications and even some energy drinks may produce a “presumed positive” result.

Alcohol/non-pharmaceutical drugs shall not be carried on to a workplace or be consumed immediately before or during working times. JV GSGESF shall have a Zero tolerance policy for drug and substance abuse on site.

4.5. Smoking

Smoking is prohibited on construction sites (except in designated smoking areas). All cigarette butts are to be extinguished and disposed of in a suitable place.

4.6. Betel Nut

Betel Nut chewing is prohibited on construction site.

4.7. Electrical Safety

4.7.1. Isolation, Lockout, Tag out and Test

Where there is endangerment in your work by the presence or operation of machinery, flow of electricity, steam, gas, compressed air, liquids or any other form of energy, you are required to take preventative action.

You must isolate the potential danger; prevent others from operating the source by locking out the isolator, tag the switch or isolating device, and test to ensure it is safe for you to proceed.

4.7.2. Danger Tags

Danger tags must be securely attached to the isolator/control switch or device so there is no risk

of becoming dislodged. They must be clearly visible to ensure inadvertent restoration of power does not occur.

Danger Tag rules:

- A Danger Tag is to be affixed by each person working on the equipment.
- Each Danger Tag must bear the employer's name, and an employee's printed name, as well as that employee's signature and date.
- Each person is responsible for placing their own Danger Tag prior to commencing work, and removal of their Tag when work is completed.
- Danger Tags must be in good condition before use.
- Whilst Danger Tags can only be removed by the person who signed and affixed the tag, in exceptional circumstances such as sickness or inability.

5. Clothing and Personal Protective Equipment(PPE)

All Subcontractors and employees must have PPE in accordance with the task being carried out. PPE is required at every workplace.

The Health and Safety Manager and Construction Manager will ensure that the subcontractors are aware of PPE required for each task and sub-contractors comply with as indicated in table 6.0.

Table 6.0: PPE Guideline

PPE	Description
Clothing	All clothing should be purpose designed (example reflect vest for high visibility)
Safety footwear	Safety footwear is to be worn or closed shoes may be permitted in some workplaces. Sandals and thongs are not permitted
Safety Hard Hat	Safety hard hats are a requirement on all construction sites and must be worn where applicable.
Safety gloves	Safety gloves of appropriate protective material are to be worn when handling armored cables, sharp or hot materials, chemicals or dangerous liquids
Ear muffs	Ear muffs or ear plugs must be used where there is loud or high frequency noise
Safety Glasses	Safety Glasses are required to be worn for particular jobs, and in addition to eye protection, face protection is also required in jobs involving high speed abrasive cutting

6. Risk Assessment and Hazard Management

6.1. Risk Assessment

The Construction Manager is to ensure that all subcontractors or personnel follow safe work practices for all work conducted on SIEA premises or on behalf of the SIEA. Any medium to high risk, non-routine tasks are to have a job safety assessment (JSA) (appendix 5) completed prior to conducting the work and relevant personnel instructed in the necessary safe work practices

and any special precautions.

Similarly any medium to high risk, routine tasks are to have a safe work method statement (SWMS) available prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions. The SWMS will be developed once a task is identified after JSA.

The SIEA JSA & Risk Assessment form OHSC11 Appendix 5 can be used for this exercise.

6.2. Site Specific Risk

Table 6.1: Risk & Mitigation

Possible Risk	**General Action**
Heavy Lifting	As per Manual Handling.
Welding (Hot Works)	Trained or qualified welders. Permit from SIEA for hot works.
Power Tools and Electrical Leads	Test tag , Good Housekeeping , Keep out of wet places /water.
Machinery , Vehicle and Cranes	Trained Operators, appropriate qualification and licenses.
Noise and Dust	PPE.
Climbing / Working at height	Ladders, Scaffold, handrails, rope of area, caution/danger tape. Harness and safety barriers.
Trip / Fall	Barricade excavated areas.
Fire	Remove combustible, firefighting equipment such fire extinguisher.
Visitors and Vehicle traffic	Security plan and Signage.
Trench Working	Confined Space Permit from SIEA.
Heat Exhaustion	Shade tents, plan work in cool conditions, Substitution with Machine, controlled work time in heat area.

7. Hazardous Material

7.1. General

The contractor shall ensure that risk assessments have been undertaken by a competent person for all products intended for use during the works or materials evolved during the work and that written procedures for the handling, application, storage and disposal of hazardous products have been prepared.
The Project Manager must be informed in writing of all substances intended for use on site which

are classified as toxic, very toxic, corrosive, flammable, highly flammable or explosive.

7.2. Asbestos

On discovering any asbestos the contractor shall immediately notify the Project Supervisor. NO ATTEMPT SHALL BE MADE TO REMOVE THE ASBESTOS. It shall be left undisturbed until further instructions are given by the Project Supervisor. In addition, notices warning others of the presence of the asbestos should be posted.

Managing asbestos at construction sites requires strict adherence to safety protocols to protect workers and the environment. First, conduct a thorough asbestos survey before any work begins to identify its presence. If asbestos is found, the plan will include proper containment, removal, by certified asbestos professionals. Use personal protective equipment (PPE), such as respirators and protective clothing, and establish controlled zones to prevent contamination. Proper disposal of asbestos-containing materials is crucial, following local regulations for hazardous waste. Regular training and monitoring ensure ongoing safety compliance during construction activities.

7.3. Design and Planning

Where hazardous substances have been specified the contractor must evaluate to see if:

7.3.1. They are strictly necessary for the process.

7.3.2. They can be substituted for a safer alternative substance.

7.3.3. An alternative method or process can be used to eliminate or reduce the hazard.

7.3.4. If it is not possible to adequately eliminate or control exposure to a hazardous substance then the contractor will need to ensure that suitable and sufficient personal protective equipment is provided to all affected employees and that they are adequately instructed on how, why and when it is to be used. The potential effects to other persons must also be considered by the contractor.

7.4. Hazardous Material Assessments

7.4.1. A material assessment shall be carried out for every substance brought onto site, copies of assessment and material data sheets shall be readily available for the Project Supervisor to examine. A suitable and sufficient risk assessment should be made.

7.4.2. When necessary, an operating procedure shall be produced for the safe handling, storage and use of a particular substance. A copy shall be given to the Project Supervisor.

7.4.3. All personnel shall be informed of any potential health hazards associated with any substance they may use or handle. The contractor shall ensure that correct use is made of the appropriate safety equipment provided by him.

7.4.4. All personnel shall have sight of the assessment which shall be available in the event of an incident that requires first aid medical treatment or firefighting.

8. Community Effects.

The contractor’s materials risk assessment, selection procedure and exposure control measures must adequately consider the possible effects of products such as fumes, sprays or dust etc. both on and off the site. Examples would be the use of solvent based paints and adhesives.

9. Handling.

9.1. After handling hazardous substances personnel shall wash their hands prior to eating, drinking and smoking.
9.2. Personnel shall not eat, drink or smoke in the proximity of stored hazardous substances.

10. Explosives.

The bringing of explosives onto the site is strictly forbidden.

11. Incident or Injury Treatment/ Reporting

11.1. First Aid Kit Station

The Contractor/Subcontractor must ensure that First Aid Kit is available at site as required or permitted by SIEA. First Aid Kit Content - Appendix 7

The contractor must ensure that subcontractors have personnel who are first aid trainers and have a current First Aid Certificate. First Aid stations should be clearly marked and regularly checked by the contractor/subcontractor. The above first aid facilities are to be made available to all persons working on or visiting the site.

The contractor shall verbally report all incidents to the SIEA Project Supervisor immediately and not later than one hour of the incident occurring. The incident investigation form (Appendix 8 – SIEA Incident Report Form) must be completed and handed in to the SIEA Project Supervisor within 24 hours.

All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions within 5 working days. The contractor shall give a copy of all reports to SIEA.

Hazard Reporting
Any identified hazards that cannot be immediately resolved, must be reported to the SIEA's Project Supervisor as soon as possible. If the task or area is unsafe, cease work until the safety issue is resolved.

11.2. Treatment Facility

11.2.1. Hospital or Medical Centre

Nearest medical treatment facility is Visale Health Centre or National Referral hospital (40km)

11.2.1.1. National Referral hospital (40km)

National Referral Honiara hospital is the largest hospital in the Solomon Islands and the national referral hospital, with over 300 beds and over 50 doctors.

Figure 7.0: National Referral hospital

This hospital sees the vast majority of the medical cases in the Solomon Islands and is often overstretched, and at times at bursting point. It has close alliances with Australia, and in times of need patients are often flown by aircraft to Australia for expert medical attention.

11.2.1.2. Visale Health Centre (Closest)

Opens from 8:30am – 4:30pm Monday to Friday and are closed on public holidays and weekends (except for emergency cases). Services Provided:

- General clinical services and essential trauma care;
- Reproductive, Maternal , New born , Child and Adolescent Health;
- Communicable and Non-communicable Diseases; and
- Community based Health service.

12. Workplace Inspections

Inspection programs undertaken by Contractors and also by SIEA officers are a key element in monitoring the health and safety standards of the Contractor's operations.

A General Health and Safety Checklist - Form OHSC06 (Appendix 10 – General Health & Safety Checklist) may be used for inspections. The checklist is designed to consider a broad range of general health and safety issues in the workplace. Where appropriate, the checklist can be modified based on specific safety aspects associated with the contract. Frequency of inspection is to be determined on the basis of practicability.

12.1. Who Should Carry out Inspections?

The Contractor as an employer has a duty of care to provide and maintain a safe workplace and consequently has an important responsibility to conduct workplace inspections on a regular basis. The Contractor should then make available copies of health and safety inspection reports for review when requested by the SIEA Project Supervisor.
SIEA also has a responsibility to monitor health and safety aspects of Contractor Operations. The Project Supervisor should check that the Contractor has adequately fulfilled its health and safety obligations, as far as they can reasonably establish.

12.2. Non Conformance Reporting

The attached non-conformance report Form OHSC032 – SIEA Contractor OHS Non-Conformance Report (Appendix 10) shall be completed where areas of non-conformance are identified as a result of Contractor operations.

The report should be issued following consultation with the Contractor H&S Manager and an agreed timeframe should be documented on this report for rectification purposes.

The report should be signed by the SIEA officer and Contractor H&S manager and actioned within the agreed time frame. Where the Contractor does not rectify the issues within the agreed time frame a second Non-conformance report may be issued or SIEA may consider suspension or termination of the contract if the issues are of sufficient significance.

13. Monthly OHS Reporting

The Contractor is required to fill in the details of the Form OHSC33 – SIEA Contractor Monthly OHS Performance Report, (Appendix 12) on a monthly basis. It is the H&S Manager's responsibility to ensure this is reported.

14. Contract Records

Effective contract management involves adoption of a systematic approach to record keeping during the period of the contract. Relevant health and safety records retained by The Contractor to provide documentary evidence of SIEA's due diligence in relation to the health and safety of Contractors.
These records will be particularly important in situations where the Contractor is in breach of health and safety requirements or a significant incident or accident occurs from activities performed by the Contractor.
Relevant health and safety records that should be retained by the Contractor include:

- Risk Assessment.
- Health and Safety Plan.
- Contract Documents.
- Health and Safety Inspection Reports.
- Minutes of Safety meetings and site meetings.
- Incident investigation reports.
- Monthly OHS performance reports.
- Non-conformance reports.
- Photographs and test results.
- Site instructions and diary notes.

For the duration of each contract, relevant health and safety documents should be consolidated and retained in the contract file. These are important documents that may be required even some time after the contract has been completed.

15. Emergency Phone Numbers

Location	Fire	Police	Search & rescue	Ambulance	National Disaster	Weather
Honiara	40999	999	21609	111	27936	40412

Annex 2.5 Health and Safety Plan - Tingoa

1. Site Safety Requirement

Before any work can commence, a General Permit will need to be issued by SIEA to the Contractor. The permit will be completed by the Contractor in conjunction with the Project Supervisor and signed off by the General Manager Capital Works or Chief Engineer or any person delegated by them. Without the sign off of the SIEA issuing authority, the permit remains invalid. The original of the General Permit is to be kept by the Contractor and a copy with the Project Supervisor for the duration of the works. The General Permit will be canceled at the completion of the contract by sign off in the designated space (Appendix 2 – General Permit).

Under the General Permit, other supplementary permits for high risk activities such as Hot Works (Appendix 6), Confined Space (Appendix 9) and isolation of high voltage plants and equipment may be issued. The Project Supervisor will issue the Hot Works and Confined Space Entry Permits as required however, the Permit to isolate HV plant and equipment will be issued by the SIEA Switching Coordinator who will require at least one weeks' request notice for any HV isolations.

2. Qualified and Experienced Personnel

JV GSGESF will ensure that all employees (including sub-contractors) are adequately trained and/or licensed to carry out their particular duties or tasks including driving plant and operating equipment. The Construction Manager may at any time request to view the licenses of contractor personnel and stop work if he is satisfied they do not possess the necessary licenses to operate heavy or specialized machinery.

Work conducted by apprentices or assistants will be closely supervised, inspected and approved by the Construction Manager.

The Employer will only appropriately qualified, licensed and experienced personnel are used on SIEA premises. For example, only licensed electrical workers are to carry out work on any electrical item, other than minor, user approved (as per operator's manual) equipment maintenance.

3. Inductions

3.1. General Induction

The Employer through its PMU Safety officer and project Supervisor will carry out the general induction with the contractor prior to the commencement of the project.

Similarly, the Contractor through its Health and Safety Manager will carry out induction for the sub-contractors.

The induction will include:

- Health and Safety Policy (Appendix 1);
- Site Safety Rules (Point 4 within this Annex);
- Any high Risk or Hazard that need to be aware of and make provision for it;
- Site Safety rules or safe work method can be signed off; and
- General Permit can be issued.

3.2. Site Induction

A site induction is to be conducted by the Health & Safety Manager with the sub-contractor prior to commencement of works. Form OHSC14, Onsite Contractor Induction - Appendix 3 provides a general checklist and is to be completed.

3.3. Supervision of Safe Work

It is the responsibility of the contractor to ensure appropriate level and frequency of supervision of all work on SIEA premises to ensure safe operations. This applies to the contractor, contractor's employees and subcontractors. High risk tasks (such as; work involving fall risks (2m or more), crane use, working in confined spaces, hot works, work on electrical systems) are to be closely supervised.

4. General Safety Rules

4.1. Access

Only authorized personnel should have access to the site. Visitors must be accompanied at all times. It is imperative for all employees to ensure they do not run on work sites, and use appropriate paths. All unsafe or inadequate access ways should be reported to the manager or immediate supervisor immediately. This is also the part of the Security Plan in Annex 3 with relevant site access forms.

4.2. Housekeeping

Housekeeping is an essential safety requirement for all safe work environments. Untidy workplace can cause accidents, inefficiencies, and create fire and other hazards. Employees and subcontractors should use bins provided and not leave rubbish on the ground or throw materials or equipment of any kind down from elevated work areas. Protruding nails must be pulled out or hammered over.

Wire or cabling should not be left around work areas, as it may cause someone to trip and sustain a serious injury.

All employees and sub-contractors are responsible for keeping their workplace and amenities clean and tidy. Food scraps, drink bottles, empty cartons or cans must be placed in the bin. Bins will be placed throughout the site to encourage this behavior.

4.3. Manual Handling

Manual handling is defined as any work activity that requires human force to lift, lower, carry, push, pull, restrain or hold a load. Regulations require employers and employees to identify assess and control risks involved in manual handling.

Manual handling risks assessments takes into account the actions and movements for the task, workplace layout, duration, frequency, load characteristics, location and distances to be moved.

Many injuries are caused by incorrect methods of lifting and moving awkward and heavy loads.

Avoid injury by observing the following rules:

- Size up the load- if it is too heavy get help;
- Position your feet as close as possible to the load;
- Adopt a balance position with your knees bent;

- Get a safe, secure grip, diagonally opposite the object with the palms of your hands;
- Beware of sharp edged materials – wear safety gloves if appropriate only;
- Keep you upper body erect and as straight as possible;
- Tuck your chin in, draw, push your shoulders back and use your body weight to take-up load weight;
- Complete the lift with your back held straight;
- Hold and carry the load close to your body to reduce the strain on your arms, shoulders and back;
- Use your weight to counterbalance the load weight by leaning slightly backwards as you move;
- Use your feet to change direction – do not twist your body, hips or shoulders
- Avoid carrying loads that obstruct your view, particularly on inclines, declines and stairways;
- Avoid repetitive lifts from below mid-thigh height and above shoulder height;
- Avoid single handed repetitive lifts and avoid lifting while leaning over to reach the load; and
- Use team lifts for heavy, long or awkward loads and control and coordinate team movements by signals.

4.4. Drugs and Alcohol

All personnel/ sub-contractors shall be made aware that random drug and alcohol testing may be performed throughout the project cycle if there is any suspicion of the person being under the influence of drug and alcohol.

All personnel / sub-contractors shall be advised that many common medications and even some energy drinks may produce a “presumed positive” result.

Alcohol/non-pharmaceutical drugs shall not be carried on to a workplace or be consumed immediately before or during working times. JV GSGESF shall have a Zero tolerance policy for drug and substance abuse on site.

4.5. Smoking

Smoking is prohibited on construction sites (except in designated smoking areas). All cigarette butts are to be extinguished and disposed of in a suitable place.

4.6. Betel Nut

Betel Nut chewing is prohibited on construction site

4.7. Electrical Safety

4.7.1. Isolation, Lockout, Tag out and Test

Where there is endangerment in your work by the presence or operation of machinery, flow of electricity, steam, gas, compressed air, liquids or any other form of energy, you are required to take preventative action.

You must isolate the potential danger; prevent others from operating the source by locking out the isolator, tag the switch or isolating device, and test to ensure it is safe for you to proceed.

4.7.2. Danger Tags

Danger tags must be securely attached to the isolator/control switch or device so there is no risk of becoming dislodged. They must be clearly visible to ensure inadvertent restoration of power does not occur.

Danger Tag rules:

- A Danger Tag is to be affixed by each person working on the equipment.
- Each Danger Tag must bear the employer's name, and an employee's printed name, as well as that employee's signature and date.
- Each person is responsible for placing their own Danger Tag prior to commencing work, and removal of their Tag when work is completed.
- Danger Tags must be in good condition before use.
- Whilst Danger Tags can only be removed by the person who signed and affixed the tag, in exceptional circumstances such as sickness or inability.

5. Clothing and Personal Protective Equipment (PPE)

All Subcontractors and employees must have PPE in accordance with the task being carried out. PPE is required at every workplace.

The Health and Safety Manager and Construction Manager will ensure that the subcontractors are aware of PPE required for each task and sub-contractors comply with as indicated in table 6.0.

Table 6.0: PPE Guideline

PPE	Description
Clothing	All clothing should be purpose designed (example reflect vest for high visibility).
Safety footwear	Safety footwear is to be worn or closed shoes may be permitted in some workplaces. Sandals and thongs are not permitted.
Safety Hard Hat	Safety hard hats are a requirement on all construction sites and must be worn where applicable.
Safety gloves	Safety gloves of appropriate protective material are to be worn when handling armored cables, sharp or hot materials, chemicals or dangerous liquids.
Ear muffs	Ear muffs or ear plugs must be used where there is loud or high frequency noise.
Safety Glasses	Safety Glasses are required to be worn for particular jobs, and in addition to eye protection, face protection is also required in jobs involving high speed abrasive cutting.

6. Risk Assessment and Hazard Management

6.1. Risk Assessment

The Construction Manager is to ensure that all subcontractors or personnel follow safe work

practices for all work conducted on SIEA premises or on behalf of the SIEA.
Any medium to high risk, non-routine tasks are to have a job safety assessment (JSA) (appendix 5) completed prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions.

Similarly any medium to high risk, routine tasks are to have a safe work method statement (SWMS) available prior to conducting the work and relevant personnel instructed in the necessary safe work practices and any special precautions. The SWMS will be developed once a task is identified after JSA.

The SIEA JSA & Risk Assessment form OHSC11 Appendix 5 can be used for this exercise.

6.2. Site Specific Risk

Table 6.1: Risk & Mitigation

Possible Risk	**General Action**
Heavy Lifting	As per Manual Handling
Welding (Hot Works)	Trained or qualified welders. Permit from SIEA for hot works
Power Tools and Electrical Leads	Test tag, Good Housekeeping, Keep out of wet places /water
Machinery , Vehicle and Cranes	Trained Operators, appropriate qualification and licenses.
Noise and Dust	PPE.
Climbing / Working at height	Ladders, Scaffold, handrails, rope of area, caution/danger tape. Harness and safety barriers.
Trip / Fall	Barricade excavated areas.
Fire	Remove combustible , firefighting equipment such fire extinguisher
Visitors and Vehicle traffic	Security plan and Signage.
Trench Working	Confined Space Permit from SIEA.
Heat Exhaustion	Shade tents, plan work in cool conditions, Substitution with Machine, controlled work time in heat area.

7. Hazardous Material

7.1. General

The contractor shall ensure that risk assessments have been undertaken by a competent person for all products intended for use during the works or materials evolved during the work and that written procedures for the handling, application, storage and disposal of hazardous products have

been prepared.
The Project Manager must be informed in writing of all substances intended for use on site which are classified as toxic, very toxic, corrosive, flammable, highly flammable or explosive.

7.2. Asbestos

On discovering any asbestos the contractor shall immediately notify the Project Supervisor. NO ATTEMPT SHALL BE MADE TO REMOVE THE ASBESTOS. It shall be left undisturbed until further instructions are given by the Project Supervisor. In addition, notices warning others of the presence of the asbestos should be posted.

Managing asbestos at construction sites requires strict adherence to safety protocols to protect workers and the environment. First, conduct a thorough asbestos survey before any work begins to identify its presence. If asbestos is found, the plan will include proper containment, removal, by certified asbestos professionals. Use personal protective equipment (PPE), such as respirators and protective clothing, and establish controlled zones to prevent contamination. Proper disposal of asbestos-containing materials is crucial, following local regulations for hazardous waste. Regular training and monitoring ensure ongoing safety compliance during construction activities.

7.3. Design and Planning

Where hazardous substances have been specified the contractor must evaluate to see if:

7.3.1. They are strictly necessary for the process.

7.3.2. They can be substituted for a safer alternative substance.

7.3.3. An alternative method or process can be used to eliminate or reduce the hazard.

7.3.4. If it is not possible to adequately eliminate or control exposure to a hazardous substance then the contractor will need to ensure that suitable and sufficient personal protective equipment is provided to all affected employees and that they are adequately instructed on how, why and when it is to be used. The potential effects to other persons must also be considered by the contractor.

7.4. Hazardous Material Assessments

7.4.1. A material assessment shall be carried out for every substance brought onto site, copies of assessment and material data sheets shall be readily available for the Project Supervisor to examine. A suitable and sufficient risk assessment should be made.

7.4.2. When necessary, an operating procedure shall be produced for the safe handling, storage and use of a particular substance. A copy shall be given to the Project Supervisor.

7.4.3. All personnel shall be informed of any potential health hazards associated with any substance they may use or handle. The contractor shall ensure that correct use is made of the appropriate safety equipment provided by him.

7.4.4. All personnel shall have sight of the assessment which shall be available in the event of an incident that requires first aid medical treatment or firefighting.

8. Community Effects.

The contractor’s materials risk assessment, selection procedure and exposure control measures must adequately consider the possible effects of products such as fumes, sprays or dust etc. both on and off the site. Examples would be the use of solvent based paints and adhesives.

9. Handling.

9.1. After handling hazardous substances personnel shall wash their hands prior to eating, drinking and smoking.

9.2. Personnel shall not eat, drink or smoke in the proximity of stored hazardous substances.

10. Explosives.

The bringing of explosives onto the site is strictly forbidden.

11. Incident or Injury Treatment/ Reporting

11.1. First Aid Kit Station

The Contractor/Subcontractor must ensure that First Aid Kit is available at site as required or permitted by SIEA. First Aid Kit Content - Appendix 7

The contractor must ensure that subcontractors have personnel who are first aid trainers and have a current First Aid Certificate. First Aid stations should be clearly marked and regularly checked by the contractor/subcontractor. The above first aid facilities are to be made available to all persons working on or visiting the site.

The contractor shall verbally report all incidents to the SIEA Project Supervisor immediately and not later than one hour of the incident occurring. The incident investigation form (Appendix 8 – SIEA Incident Report Form) must be completed and handed in to the SIEA Project Supervisor within 24 hours.

All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions within 5 working days. The contractor shall give a copy of all reports to SIEA.

Hazard Reporting

Any identified hazards that cannot be immediately resolved, must be reported to the SIEA's Project Supervisor as soon as possible. If the task or area is unsafe, cease work until the safety issue is resolved.

11.2. Treatment Facility

11.2.1. Hospital or Medical Centre

Nearest medical treatment facility is Tingoa Area Health Centre.

Figure 8.0: Tingoa Area Health Area

The health complex will soon be equipped with modern medical equipment to provide new and improved services including general outpatient, X-Ray, dental, laboratory, maternal and post-natal, adolescence health and non-communicable diseases programs.

12. Workplace Inspections

Inspection programs undertaken by Contractors and also by SIEA officers are a key element in monitoring the health and safety standards of the Contractor's operations.

A General Health and Safety Checklist - Form OHSC06 (Appendix 10 – General Health & Safety Checklist) may be used for inspections. The checklist is designed to consider a broad range of general health and safety issues in the workplace. Where appropriate, the checklist can be modified based on specific safety aspects associated with the contract. Frequency of inspection is to be determined on the basis of practicability.

12.1. Who Should Carry out Inspections?

The Contractor as an employer has a duty of care to provide and maintain a safe workplace and consequently has an important responsibility to conduct workplace inspections on a regular basis. The Contractor should then make available copies of health and safety inspection reports for review when requested by the SIEA Project Supervisor.
SIEA also has a responsibility to monitor health and safety aspects of Contractor Operations. The Project Supervisor should check that the Contractor has adequately fulfilled its health and safety obligations, as far as they can reasonably establish.

12.2. Non Conformance Reporting

The attached non-conformance report Form OHSC032 – SIEA Contractor OHS Non-Conformance Report (Appendix 10) shall be completed where areas of non-conformance are identified as a result of Contractor operations.

The report should be issued following consultation with the Contractor H&S Manager and an agreed timeframe should be documented on this report for rectification purposes.

The report should be signed by the SIEA officer and Contractor H&S manager and actioned within the agreed time frame. Where the Contractor does not rectify the issues within the agreed time

frame a second Non-conformance report may be issued or SIEA may consider suspension or termination of the contract if the issues are of sufficient significance.

13. Monthly OHS Reporting

The Contractor is required to fill in the details of the Form OHSC33 – SIEA Contractor Monthly OHS Performance Report, (Appendix 12) on a monthly basis. It is the H&S Manager's responsibility to ensure this is reported.

14. Contract Records

Effective contract management involves adoption of a systematic approach to record keeping during the period of the contract. Relevant health and safety records retained by The Contractor to provide documentary evidence of SIEA's due diligence in relation to the health and safety of Contractors.
These records will be particularly important in situations where the Contractor is in breach of health and safety requirements or a significant incident or accident occurs from activities performed by the Contractor.
Relevant health and safety records that should be retained by The Contractor should include:

- Risk Assessment.
- Health and Safety Plan.
- Contract Documents.
- Health and Safety Inspection Reports.
- Minutes of Safety meetings and site meetings.
- Incident investigation reports.
- Monthly OHS performance reports.
- Non-conformance reports.
- Photographs and test results.
- Site instructions and diary notes.

For the duration of each contract, relevant health and safety documents should be consolidated and retained in the contract file. These are important documents that may be required even some time after the contract has been completed.

15. Emergency Phone Numbers

Location	Fire	Police	Search & rescue	Ambulance	National Disaster	Weather
Tingoa	40999	999	21609	111	27936	40412

APPENDIX 1: SOLOMON POWER HEALTH AND SAFETY POLICY

HEALTH AND SAFETY POLICY

SIEA trading as Solomon Power is committed to ensure in so far as in reasonably practicable the health, safety of its employees, contractors, customers and members of the public.

To support this commitment, Solomon Power will:

- Continually reinforce that working safely is a mandatory condition of employment for all employees and contractors.
- Ensure that management and employees are committed to an effective health and safety management system within the organization.
- Ensure all levels of the management demonstrate commitment to and are accountable for community and workplace health and safety.
- Comply with the Safety at Work Act 1982, relevant legislation, regulations, codes of practice, and standards.
- Establish and measure occupational health and safety programs aimed at eliminating work-related injury and illness.
- Integrate community and workplace health and safety requirements into all relevant business processes and decisions.
- Involve and consult with employees whenever necessary in matters related to health and safety to ensure commitment and understanding at all levels in the business.
- Ensure that safe working practices are implemented and employees adhere to Solomon Power procedures, policies and health and safety instructions.
- Ensure all employees and contractors have the information, training and equipment required to competently and safely perform their work.
- Provide proactive health management programs to assist employees to self-manage their health and maintain their fitness for work.
- Allocate adequate resources to fulfill the aims of the policy.

This policy is a revised version of the initially approved policy by the board at its September 2014 meeting and has the full support of the Solomon Power Management Team.

SIEA Board Chairman
David K. C. Quan

Chief Executive Officer
Donald Kiriau

31st December 2021

ALWAYS SAFE

APPENDIX 2: General Work Permit

CONTRACTOR GENERAL WORK PERMIT					
PROJECT NO.		PERMIT NO			
(A) WORK TO BE UNDERTAKEN					
(B) PERMIT DETAILS		(F) NAMES OF PERSONS INVOLVED			
Location		EMPLOYEE NAME	SIEA INDUCTED	SITE INDUCTED	COMMENT
Permit Duration		1			
Start Date/Time		2			
End Date/Time		3			
THIS PERMIT IS ONLY VALID FOR THE TIME SPECIFIED		4			
		5			
(C) NAMES OF PERSONS SUPERVISING WORK		6			
Responsible Person		7			
Standby Person		8			
Note: It is the responsibility of the Responsible person to ensure that the personnel involved in carrying out the work fully understands the detail and requirements of work under this permit.		9			
		Note: Complete extra names on another sheet of paper where required using above format and attach to this permit.			
(D) STATEMENT BY RESPONSIBLE PERSON		(G) PRECAUTION AND PROTECTION			
I hereby acknowledge receipt of this permit and state that I fully understand my duties. I am aware of the nature and position of the work area and plant covered by this permit. I am satisfied that I and the persons under my control to work under this permit should have no difficulty in keeping clear of unsafe plant in the course of the work.		REQUIREMENTS		REQUIRED	N/A
		Full time supervision			
		Standby Person			
		Safety Harness			

				Head Protection		
				Eye Protection		
				Ear Protection		
				Hand Protection		
SIGNATURE	DATE	TIME		Feet Protection		
				Body Protection		
				Reflector Vests		
(E) SIEA ISSUING AUTHORITY				Persons entering the worksite have been instructed to take all of the above precautions.		
TITLE	SIGNATURE	DATE	TIME	COMMENTS:		
Property Manager						
Chief Engineer				**(H) REFERENCES:**		
				1. Work Methodology		
(I) CANCELLATION OF PERMIT BY RESPONSIBLE PERSON				2. Check Sheets		
				3. Drawings		
The work under this permit is now complete and the work area has been vacated.				4. JSA		
				5		
SIGNATURE	DATE	TIME		6		
				7		

APPENDIX 3: ON SITE CONTRACTOR INDUCTION FORM
HEALTH AND SAFETY MANAGER

Site:	Contract Number (If Applicable):	
Purpose of Visit:		
Entry authorized by:	Sign:	Date:

1. SUBCONTRACTOR CHECKLIST (*to be filled by Subcontractor with HSM)*

Name (print) of Subcontractor:	
Have you completed the Principal Site Induction Process? Yes ☐ No ☐ N/A ☐	
Are you aware of SIEA OHS Policy and your	Have you submitted a Workplace Health & Safety Policy? Yes ☐ No ☐
Obligations under the OHS Act? Yes ☐ No ☐	
Who is responsible for the specific OHS aspects of the contract work?	Have you carried out a Risk assessment and prepared Work Method Statements for the individual tasks to be Undertaken? Yes ☐ No ☐
Name: Contact No:	
IS PPE Required for your work? Yes ☐ No ☐	Do you require a Permit to Work? Yes ☐ No ☐
Note: All personnel must wear required PPE	Type of Permit: General/Confined Space/Hot Work/Electrical
Details of PPE Required:	
What are the Emergency phone contact numbers?	Contact Details if there is Personal Injury:
	Local SIEA Contact number:
	Construction Manager number:
	Construction Manager number:
Hazards should be reported to?	
Other?	
Name any Hazards or special precautions required associated with the work you are carrying out:	
1	
2	
3	
Special Conditions :	
1	

2. SITE BRIEFING

Name Hazardous areas indicated to you on the site tour:		
1		
2		
3		
Where is the Site Evacuation Muster Point?		
Where are the Fire Extinguishers located?		
Where is the First Aid Kit located?		
Security:		
All gates and control room access doors are to be locked when leaving the site. ONLY authorized persons are to be allowed entry.		
Name of Visitor/Contractor:	Sign:	Date:
Name of Inductor:	Sign:	Date:
Site Brief Conducted by:	Sign:	Date:

3. HAZARD IDENTIFICATION

1. Electricity	☐	10. Noise	
a. Overhead High Voltage	☐	a. Machinery	☐
b. LV Services	☐	b. Exhaust c.	☐
c. DC control circuits	☐		☐
d. Battery's	☐		☐
e. Transformers	☐		☐
f. UG cables		11. Surfaces	☐
		a. Wet and Slippery	
		b. Hot c.	
2. Rotating equipment		12. Tools & Equipment	
a. Generator	☐	a. High torque's	☐
b. Radiator Fans	☐	b. Welding	☐
c. Transfer pumps	☐	c. Grinding	☐
d. Ventilation fans	☐	d. Cutting	☐
e. Machine tools	☐	e. Test Equipment	☐
3. Dangerous Goods		13. Excavation (digging)	
a. Diesel Fuel	☐	a. Buried cables, fuel lines	☐
b. Liquid Petroleum Gas (LPG)	☐	b. Telecom, Sewer, Water	☐

c.	Lubricating Oil	☐		
d.	Contaminated Oil	☐		
4.	Chemical		14. Security	
a.	Engine coolant	☐	a. Fences	☐
b.	Battery Acid	☐	b. Gates	☐
c.	Detergents	☐	c. Access doors	☐
5.	Muscular Stress		15. Fire	
a.	Lifting and carrying	☐	a. Fuel storage	☐
b.	Maintenance Activity	☐	b. Accidental combustion	☐
c.	Drum handling	☐	c. Mechanical defect	☐
			d. Electrical defect	☐
			e. Availability of Extinguishers	☐
6.	Height		16. First Aid	
a.	Tank levels	☐	a. Availability of Kits	☐
b.	Attending radiators	☐	b. Misuse of Kits	☐
c.	Using ladders	☐	c. Qualified First Aid	☐
d.	Scaffolding	☐		
e.	Safety harnesses	☐		
7.	Insect & Animal bites		17. Site Evacuation Plan	
a.	Spiders	☐	a. Muster Point	☐
b.	Snakes	☐	b. Communications	☐
c.	Mosquitos	☐	18. Spills	☐
d.	Animals	☐	a. Fuel leaks	☐
			b. Oil leaks	
8.	Hot surfaces		19. Material Data Safety Sheets (MSDS)	
a.	Exhausts	☐	a. LPG & Diesel	☐
b.	Engines	☐	b. Industrial cleaning product	☐
c.	Radiator pipes d.	☐	c. Lubricating Oil	☐
9.	Weather		d. Acids	☐
a.	Sun burn	☐	e. Additives	☐
b.	Fatigue	☐	20. Reporting of Hazards	☐
c.	Dehydration	☐	21. Drugs and Alcohol	☐
		☐	22. Confined Spaces	☐

APPENDIX 4: EMPLOYEE AND VISITOR ACCESS REGISTER

EMPLOYEE ACCESS REGISTER
SITE NAME: **DATE:** _____

Name	Designation	Time In	Time Out	Signature

VISITOR ACCESS REGISTER
SITE NAME: **DATE:** _____

Name	Company	Reason for Visit	Time In	Time Out	Signature

APPENDIX 5: JOB SAFETY ANALYSIS (JSA) & RISK ASSESSMENT TEMPLATE

Job:				Contractor:				
JSA Conducted by:				Signature:				Date:
Assessed by (SIEA Rep):				Signature:				Date:
Applicable Procedures/Standards/Permit:								
Training/License or Qualifications Required:								
Item/ Job Step.	Break the task down to logical steps (What can cause a risk?)		List the Hazards (What potential hazards have been identified or what can go wrong)	Initial Risk Score	Control Measures (What can we do to eliminate or reduce the risk)	Who is Responsible	When	Final Risk Score
1	Accidental engine start up		Entanglement with the engine and rotating parts.	A2	Engine isolation, lock out, tag out.	Person carrying out task. Power Station Operator.		A3
2								
Assessment/ Review Date	1st		2nd		3rd		4th	
Assessor's Name								

APPENDIX 4: JOB SAFETY ANALYSIS (JSA) & RISK ASSESSMENT TEMPLATE

How to Assess the Risk?

Step 1 – Consider the Consequences

What are the consequences of this incident occurring? What could have reasonably happened as well as what actually happened? Look at the descriptions and choose the most suitable Consequences.

CONSEQUENCES

Consequence	Description
Major	Death or extensive injuries
Moderate	Medical injuries
Minor	First Aid injuries

Step 2- Consider the Likelihood

What is the likelihood of the consequence in step 1 happening? Consider this without new or interim controls in place. Look at the descriptions and choose the most suitable likelihood.

LIKELIHOOD

Likelihood	Description
1	This event is likely to happen in most circumstances
2	This event could occur at some time
3	This event could occur but only rarely

Step 3 – Rate the Risk

1. Take Step 1 rating and select the correct column.
2. Take Step 2 rating and select the correct row.
3. Circle the risk score where the two ratings cross on the matrix below.

Severity Score:
A – Immediate Action
B – Address ASAP
C – Does not need immediate attention

Likelihood	Consequences: Major	Moderate	Minor
1	A	A	B
2	A	B	C
3	B	C	C

How to Use this Form

1. Identify a task
2. Identify any applicable procedure/standard/permit for the task
3. Identify any training/license/qualification required for the task
4. List down the basic job steps in logical sequence
5. For every job step, list the required tools/equipment
6. Identify all possible hazards for each job step. This is best done in consultation with the teams
7. Rate the level of risk for each hazard identified
8. Develop an economical and practical control, using the Hierarchy of Controls as a guide
9. Allocate the implementation of the control to a person giving a timeline for completion
10. Attempt to fill in all areas of the form.

Risk Control

Risk Control is a method of managing the risk with the primary emphasis on controlling the hazards at source. For a risk assessed at A, steps should be taken immediately to minimize the risk of injury. The method of ensuring that risks are controlled effectively is by using the "hierarchy of controls". The Hierarchy of Controls are:

Order No.	Control	Example
Firstly	Eliminate	Removing the hazard, e.g. taking the hazardous equipment out of service.
Secondly	Substitute	Replace ladder with an elevating work platform when working at height.
Thirdly	Isolation	Isolating the hazard from the person at risk, e.g. using a guard or barrier.
Fourthly	Engineering	Redesign a process or equipment to make it less hazardous.
Fifthly	Administrative	Adopting safe work practices, or providing appropriate training, instruction or information.
Sixthly	Personal Protective Equipment (PPE)	The use of PPE could include, gloves, glasses, ear muffs, apron, safety footwear, dust masks etc.

APPENDIX 6: HOT WORK PERMIT

This **Hot Work Permit** is required for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Cutting, Grinding, Soldering, Torching and Welding.

BEFORE INITIATING HOT WORK CAN THIS JOB BE AVOIDED? IS

INSTRUCTIONS	HOT WORK PERMIT NUMBER:
	PRECAUTIONS CHECKLIST
1. SUPERVISOR Verify precautions listed at right (or do not proceed with the work) Complete and retain Part 1 Issue Part 2 to person doing the job	□ Availability sprinklers, hose streams and extinguishers are in serviceable and good condition. Hot Work equipment in good repair
HOT WORK BEING DONE BY	□ Requirements within 10m of work
□ EMPLOYEE □ CONTRACTOR	Flammable liquids, dust, lint and oily deposits removed.
DATE / JOB NUMBER	□ Explosive atmosphere in area eliminated
	Floors swept clean □
LOCATION	Combustible floors wet down, covered with damp sand or fire-resistive sheets □
NATURE OF WORK	Remove other combustibles where possible. Otherwise protect with fire resistive sheets or □ Shields
NAME OF PERSON DOING HOT WORK	All wall and floor openings covered □
I verify the above location has been examined, the precautions have been checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.	Fire resistive tarpaulins suspended beneath work □
SIGNED (Operations Supervisor)	Work on Walls, Ceilings or roofs Construction is non-combustible and without combustible covering or insulation. □
PERMIT EXPIRES / DATE / TIME	Combustibles on other side of walls, ceilings or roofs are moved Away. □
Other Precautions Taken	Work on enclosed equipment Enclosed equipment cleaned of all Combustibles □
	Containers purged of flammable

□ ……...……	□ liquids/vapors
.	Pressurized vessels, piping and equipment removed from service, □ isolated and vented.
□ ……..	Fire watch/Hot work area monitoring
	□ Fire watch will be provided during and for 60 minutes after work, □ including any tea or lunch □ breaks
	Fire watch is supplied with suitable extinguishers Fire watch is trained in use □ of equipment and sounding alarm
□	Monitor Hot work area for 4 hours after job is completed
…….	□
□	
…….,	

APPENDIX 7: FIRST AID KIT CONTENT

	RC Code	Description	Unit	QTY	QTY Used
1	35411	Empty Kit Container	Each	1	
2	35415	NZ Red Cross First Aid Sticker	Each	1	
3	35392	NZ Red Cross First Aid Hints Chart	Each	1	
4	35112	Hepatitis B Sticker	Each	1	
5	3331	Face Shield Resuscitation Aid	Each	2	
6	2824	Wound Dressing # 14	Each	2	
7	2750	Disposable Triangular Bandage	Each	2	
8	8417	Lite Crepe Bandage 5cm x 1.5cm	Each	1	
9	8418	Lite Crepe Bandage 7.5cm x 1.5cm	Each	2	
10	2256	Conforming Bandage 5cm	Each	1	
11	2257	Conforming Bandage 7.5cm	Each	1	
12	7122	USL Paper Tape 25mm	Roll	1	
13	1289	Omniplast Tape 12mm	Each	1	
14	4335	Safety Pins 39 mm	12,s	1	
15	35304	Skin Closure Strips 3mm x 7.6mm	Pack 5	1	
16	35309	First Aid Disposable Gloves	Pair	4	
17	9085	Sterile Combine Dressing 10 x 10cm	Each	6	
18	9087	Sterile Combine Dressing 10 x 20cm	Each	4	
19	7307	Water Resistant Assorted Plasters	Pack 40	1	
20	8984	Textile Finger Tip Plasters	Pack 16	1	
21	7302	Assorted Kid Strip Plasters	Pack 20	1	
22	1279	Fabric Dressing Strip 8cm x 1m	Each	1	
23	9083	Gauze Swabs 7.5cm x 7.5cm, 2’s	Each	4	
24	35384	Non Adherent Pad 7.5cm x 5cm	Each	10	
25	35322	Non Adherent Pad 10cm x 7.5cm	Each	10	
26	3521	Splinter Probe	Strip 5	2	
27	23888	Sod Chl. 9% Inj Amp 20mls	Tube	10	

28	3523	Wound Cleansing Wipes	Each	10	
29	35342	Island Dressing Sterile 10 x 6cm	Each	5	
30	35343	Island Dressing Sterile 7.2 x 5cm	Each	10	
31	1009	Bandage Scissors 19cm Angled	Each	1	
32	800110	Sharp/Blunt Scissors 13cm	Each	1	
33	2730	First Aid Forceps	Each	1	
34	5171	Survival Blanket 185 x 130cm	Each	1	
35	35403	Burnshield Cream 3.5ml	Sachet	3	
36	35113	Betadine Swab Aid	Each	6	
37	35329	Eye-Pad Sterile	Each	4	
38	3796	Instant Cold Pack	Each	2	
39	35419	NZRC First Aid Book	Each	1	

Note:

- The first aid kit should not contain any prescription drugs.
- Be sure that the first aid kit is stocked up to the above quantity.
- Boxes should be inspected once a week by the First Aid Station Officer and replenished as necessary by giving your requirements to the Safety Officer.
- A record is to be kept indicating the quantity consumed on the First Aid Record Sheet.

APPENDIX 8: INCIDENT REPORT FORM								
INCIDENT REPORT FORM								
Details of Injured Person								
Name:							Date:	
Position Title:				DOB:			Age:	
Department:				Work Location:				
Employment Period	Years	Months	**Work Arrangement**	Full Time	Casual	Other		
Details of Incident								
Date Incident Occurred:			Time of Incident:		Date Incident Reported:			
Incident Outcome	Near Miss	Injury	Illness	Fatality	Property Damage			
Injury Category	Lost Time Injury		Medical Treatment	First Aid				
Body Part Affected			Cause of Injury					
Describe What Happened and How:								
What acts or conditions contributed directly to the incident:								
What personal and job factors contributed to the incident:								

APPENDIX 7: SIEA INCIDENT REPORT FORM

Risk Assessment

Step 1 – Consider the Consequences

What are the consequences of this incident occurring? What could have reasonably happened as well as what actually happened? Look at the descriptions and choose the most suitable Consequences.

CONSEQUENCES

Step 2- Consider the Likelihood

What is the likelihood of the consequence in step 1 happening? Consider this without new or interim controls in place. Look at the descriptions and choose the most suitable likelihood.

LIKELIHOOD

Step 3 – Rate the Risk

4. Take Step 1 rating and select the correct column.
5. Take Step 2 rating and select the correct row.
6. Circle the risk score where the two ratings cross on the matrix below.

Severity Score:

A – Immediate Action
B – Address ASAP
C – Does not need immediate attention

Consequence	Description	Likelihood	Description
Major	Death or extensive injuries	1	This event is likely to happen in most circumstances
Moderate	Medical injuries	2	This event could occur at some time
Minor	First Aid injuries	3	This event could occur but only rarely

Likelihood	Consequences: Major	Mod	Minor
1	A	A	B
2	A	B	C
3	B	C	C

Severity Score:	A – Immediate Action	B – Address ASAP	C – Does not need Immediate Attention

Temporary Fix: What immediate corrective action has been taken to prevent recurrence?

Action	By Whom	By When	Date Completed

Permanent Fix: What immediate corrective action has been or will be taken to eliminate basic causes?

Action	By Whom	By When	Date Completed

APPENDIX 9: CONFINED SPACE ENTRY PERMIT

SIEA PERMIT FOR CONFINED SPACE ENTRY

Permit No:

(A) GENERAL AND PERSONNEL

WORK TO BE UNDERTAKEN:

Permit Details	Names of Persons Entering Confined Spaces		
Location:	Employee Contractor Name	Time In	Time Out
Permit Duration:			
Entry Date:			
Entry Time:			
Names of Persons Supervising Confined Space			
Responsible Person:			
Authorized Person:			
Standby Person (if req'd):			

(B) ISOLATION & PREPERATION (Equipment isolated or made safe)		(C) PRECAUTION & PROTECTION (Requirements and Protection)	
		Supplied air respiratory device	
		Air purifying respiratory device	
Pipes & Valves	Electrical & Mechanical (list plant items)	Standby Person	
Water		Appropriate Fire Extinguisher	
Process		Harness and line	
Air		Head Protection	
Steam		Eye Protection	
Other		Hand Protection	
		Feet Protection	
(D) ATMOSPHERIC TESTING		Body Protection	

Date	Time	Gas Measured	Results	Safe	List Warning Notices to be Posted

					Persons entering have been instructed to take all the above precautions
Is Continuous Gas Monitoring required?					
					Authorised Persons Signature:
(E) WITHDRAWAL					(F) WORK COMPLETED/SUSPENDED
All persons and equipment assigned to the confined space					
have been withdrawn. Further entry will require a new permit.					The work requiring this permit is now complete and the confined space has been vacated.
Date	Time	Authorized Person's Signature	Date	Time	Authorized Person's Signature

APPENDIX 10: GENERAL SAFETY CHECKLIST

APPENDIX 10: GENERAL SAFETY CHECKLIST	
Contractor General Health & Safety Checklist	
Contract Name:	
Contract Description:	
Contractor:	
Worksite:	Date:
Person Completing Inspection:	
Indicate in the following manner:	
√ - Acceptable; x – Not Acceptable; N/A – Not applicable	
1. Health & Safety Systems	
1.1 OHS Policy displayed	
1.2 Incident Report Folder - Form Appendix 8	
1.3 Induction Records Folder -Form Appendix 3	
1.4 Workplace inspection reports Folder (Appendix 11 and 12)	
1.5 Emergency procedures	
1.6 Training Records	
1.7 Documented safe work procedures	
1.8 Material Safety Data Sheet (MSDS) available	
1.9 Health & Safety System Manual - Annex 2	
1.10 H& S Representative appointed	
1.11 Management Safety Representative appointed	
2. Housekeeping	
2.1 Work areas free from rubbish and obstruction	
2.2 Surfaces safe and suitable	
2.3 Free from slip/trip hazard	
2.4 Floor openings covered	
2.5 Stock/material stored safely	
3. Electrical	
3.1 No broken plugs, sockets, switches	
3.2 No frayed, defective leads	
3.3 Power tools in good condition	

3.4 No work exposed near live electrical equipment	
3.5 No strained leads	
3.6 No cable trip hazards	
3.7 Switches/Circuits defined	
3.8 Lock out/Tag out procedures in place- Electrical Safety	
3.9 Earth leakage system used	
3.10 Start/Stop switches clearly defined	
3.11 Switchboard secured and unobstructed	
3.12 Appropriate firefighting equipment	
4. Mobile Plant & Equipment	
4.1 Plant & Equipment in good condition	
4.2 Fault reporting/rectification system used	
4.3 Operators trained and licensed	
4.4 Warnings and instructions displayed	
4.5 Warning lights working	
4.6 Reversing alarm working	
4.7 Fire extinguisher	
4.8 Tyres satisfactory	
4.9 SWL of lifting equipment displayed	
4.10 Safe transportation system of mobile plant	
5. Machinery and Workbenches	
5.1 Adequate workspace	
5.2 Clean & tidy	
5.3 Free from excess oil and grease	
5.4 Adequately guarded	
5.5 Warnings or instructions displayed	
5.6 Emergency stop appropriately placed and clearly identifiable	
5.7 Operated safely and correctly	
Workbenches	
5.8 Clear of rubbish	
5.9 Tools in proper place	
6. Hazardous Substances	

6.1 Stored appropriately	
6.2 Containers labeled correctly	
6.3 Adequate ventilation/exhaust system	
6.4 Personal Protective Equipment/Clothing available/used	
6.5 Personal hygiene, - dermatitis control	
6.6 Waste disposal procedure	
6.7 Material Safety Data Sheet provided	
6.8 Appropriate emergency/first aid equipment – shower, eyebath, extinguishers	
6.91 Hazchem signs displayed.	
7. Welding	
7.1 Gas bottles secured to trolley	
7.2 Welding area well ventilated	
7.3 Fire extinguisher near work area	
7.4 Only flint gun used to light torch	
7.5 Flash back spark arrestor fitted	
7.6 Vision screens used for electric welding	
7.7 LPG bottles within 10 year stamp	
7.8 PPE provided and worn	
7.9 Hot work permit system used	
8. Excavations	
8.1 Shoring in place and in sound condition	
8.2 Excavation well secured	
8.3 Signage displayed	
8.4 Clear and safe access around excavation	
8.5 Separate access and egress point from excavation	
9. Prevention of falls	
9.1 All work platforms have secured handrails, guarding or panels	
9.2 Harness and lanyards or belts provided	
9.3 All floor penetrations, covered or barricaded	
9.4 Unsafe areas sign posted and fenced	
10. Stairs, Steps or Landing	
10.1 No worn or broken steps	

10.2 Handrails in good repair	
10.2 Clear of obstructions	
10.3 Adequate lighting	
10.4 Emergency lighting	
10.5 Non-slip treatment/treads in good condition	
10.6 Clear of debris and spills	
10.7 Used correctly	
11. Ladders	
11.1 Ladders in good condition	
11.2 Ladders not used to support planks for working platform	
11.3 Correct angle to structure – 1:4	
11.4 Extended 1m above top landing	
11.5 Straight or extension ladders secured at top	
11.6 Metal ladders not used near live electrical plant	
12. Personal Protection	
12.1 Employees provided with PPE	
12.2 PPE being worn by employees	
12.3 Correct signage at access points	
13. Manual Handling	
13.1 Mechanical aids provided and used	
13.2 Safe work procedures in place -(General Saferty rule 4.3)	
13.3 Manual handling risk assessment performed	
13.4 Manual handling controls implemented	
14. Workplace Ergonomics	
14.1 Workstation design and seating appropriate	
14.2 Ergonomic factors considered in work layout and task design	
14.3 Use of excessive force and repetitive movement minimised	
14.4 Appropriate training required	
15. Material Storage	
15.1 Cable storage	
15.2 Heights correct	
15.3 Sufficient space for moving stock	

15.4 Materials stored in racks/bins	
15.5 Shelves free of rubbish	
15.6 Floors around stacks and racks clear	
15.7 Drums checked	
15.8 Pallets in good condition	
15.9 Heavier items stored low	
15.10 No danger of falling object	
15.11 No sharp edges	
15.12 Safe means of accessing high shelves	
15.13 Racks clear of lights/sprinklers	
16. Confined Spaces	
16.1 Risk Assessment undertaken	
16.2 Communication and rescue place in action	
16.3 Safety equipment in good working condition	
16.4 Suitable training provided to employees	
16.5 Confined space entry permit used	
17. Lasers	
17.1 Operator has Laser Operator License	
17.2 Signage displayed	
17.3 Laser not used in a manner to endanger other persons	
18. Demolition	
18.1 Risk assessment undertaken in advance	
18.2 Access prevented to demolition area	
18.3 Overhead protection in place	
18.4 Protection of general public	
18.5 Safe work procedures	
19. Public Protection	
19.1 Appropriate fencing, barricading, boarding in place	
19.2 Signage in place	
19.3 Suitable lighting for public access	
19.4 Footpath clean and free off debris	
19.5 Dust and noise controls in place	
19.6 Site access controlled	

19.7 Traffic control procedures in place	
19.8 Public complaints actioned	
20. Amenities	
20.1 Washroom clean	
20.2 Toilet clean	
20.3 Lockers clean	
20.4 Meal rooms clean and tidy	
20.5 Rubbish bins available/covered	
21. First Aid	
21.1 Cabinets and contents clean and orderly	
21.2 Stock meet requirements	
21.3 First Aiders names displayed	
21.4 Qualified First Aiders	
21.5 Record of treatment and supplies dispensed	
22. Lighting	
22.1 Adequate and free from glare	
22.2 Lighting clean and efficient	
22.3 Windows clean	
22.4 No flickering or inoperable lights	
22.5 Emergency lighting system	
23. Fire Control	
23.1 Extinguishers in place	
23.2 Firefighting equipment serviced/tagged	
23.3 Appropriate signing of extinguishers	
23.4 Extinguishers appropriate for hazard	
23.5 Emergency exit signage	
23.6 Exit doors easily opened from outside	
23.7 Exit pathways clear of obstruction	
23.8 Alarm communication system adequate	
23.9 Smoking/Naked flame restriction notice observed	
23.10 Minimum quantities of flammable at work site	
23.11 Emergency personnel identified/trained	
23.12 Emergency procedures documented/issued	

23.13 Emergency telephone numbers displayed	
23.14 Alarms tested	
23.15 Trial evacuation conducted	
23.16 Personnel trained in use of fire equipment	

APPENDIX 11: NON CONFORMANCE REPORT

SIEA CONTRACTOR H&S NON CONFORMANCE REPORT	
Contractor:	SIEA Rep:
Contract Name:	Contract No:
Contractors Rep:	Telephone:
Telephone: Email:	Email:
Signature: Date	Signature: Date:

Details of Non Conformance	**Action required**	**Completion Date**	**Verification of Completion**

APPENDIX 12: CONTRACTOR MONTHLY REPORT

1. Contract Details

Contract Name:.....

Contractor: …….. Month:.....

Prepared By: …… Date:.....

2. Performance Indicators			
Indicator	Current Month	Cum. Total	Mthly Average
Number of lost time injuries			
Working days lost due to injury			
Number of personnel on return to work plans			
Number of first aid treatment injuries			
Number of medical treatment injuries			
Number of hazard inspections/reports conducted			
Number of safety meetings/forums conducted			
Number of inductions completed			

3. Incident DetailsF		
Date of Incident	Description	Days Lost

4. OHS Corrective Actions (e.g. e from hazard and incident reports or inspections)

Item No.	Description	Risk Level	Status	
			Open	Closed

5. Comments

Signed:_____ _____ _____

Contractor H&S Manager Date SIEA Rep

Annex 3.0: Security Plan

1. Purpose

The objective of the Plan is to provide a base for security measures to be implemented throughout the Project. Measures will be implemented by the contractor via subcontractor during the construction phase, and by both local and remote operations personnel during the operational phase. The indicated security measures are essential to guarantee the safety of all associated personnel, to prevent and minimize damage, theft and vandalism, and to prevent unauthorized access to the site

2. Application

The security plan is applicable to all 5 sites (Bina, Dala, Baolo, Visale and Tingoa PV plant sites).

3. Responsibility.

The contractor shall be responsible for the security of the site including providing and maintaining at its own expense all lighting, fencing and watching when and where necessary for the proper execution and protection of the facilities.

4. Security Measures During Project Construction

(a) Access Controls.

Access controls to the Site during the construction phase include fencing and gates with heavy padlocks resistant to corrosion. A chain link fence is recommended and three layers of barbed wire. A secure perimeter fencing will prevent ingress of unauthorized personnel, general populace and small animals such as dogs and cats. This would not only provide public safety during construction but long term safety measures for residents near the subproject site and public at large. There are no impacts associated with restrictions on local community access since there are no foot tracks or roads inside the acquired area.

(b) Electronic Security and Surveillance Facilities.

No electronic security or surveillance facilities are proposed to be put in place during the construction phase of the Project. All visitors to the site will be required to report to Security at the gate and check-in at the main construction operations office. A register will be maintained to keep record of visitors to the site. (Appendix 1).

(c) Security Lighting.

The majority of Project construction work will be conducted during daylight hours. In the event that lighting is needed for specific tasks, temporary manually operated lighting will be brought in and will only be utilized during active work periods. Solar Powered security lighting is proposed for the site during non-construction work hours especially once the construction materials are at the site.

5. Search Protocols

In order to prevent contraband from being brought into the work site, any person entering or exiting the site shall be subject to a security search for prohibited items. The security guards will be responsible for conducting the search for contraband materials which include, but are not limited to the following:

- Alcohol;
- Illegal substances;
- Weapons;
- Explosives; and
- Stolen tools and equipment.

6. Vehicles

All vehicles can be searched by security if required and vehicle registers can be maintained by security in addition to Visitor register (appendix 1). The security searches will be undertaken at access points for vehicles entering and departing the work site.

The Security Subcontractor will complete a random walk through work site on a regular basis.

APPENDIX 1: VISITOR ACCESS REGISTER

SITE NAME: DATE: _____

Name	Company	Reason for Visit	Time In	Time Out	Signature

Annex 4.0: Covid-19 Management & Prevention Plan

1. Introduction

COVID-19 is a respiratory illness caused by a new virus. Symptoms include fever, coughing, a sore throat and shortness of breath. The virus can spread from person to person. Currently there is no treatment for COVID-19. Currently community transmission has been brought under control by vaccination (86 doses per 100 people as of Oct 2023 (World Health Organization).

JV GSGESF will closely monitor the official updates from Solomon Island Government Ministry of Foreign Affairs and External and follow the advice instruction provided by the Solomon Islands Government.

In the event of confirmed cases in the Solomon Islands, the JV GSGESF team must follow the instructions and guidelines of the Solomon Islands Government and local authorities.

The following procedures must be followed in the event of confirmed cases to protect all workers.

2. Application

The Covid 19 Management & Prevention Plan is applicable to all 5 sites (Bina, Dala, Baolo, Visale and Tingoa PV plant sites).

3. Managing the risk of exposure to COVID-19

Physical distancing

- Limit physical interactions between workers, workers and clients, and workers and other persons at the site (e.g. deliveries).
- Maintain a 1.5meter distance or distancing measures put in place by the Solomon Island Government.
- Project Team sharing the same accommodation are not required to maintain a 1.5meter distance. But will be required to follow all other safety procedures listed in this plan.
- Split workers' shifts to reduce the number of workers onsite at any given time where possible.
- Create specific walkways using cones through the construction site to maintain physical separation.
- Stagger meal times to limit the number of workers congregating in one area.
- Conduct toolbox and other meetings in a wide space to enable worker to keep the required physical distance.
- Place signage about physical distancing around the work site, hygiene and PPE.
- Consider options for remote commissioning of the plant.

4. Environmental Cleaning

Environmental cleaning is one way of removing COVID-19 particles.

- Frequently touched items such as plants, equipment, doors etc. should be cleaned

regularly using appropriate detergent;
- Site amenities such as lunch areas, site offices, toilets should be cleaned frequently.
- Workers cleaning the site must wear gloves; and
- Supervisors will monitor the work sites.

5. Workers

- Workers must confirm they have not;
    - Experienced flu like symptoms;
    - Been in close contact with anyone demonstrating flu symptoms;
    - Been in close contact with anyone who has tested positive to COVID-19;
- Wash hand using soap and water for at least 20 seconds prior to starting and finishing work, (or anti-bacterial sanitizer) and before and after eating;
- Wash hands using soap and water for at least 20 seconds prior to starting and finishing work, (or anti-bacterial sanitizer) and before and after eating;
- Report any flu-like symptoms of workers to the Construction Manager;
- Workers must not come into work if they demonstrate any flu-like symptoms;
- Avoid touching your face, eyes and mouth;
- Avoid shaking hands or any other physical contact; and
- Refrain from spitting at all times.

6. Health checks and quarantine

- Workers demonstrating the flu-like system will be directed to the local hospital for testing.
- Workers will not be permitted to return to work until they are able to provide evidence, they have been cleared of the virus.
- Workers who have been in contact with anyone that has tested positive for COVID-19 must also get tested for the virus and self-quarantine as directed by a physician. The worker will not be permitted to project site until they have been cleared of the virus.

7. Surrounding Communities

In the event of COVID-19 all employees and contractors of JV GSGESF will be required to follow the procedures as outlined above in this document. The procedure sets out actions to prevent the spread of the disease to all workers, contractors and the community.

Restrictions will be placed onsite to restrict community members or any non-essential persons or services to access the site for the safety of workers and the community.

A sign will be placed around the site and at the front gate promoting awareness on health and hygiene to help prevent the spread.

Annex 5.0: Waste Management Plan

1. Introduction

The Solar Hybrid Farm Project is a mini-grid system to be constructed at 5 sites in the Solomon Islands, managed by a Contractor (JV GSGESF) under the Solomon Power (SP) World Bank funded Renewable Energy Project.

JVGSGE will be responsible for the Procurement and Construction of the Project, while SP will be responsible for the Operation and Maintenance contract.

1.1. Purpose and Scope

The purpose of this Waste Management Plan (WMP) is to provide guidance on waste management in relation to construction activities. The plan defines the excess materials likely to be generated and addresses how to reduce or avoid its production.

This WMP is one of a series of environmental and social management plans (ESMPs) that have been developed to address key environmental and social aspects of the Project. It regulates the generation of waste and management of point source pollution within the Project Site Area.

The scope of this WMP is limited to the management of waste generated by the construction activities and is applicable to all Project employees including subcontractors.

The Project Manager is ultimately responsible for the implementation of this WMP.

1.2. Application

This Waste Management Plan is application to all 5 sites (Bina, Dala, Baolo , Visale and Tingoa PV plant sites)**.**

1.3. Definitions

Contractor	The engineering, procurement and construction contractor is JVGSGE
Employer / Owner	Solomon Power, the Project Owner, which will take over operation of the solar hybrid farms once it is constructed.
Employee(s)	The Project Owner, Contractor and subcontractors working for the project.

Hazardous waste	Hazardous waste shares the properties of hazardous materials (e.g., ignitability, corrosivity, reactivity or toxicity), and other physical, chemical, or biological characteristics that may pose a potential risk to human health or the environment if improperly managed. Waste may also be defined as "hazardous" by local regulations or international conventions based on the origin of the waste and its inclusion on hazardous waste lists, or based on its characteristics (IFC General Environmental Health and Safety [EHS] Guidelines, 2007).
Non-hazardous waste	Non-hazardous waste generated at the Project site will consist of domestic trash and garbage, inert construction/demolition materials, and residual waste from construction operations that previously did not contain hazardous materials.
Point source pollution	Pollution generated by a single identifiable source, such as an oil spill, concrete wash water, suspended solids from earthworks, stack emissions from diesel generators and sanitary wastewater drainage.

1.4. Applicable Standards

This WMP has been developed following the National and International Standards. The framework refers to legislation and standards to which all relevant parties must adhere from the commencement of the Project through the completion of the construction works. The construction practices to be implemented during this project have been designed based on relevant regulations, guidelines and standards at the time of the PER and are needed to be reviewed annually during the construction phase, and if there is a change in any of the legislations listed below. The construction practices will be modified accordingly. The Applicable Standards for this WMP are as follows:

1.4.1. Applicable Legislation

- Solomon Islands Environmental Act 1998;
- Solomon Islands Environment Regulations 2008;
- Solomon Islands Provincial Government Act 1997;
- Solomon Islands Water Authority Act 1992 (SIWA);
- Solomon Islands Roads Act 1996;

International Guidelines, Standards and Treaties

- World Bank Performance Standard (PS) 3: Resource Efficiency and Pollution Prevention, 2012;
- World Bank Group Environmental, Health, and Safety (EHS) General Guidelines, 2007;
- World Bank Group EHS Guidelines for Waste Management, 2007;
- London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972);
- Noumea Convention, Protocol for the prevention of pollution of the South Pacific region by dumping, 1986; and
- Economic Development Cooperation Fund (EDCF) Safeguard Policy (2016)

Where both national and international standards are applicable, the Project will aim to apply the most stringent standard.

1.5. Description of position and Responsibilities

A description of the key position and their responsibilities are provided in Table 7.0.

Table 7.0: Key Roles and Responsibilities WMP.

Position	Responsibilities
Project Manager(PM)	Ensure that adequate resources are provided to successfully implement this WMP. Ensure that the team and subcontractors understand and fulfill their CESMP responsibilities for WMP. Ensure that the management plans are maintained and are fit for their purpose. Ensure that the mitigation activities are sufficiently resourced with competent and trained personnel to comply with the requirements of the waste management plans (WMP). Ensure that all supervisors and Project personnel understand and fulfill their responsibilities with regard to WMP. Maintain this WMP. Lead site inspections with the Construction Manager and ESM to plan and confirm the detailed design of WMP measures.

Construction Manager(CM)	Ensure that the Construction Team integrates waste management mitigation measures into their work. Oversee daily waste handling operations. Maintain waste management records. Ensure that all personnel involved in construction activities, including subcontractors and vendors, are adequately trained and informed on the requirements of the WMP. Audit subcontractor performance.
Environmental Social Manager(ESM)	Ensure environmental compliance related to waste management. Develop policies to reduce waste generation. Conduct environmental impact assessments. Liaise with regulatory bodies. Promote sustainability initiatives.
Health and Safety Manager (H&SM)	Identify and mitigate health and safety risks associated with waste management. Conduct training sessions on safe waste handling practices. Investigate incidents and accidents related to waste management. Ensure availability of PPE for waste handlers. Develop emergency response for waste management incidents.
EMPLOYER (SP)	Review WMP for compliance with the E&S Standards and Good International Industry Practice (GIIP). Ensure that Contractor (JV GSGESF) and their subcontractors comply with WMP.
Subcontractor	Follow waste segregation and disposal guidelines. Participate in waste reduction initiatives. Report any waste management issues or incidents. Attend training sessions on waste management practices. Contribute to culture of environmental responsibility.

2. Waste Identification and Classification

Waste generated during construction activities shall be identified, quantified and characterized, and waste management practices shall be selected for each waste category. A form to be used by each Waste Generator for recording waste produced on site (both Hazardous and Non-Hazardous waste). Please refer to the waste log form template (Appendix 2) for hazardous and non-hazardous waste.

2.1. Non-Hazardous Industrial Waste

These wastes include solid, liquid, semi liquid, liquid or contained gaseous material or wastes resulting from industrial and construction operations, sludge from wastewater treatment plant considered as non-hazardous. Main Non-Hazardous Industrial Waste expected to be generated in site during construction phase:

Domestic waste from site:

Concrete debris & building material
Wood
Steel and steel scrap
Aluminum sheets
All Types of plastic
Sewage water
Empty Steel drums if not contained any traces of hazardous materials
Electric cables and Wiring materials
Welding electrodes.
Grinding and cutting wheels
All types of packaging boxes
Insulation materials (mineral wool, polystyrene etc.)

2.2. Hazardous waste storage

Hazardous waste storage involves careful planning and management to ensure the safety of workers, the public, and the environment. Here are key considerations and practices:

2.2.1. Identification of Hazardous Waste

- Types of Hazardous Waste: Identify the types of hazardous waste generated at the solar farm. Common examples include lead-acid batteries, broken or obsolete solar panels, cleaning solvents, and oils.
- Classification: Classify hazardous waste based on regulatory criteria (e.g. flammable, corrosive, reactive, and toxic).

2.2.2. Storage Guidelines

- Designated Areas: Establish designated storage areas for hazardous waste, away from operational areas and with restricted access.

- Containment: Use appropriate containers that are labeled and in good condition. Containers should be compatible with the type of waste and should be sealed properly.
- Secondary Containment: Implement secondary containment systems (e.g., spill pallets, containment berms) to prevent leaks or spills from reaching the environment.

2.2.3. Safety Measures

- Personal Protective Equipment (PPE): Ensure that workers handling hazardous waste wear appropriate PPE.
- Training: Provide training for workers on hazardous waste management, emergency procedures, and spill response.
- Emergency Preparedness: Develop and maintain an emergency response plan, including spill containment and clean-up procedures.

2.2.4. Waste Minimization

- Recycling and Reuse: Promote recycling and reuse of materials whenever possible to reduce the volume of hazardous waste.
- Inventory Management: Maintain proper inventory of hazardous materials to avoid over-purchasing and waste generation.

2.2.5. Documentation and Record-Keeping

- Manifesting: Use hazardous waste manifests for tracking waste from generation to disposal.
- Record Maintenance: Keep records of waste generation, storage, and disposal activities for compliance and reporting purposes.

2.2.6. Disposal

- Dispose of hazardous waste which is only Solar panels (Table 7.1) to be stored in secure containers. Solomon Power is planning to develop a Waste Management Plan which will address the waste generated by the company.
- Transportation: Ensure that hazardous waste is transported with proper signage and marking (example class of dangerous goods)
- Regular Inspections: Conduct regular inspections of storage areas and containers to identify and address potential issues promptly.
- Environmental Monitoring (Annex 11): Implement environmental monitoring programs to detect any potential contamination early and take corrective actions.

By following these guidelines and best practices, a solar farm can manage hazardous waste effectively, ensuring compliance with regulations and protecting the environment.

3. Managing non-hazardous waste

Managing non- hazardous waste is crucial for maintaining environmental sustainability and operational efficiency. Here are key strategies and practices for effective non-hazardous waste management:

3.1. Waste Identification and Segregation- Appendix 1

- Types of Non-Hazardous Waste: Identify the types of non-hazardous waste generated, such as packaging materials (cardboard, plastics), scrap metals, wood pallets, broken or out-dated equipment, and organic waste (e.g., vegetation).
- Segregation: Implement a segregation system to separate non-hazardous waste from hazardous waste and recyclable materials. Use clearly labeled bins and designated areas for different types of waste.

3.2. Reduction Strategies

- Source Reduction: Minimize waste generation at the source through efficient use of materials and by purchasing in bulk to reduce packaging waste.
- Sustainable Procurement: Choose materials and products that have minimal environmental impact and are easier to recycle or dispose of.

3.3. Recycling and Reuse

- Recycling Programs: Establish comprehensive recycling programs for materials such as metals, plastics, glass, and paper. Partner with local recycling facilities to ensure proper processing.
- Reuse Opportunities: Identify opportunities to reuse materials and equipment within the solar farm or donate usable items to other organizations or communities.

3.4. Composting Organic Waste

- On-Site Composting: Set up on-site composting systems for organic waste like vegetation, which can be used to create nutrient-rich compost for landscaping or soil improvement.
- Community Programs: If on-site composting is not feasible, participate in community composting programs.

3.5. Storage and Handling

- Proper Storage: Store non-hazardous waste in designated areas with appropriate containers to prevent littering and contamination. Ensure these areas are regularly maintained and cleaned.
- Pest Control: Implement measures to control pests in waste storage areas, such as secure lids on bins and regular waste removal.

3.6. Employee Training and Engagement

- Training Programs: Provide training for employees on waste management practices, including waste segregation, recycling, and proper disposal methods.
- Incentives and Engagement: Encourage employee participation in waste reduction initiatives through incentives and regular communication about the benefits of effective waste management.

3.7. Documentation and Reporting

- Waste Tracking: Maintain records of waste generation, recycling, and disposal activities. Use this data to identify trends and areas for improvement.
- Reporting: Report waste management activities to regulatory bodies as required, and consider sharing progress with stakeholders and the community.

3.8. Community and Stakeholder Engagement

- Community Programs: Engage with the local community by supporting or participating in local waste reduction and recycling programs.

- Transparency: Communicate your waste management practices and achievements to stakeholders to build trust and demonstrate environmental responsibility.
- Periodic Audits: Conduct regular waste audits to assess the effectiveness of waste management practices and identify opportunities for improvement.
- Innovative Solutions: Explore innovative waste management technologies and practices, such as waste-to-energy systems or advanced recycling techniques.
- Sustainable Design: Incorporate sustainable design principles in the construction and maintenance of the solar farm to minimize waste generation from the outset.
- By implementing these strategies and best practices, a solar farm can effectively manage non-hazardous waste, contributing to environmental sustainability and operational efficiency.

4. Managing hazardous waste

Managing hazardous waste is crucial for ensuring the safety of workers, the public, and the environment. Here are key strategies and practices for managing hazardous waste effectively:

4.1. Identification and Classification
- Types of Hazardous Waste: Identify the types of hazardous waste generated at the solar farm. Common examples include lead-acid and lithium-ion batteries, damaged solar panels containing heavy metals, electrical equipment, and solvents.

4.2. Regulatory Compliance
- Solomon Islands regulations for hazardous waste management.

4.3. Safe Handling and Storage
- Designated Storage Areas: Establish secure and designated storage areas for hazardous waste, isolated from non-hazardous waste and operational areas.
- Proper Containment: Use appropriate, labeled containers that are compatible with the type of hazardous waste and ensure they are in good condition and sealed properly.
- Secondary Containment: Implement secondary containment systems, such as spill pallets and containment berms, to prevent leaks and spills from reaching the environment.

4.4. Employee Training and Safety Measures
- Personal Protective Equipment (PPE): Provide and enforce the use of appropriate PPE for workers handling hazardous waste.
- Training Programs: Conduct regular training for employees on hazardous waste handling procedures, emergency response, and spill containment.
- Emergency Preparedness: Develop and maintain an emergency response plan that includes procedures for spill containment, evacuation, and communication.

4.5. Waste Minimization
- Reduction Strategies: Implement strategies to reduce hazardous waste generation, such as using less hazardous materials and optimizing processes.

- Recycling and Reuse: Promote the recycling and reuse of hazardous materials, such as sending batteries to specialized recycling facilities.

4.6. Documentation and Record-Keeping

- Waste Manifests: Use hazardous waste manifests to track waste from generation to final disposal.(Appendix 4)
- Record Maintenance: Maintain detailed records of hazardous waste generation, storage, transportation, and disposal to ensure regulatory compliance and facilitate reporting.

4.7. Disposal and Transportation

- Dispose of hazardous waste which is only Solar panels (Table 7.1) to be disposed by recycling
- Transportation: Ensure that hazardous waste is transported with proper signage and marking (example class of dangerous goods)

4.8. Regular Inspections and Monitoring

- Routine Inspections: Conduct regular inspections of hazardous waste storage areas and containers to identify and address potential issues promptly.
- Environmental Monitoring (Annex 11): Implement environmental monitoring programs to detect any contamination early and take corrective actions.
- Continuous Improvement: Regularly review and update hazardous waste management practices to incorporate new technologies and methodologies that enhance safety and efficiency.
- Sustainability Goals: Set clear sustainability goals for reducing hazardous waste generation and improving management practices.
- Community Engagement: Engage with the local community to communicate about hazardous waste management practices and address any concerns transparently.

Effective hazardous waste management at solar farms involves stringent identification, safe handling, regulatory compliance, employee training, waste minimization, proper documentation, and responsible disposal practices. By adhering to these strategies, solar farms can mitigate risks associated with hazardous waste and contribute to a safer and more sustainable environment.
Hazardous and non-hazardous wastes generated by the Project will be segregated, collected and temporarily stored or disposed of in approved/permitted facilities. Table below shows the potential waste streams generated during the construction phase and the proposed method of disposal. The list will be revised throughout the Project as management of waste materials is improved through adaptive management.

Table 7.1: summarizing the waste streams and disposal methods at a solar farm:

Waste Stream	Type of Waste	Source	Disposal Method
Solar Panels	Hazardous	Damaged or end-of-life panels	At this stage, damaged panels will be stored in secure containers.

Packaging Materials	Non-Hazardous	Delivery of equipment and supplies	Recycling of cardboard, plastics, and wood.
General Office Waste	Non-Hazardous	Administrative activities	Disposed at designated area in the subproject sites approved by the local communities.
Organic Waste	Non-Hazardous	Landscaping and food waste	Composting onsite or offsite
Construction Debris	Non-Hazardous	Site construction and repairs	Recycling or storage depending on material type.

Key Points:

- **Hazardous Waste**: Includes solar panels. These require careful handling, storage, and disposal through consultation with relevant authorities (City Council, Provincial Government and Ministry of Environment) to prevent environmental contamination.
- **Non-Hazardous Waste**: Includes packaging materials, general office waste, organic waste, and construction debris. These can be managed through recycling, composting, or landfill disposal as appropriate.

By following these disposal methods, a solar farm can ensure proper waste management and compliance with environmental regulations.

5. Record Keeping

The Contractor (JVGSGE) and Subcontractors shall keep records of wastes generated, stored and disposed of, including nature, toxicity, date, quantity, etc. In particular, Environmental Social Manager (ESM) shall ensure that all necessary authorizations and waste transfer documentation are complete.

Reporting
The Environmental Social Manager (ESM) is responsible to maintain a monthly record for generated disposed of waste and every month the Environmental Social Manager (ESM) shall send monthly waste record to the Construction Manager (CM) with a Waste Report including description, quantity, conveyor, treatment method and name of disposal subcontractor.

6. Communication and Training

- The Contractor (JV GSGSFE) shall hold a meeting with Subcontractor's representatives to explain and describe the contents and requirements of these guidelines/instructions.
- Each Subcontractor representative, in turn, shall hold a meeting in order to inform and train his employees about the application of these guidelines/instructions and other environmental plans.
- After these meetings the minutes of the meeting shall be sent to the Environmental Social Manager (ESM), who will file and record it.

- All workers on site who will be involved in waste handling shall be provided with basic and/or specific information about most significant issues related to waste management.
- Safety awareness in the hazards with the improper handling, storage and transportation of hazardous and non-hazardous shall be given to all workers. Refresher training shall be given as required.

Training activities reports shall be recorded and filed by the Environmental Social Manager (ESM).

Table 7.2: outlining a comprehensive waste management and monitoring plan:

Waste Type	Management Strategy	Monitoring Activities	Responsible Personnel	Frequency
Solar Panels	Recycling or disposal at certified e-waste facilities	Inspect and document the condition of panels; track quantity and disposal records	Construction Manager (CM), Environmental Social Manager (ESM)	Quarterly
Packaging Materials	Recycling of cardboard, plastics, and wood	Ensure proper segregation and storage; track recycling pick-ups	Environmental Social Manager (ESM)	Weekly
Scrap Metals	Recycling through metal recycling facilities	Record quantities and destinations of recycled metals	Environmental Social Manager (ESM)	Monthly
General Office Waste	Recycling (paper, plastics) and landfill disposal	Regular waste audits, ensure segregation at source, track recycling efforts	Administrative Responsible (AR), Environmental Social Manager (ESM)	Weekly
Organic Waste	Composting onsite or offsite	Monitor composting process, record quantities, and usage of compost	Environmental Social Manager (ESM)	Weekly
Construction Debris	Recycling or landfill disposal depending on material type	Inspect construction sites, ensure proper segregation and disposal records	Construction Manager (CM), Environmental Social Manager (ESM)	Per Site

APPENDIX 1. Checklist for Waste Management Audit

Checklist Item	**Description**	**Status (Yes/No/ NA)**	**Comments / Action Required**	**Responsible Person**	**Due Date**
General Information					
Date of Audit					
Auditor's Name and Title					

Waste Identification and Classification					
Identify all waste types generated	Hazardous and non-hazardous				
Storage and Handling					
Designated storage areas and Hazardous waste storage	Clearly marked and labeled containers				
Segregation and Collection					
Proper segregation	Hazardous and non-hazardous waste				
Waste Reduction and Recycling					
Waste reduction and recycling practices	Reviewed and implemented				
Documentation and Record-Keeping					
Waste manifests and disposal records	Complete and accurate				
Transportation and Disposal					
Waste transport and disposal documentation	Complete and accurate				
Employee Training and Awareness					
Training on waste management procedures	Conducted and documented				
Emergency Preparedness					
Emergency response plan, Employee training on emergency response	Developed and reviewed				
Regulatory Compliance					
Regular audits and inspections	Conducted and documented				
Best Practices and Continuous Improvement					
Areas for improvement	Identified and documented				
Community and Environmental Impact					

APPENDIX 2. Waste Log Forms

WASTE LOG

(Non-Hazardous Waste)

Area : ----------

Waste Custodian

Tel. ----------

Contractor

Tel. No ----------

Origin of Waste : ----------

Name of Waste Stream	Qty. of Waste Unit (No. /Kg.)	Date Dispatched	Time Dispatched	Vehicle Number	Disposal Point	Remarks
Packaging Materials						
Scrap Metals						
General Office Waste						
Organic Waste						
Construction Debris						

Signature :

Name : ----------

Designation : ----------

WASTE LOG
(Hazardous Waste)

Area : ----------

Waste Custodian

Tel. ----------

Contractor

Tel. No ----------

Origin of Waste : ----------

Name of Waste Stream	Qty. of Waste Unit (No/Kg.)	Date Dispatched	Time Dispatched	Consignment Note No.	Vehicle No.	Disposal Point	Date of Waste Recd.	Remarks
Solar Panels								
Lubricants								

Signature :

Name : ----------

Designation : ----------

APPENDIX 4 Hazardous Waste Consignment Note

Waste Details

Location :_____	Name of waste stream :_____
Quantity of Waste : _____(Pieces) or _____(Tones)	

Waste Originator

Name :_____	Reference Indicator : _____
Date Dispatched : _____	Time Dispatched : _____
Name of Disposal Site :_____	Location :_____

Signature :_____

Waste Transporter

Name : _____	Company : _____
Vehicle Number : _____	Date :_____
Time Start : _____	Time Complete: _____
Signature : _____	

Waste Disposal Facility

Site Name : _____	Location : _____
Date Received : _____	Time Received : _____
Name of Guard : _____	Signature : _____

Distribution: Copy Originator Copy: Disposal Site Copy: Return to Originator

APPENDIX 5 Waste Management Plan

Person Responsible	Project Manager

REV.	DATE (dd/mm/yyyy)	DESCRIPTION	PREPARED	CHECKED	APPROVED
1					
2					
3					
4					

Revision Log

Rev.	Date (dd/mm/yyyy)	Revised Detail			
		Item	Page	Article	Description

Annex 6.0: Traffic Management Plan (TMP)

1. Introduction

A traffic management plan is developed as part of the CESMP to manage traffic during the construction phase of the 5 Hybrid Solar project.

JV GSGESF is responsible for developing and implementing a Site-Specific Traffic Management Plan (TMP) for all terrestrial traffic. The TMP is submitted to Solomon Power (SP) to provide the approach The Contractor will take to manage and minimize potential to impact communities through noise, dust, and road safety.

The purpose of this plan is to provide the project site with a consistent framework for assessing and controlling health and HSE risks associated with road transport activities.

2. Scope of Work

JV Gamma Solutions- Gamma Energy Sefraone (JV GSGESF) has been contracted by Solomon Island Electricity Authority (SIEA) trading as Solomon Power (SP) to design, procurement, construction and commissioning of Solar Hybrid mini plants in 5 key locations within Solomon Islands. The 5 key locations are Visale (Guadalcanal Province), Tingoa (Renbel Province), Bao'olo (Isabel Province) and Bina & Dala (Malaita Province).

The Solar Hybrid in 5 locations are sub projects under component 1 of the Solomon Islands Electricity Access and Renewal Energy Expansion Project (SIEAREEP). The SIEAREEP is a capital works financed by the World Bank (WB), Global Environment Facility (GEF), Strategic Climate Fund and Small Islands Development State Initiative Multi Donor Trust Fund (SIDS DOCK). The project development objective is to increase access to grid-supplied electricity and increase renewable energy generation in Solomon Islands.

Construction activities for the solar hybrid carried out by JV GSGESF will be restricted to creating a driveway onto the site, removal of vegetation from the site, installing foundations for the solar arrays, erection of a secure building to house storage batteries, a diesel generator for generation backup and other ancillary equipment, installing the solar arrays and controllers, and installing of security fencing.

3. Policy, Legal and Administrative Framework

This TMP is based on following legislation

Table 8.0: Legislation TMP

Legislation	Year	Objective

Road Transport (Amendment) Act Cap. 131[3]	2014	Act to provide for the regulation and safety of land transport and for related purpose in Solomon Islands
Environment Act	1998	An Act to make provision for the protection and conservation of the environment; the establishment of the environment and conservation division and the environment advisory committee and for matters connected therewith or incidental thereto. The objects of the act is to provide for and establish integrated systems of development control, environmental impact assessment and pollution control

4. Responsibility for Implementation of Plan

The Project Manager (PM) is responsible for the overall implementation of this plan. Specific responsibilities have been assigned to other personnel as described below. The Contractor (JVGSGE) and subcontractors will conduct their activities in line with the JVGSGE's Traffic Management Plan. The Project Manager(PM) and his team will put in place suitable arrangements to ensure that risk and disturbances are minimized to both pedestrians, other vehicle users, business and other sensitive environments by ensuring that:

- Only designated road routes indicated in this Plan are used for haulage for materials from the landing site to JVGSGE laydown site
- Speed limits of 30km/hr will be adhered to when passing through large communities and public places.
- Speed limit of 30km/hr will be adhered to during the times that school children commute to and from school (7am-8.30am and 1-2pm). The rest of the day and weekends will be subject to public transport speed limits.
- Communities will be informed on the usage of designated haulage routes.
- It uses appropriate signage and signals to alert people of the large loads it is carrying.
- Loads are properly secured during transportation.
- Vehicles are not overloaded.
- Only drivers that have the competency to drive and operate large haulage vehicles.
- Only drivers that are healthy and not under any influence of alcohol are permitted to drive.
- If required control movement of traffic especially when passing through narrow section of the road giving priority to pedestrian and public or private vehicles.

[3] Available at http://www.ird.gov.sb/Resource.aspx?ID=155

It is the responsibility of the Environmental Social Manager (ESM) and Construction Manager (CM) to enforce the Traffic Management Plan, rules and arrangements to control transportation on the project including subcontractors.

- Checks that the driver that the vehicle to be used is suitable;
- The driver has undertaken his daily checks and reported any defects;
- Maintain a statistical record of the total number of journeys, analysis of noncompliance events;
- Ensure that the driver knows and understands the actions to be taken in an emergency as per emergency response plan;
- Check that the load is properly secured.

The Contractor (JV GSGESF), including their subcontractors, is wholly responsible for ensuring that the rules and arrangements in place on the site are being followed and adhered to.

- Assign responsibility within their organization for the control of vehicles and pedestrians.
- Monitor and maintain the arrangements in place for controlling compliance with the TMP.

5. **Comprehensive Traffic Management Plan**
    - **Site layout:** Designate specific areas for construction activities, storage, and waste management to minimize traffic congestion and ensure efficient use of space.
    - **Site access control:** Establish a single point of entry/exit to control traffic flow and prevent unauthorized access.
    - **Temporary signage:** Install temporary signs indicating the site's location, warning of potential hazards, and directing traffic to the designated access point.
    - **Security measures:** Implement measures to secure the site, such as fencing, gates
    - **Traffic impact assessment:** Conduct an assessment to identify potential traffic impacts on local roads and communities, and develop strategies to mitigate these effects.
    - **Vehicle routing:** Plan vehicle routes to avoid congestion and minimize travel times, ensuring that all vehicles entering the site are aware of the route and any potential hazards.
    - **Traffic management personnel:** Employ personnel to manage traffic flow, direct vehicles, and monitor site access control.
    - **Speed limits:** Establish speed limits on site roads and ensure that all vehicles comply with these limits.
    - **Emergency response planning:** Develop an emergency response plan, including procedures for responding to accidents, medical emergencies, and other incidents.
- **Additional Considerations:**
    - **Community engagement:** Engage with local communities throughout the construction and operation phases to maintain transparency and address

any concerns.

- **Environmental considerations:** Implement measures to minimize environmental impacts during construction.
- **Health and safety:** Ensure that all personnel working on site are aware of health and safety protocols and procedures, and that all necessary safety measures are in place.

6. Common Road Safety Issues in Solomon Islands

Table 8.1: Common Road Safety Issues in Solomon Islands

Issue	Description
Poor Road Conditions	Unpaved roads, potholes, erosion, lack of drainage
Limited Road Infrastructure	Narrow roads, lack of signage, inadequate lighting
Vehicle Conditions	Poor maintenance, overloading, aging fleet
Driver Behavior	Lack of training, speeding, alcohol consumption
Pedestrian Safety	Lack of sidewalks, pedestrian-vehicle conflicts
Environmental Factors	Heavy rainfall, flooding
Traffic Management and Enforcement	Limited enforcement

Annex 6.1: Site Specific TMP BINA

1. Site Description

Bina is located in West Malaita, Malaita Province. Bina is approximately an hour drive from the provincial capital, Auki. Bina comprises four main communities, schools, clinics and a catholic station. This region of Malaita is known as West Kwaio. Bina was earmarked by the Solomon Island Government for development of an onshore processing plant and pineapple processing plant.

The material is likely to be haulage through villages, therefore communities need to be aware and hazards identified in table shall be minimized with mitigation approach.

2. Site Route

Possible unloading at Wharf and haulage route is indicated in figure below. The route is 2.28km.

Figure 9.0: Buma Wharf

Figure 9.1: Landing to site possible route-Bina

The contractor will ensure that access roads to privately owned land are not disturbed. The affected party/parties will not be impacted during the haulage and construction phase. Sensitive receptors has been indicated in Annex 15.0.

3. Pedestrian Routes

The site will be completely fenced and access to site will be only through the access gate provided by the Contractor. This would not only provide public safety during construction but long-term safety measures for residents near the project site and public at large. There are no impacts associated with restrictions on local community access since there are no foot tracks or roads inside the acquired area.

During the haulage of the materials and where heavy machinery work is done near the main road, a pedestrian route will be marked with caution tape or cones.

4. Risk Assessment and Mitigation

Risk	Risk Description	Mitigation
Increased Heavy vehicle traffic	Increase in volume of heavy vehicles can cause congestion, road wear and damages of gardens and property.	Communities and affected people to be informed for deliveries. Schedule deliveries to minimize impact on community.
Dust	Heavy vehicle movement can cause dust.	Keep within speed limited and drive slow to minimize the dust generation.

Noise	Heavy vehicle movement can cause noise and disturbance to local communities	Ensure vehicles and equipment are well maintained to minimize noise.
Pedestrian Safety	Heavy vehicle operation on main road can cause danger to pedestrian	Pedestrian routes are to be marked with cones and caution tape.
Driver or Operator Fatigue	Long Hours and repetitive routes can lead to driver fatigue , increasing risk of accidents	Enforce working hours and break schedules.
Lack of Coordination	Poor coordination between contractors and stakeholders can lead to traffic management issues	Regular coordination meeting , use a centralized communication system.

5. Road Safety and Traffic Management Rules

All road safety and traffic to be followed as per act available at http://www.ird.gov.sb/Resource.aspx?ID=155

6. Hazardous Loads

The H&S Manager (HSM) to brief the driver about the safety precautions via pre-task briefing. Hazardous loads will be carried in accordance with the guidance (Appendix 1) from H&S Manager (HSM) and local Regulations. Any necessary signs (Appendix 2) etc. are to be in accordance with the statutory requirements. The appropriate documents will be available in the vehicle's cab. Loads on vehicles will be adequately secured and the vehicle will not be overloaded at any time.

While transporting heavy equipment or large consignment, The Contractor (JV GSGESF) and sub-contractors will ensure that pedestrians and public vehicles are given the priority to pass through any narrowing of the road or one way bridges to ensure their safety as reasonable and practical.

7. Signage and Marking

The TMP will implement appropriate signage to inform both its drivers, workers and the public on the activities on the roads ahead. This signage will be clear and illuminated during night time works.

8. Road, Site and Speed Signs

Signage should be clearly placed at designated sites to avoid risk of accidents. Examples of signage include the following:

9. Driving in Construction Area

There are a lot of expectations within the construction area. Very low speed limits between 5-20km/hr will apply. The driver will be required to be alert and pay attention to road signs.

10. Accident Reporting

Any accident whether it is minor or major irrespective of location, on or off site, on or off road must be reported immediately by the driver to his immediate manager who in turn will report to the Construction Manager (CM).

This reporting will be done by the supervisor and the driver through mobile phone where possible. All accidents and incidents will be reported immediately. The driver involved in the incident and the concerned Subcontractor Manager will be required to cooperate with any investigation carried out by The Construction Manager (CM) and H&S Manager (HSM). Main aspects of this procedure will be covered during the induction training for vehicle drivers and pedestrians.

A full list of emergency contact phone numbers will be communicated via induction training and will be posted on information boards throughout the project sites.

SI Government law states that a driver will not leave the scene of an accident unless authorities' arrive.

11. Documentation and Record

The contractor will record and document all accidents or incidents in (Appendix 7 Health & Safety Plan) occurred either during haulage time or at site. The sub-contractor will have their own checklist for maintenance and vehicle inspection which should be produced upon request of the Contractor.

Annex 6.2: Site Specific TMP DALA

1. Site Description

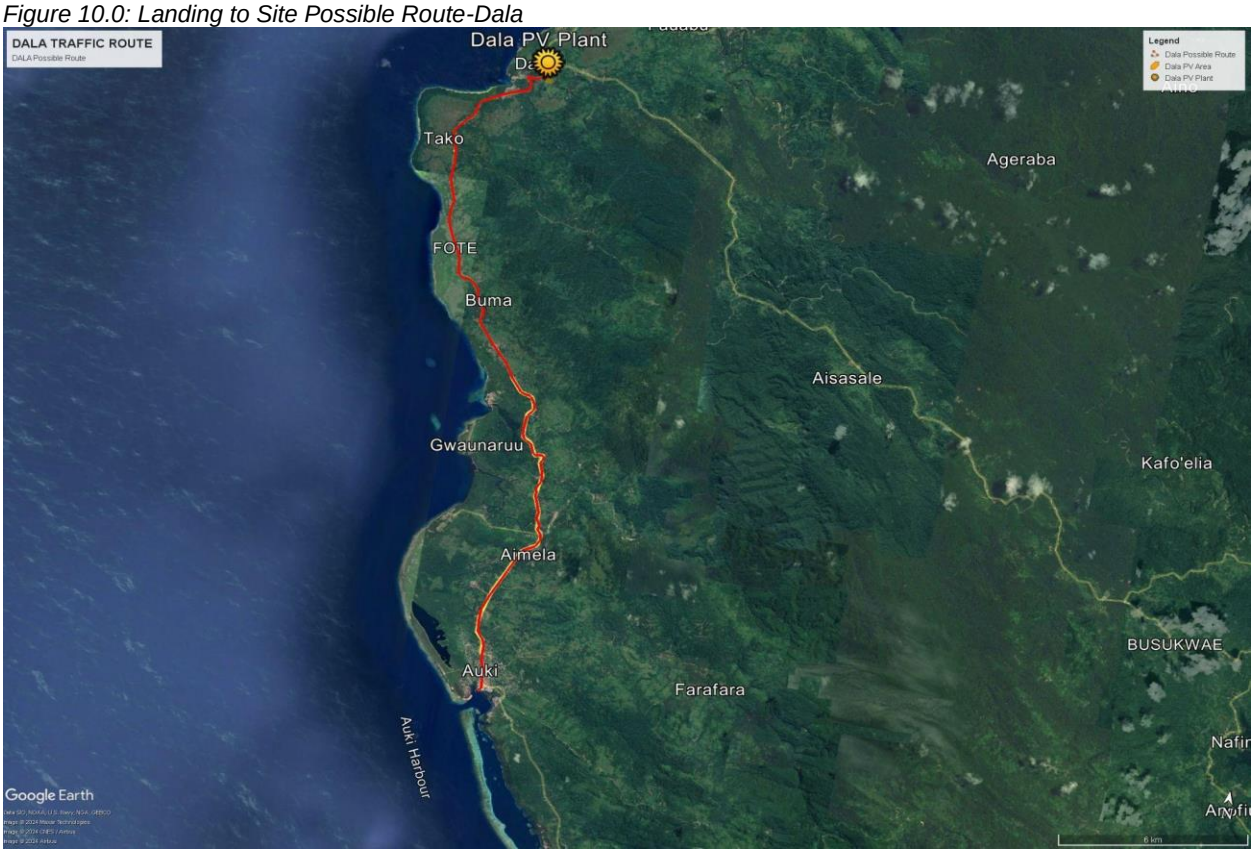
Dala is located west of the Malaita Island, Malaita Province. It is approximately one hour by truck from Auki, the provincial capital. Malaita consists of a number of islands and are inhabited by mostly Melanesian. According to the provisional count released in January 2020 based on the recent 2019 census, the population of Malaita is 173, 347 people.

The project material and equipment will likely be transported through village areas, making it essential for communities to be informed of the potential hazards.

2. Site Route

Possible unloading and haulage route is indicated in figure below. The route is 24km.

Figure 10.0: Landing to Site Possible Route-Dala



The contractor will ensure that access roads to privately owned land are not disturbed. The affected party/parties will not be impacted during the haulage and construction phase. Sensitive receptors has been indicated in Annex 15.0.

3. Pedestrian Routes

The site will be completely fenced and access to site will be only through the access gate provided by the Contractor. This would not only provide public safety during construction but long-term safety measures for residents near the project site and public at large. There are no impacts

associated with restrictions on local community access since there are no foot tracks or roads inside the acquired area.

During the haulage of the materials and where heavy machinery work is done near the main road, a pedestrian route will be marked with caution tape or cones.

4. Risk Assessment and Mitigation

Risk	Risk Description	Mitigation
Increased Heavy vehicle traffic	Increase in volume of heavy vehicles can cause congestion, road wear and damages of gardens and property	Communities and affected people to be informed for deliveries Schedule deliveries to minimize impact on community
Dust	Heavy vehicle movement can cause dust	Keep within speed limited and drive slow to minimize the dust generation
Noise	Heavy vehicle movement can cause noise and disturbance to local communities	Ensure vehicles and equipments are well maintained to minimize noise
Pedestrian Safety	Heavy vehicle operation on main road can cause danger to pedestrian	Pedestrian routes are to be marked with cones and caution tape
Driver or Operator Fatigue	Long Hours and repetitive routes can lead to driver fatigue , increasing risk of accidents	Enforce working hours and break schedules.
Lack of Coordination	Poor coordination between contractors and stakeholders can lead to traffic management issues	Regular coordination meeting , use a centralized communication system

5. Road Safety and Traffic Management Rules

All road safety and traffic to be followed as per act available at
http://www.ird.gov.sb/Resource.aspx?ID=155

6. Hazardous Loads

The H&S Manager (HSM) to brief the driver about the safety precautions via pre-task briefing. Hazardous loads will be carried in accordance with the guidance (Appendix 1) from H&S Manager (HSM) and local Regulations. Any necessary signs (Appendix 2) etc. are to be in accordance with the statutory requirements. The appropriate documents will be available in the vehicle's cab. Loads on vehicles will be adequately secured and the vehicle will not be overloaded at any time.

While transporting heavy equipment or large consignment, the Contractor (JV GSGESF) and sub-contractors will ensure that pedestrians and public vehicles are given the priority to pass through any narrowing of the road or one way bridges to ensure their safety as reasonable and practical.

7. Signage and Marking

The TMP will implement appropriate signage to inform both its drivers, workers and the public on the activities on the roads ahead. This signage will be clear and illuminated during night time works.

8. Road, Site and Speed Signs

Signage should be clear placed at designated sites to avoid risk of accidents. Examples of include the following:

9. Driving in Construction Area

There are a lot of expectations within the construction area. Very low speed limits between 5-20km/hr will apply. The driver will be required to be alert and pay attention to road signs.

10. Accident Reporting

Any accident whether it is minor or major irrespective of location, on or off site, on or off road must be reported immediately by the driver to his immediate manager who in turn will report to the Construction Manager (CM).

This reporting will be done by the supervisor and the driver through mobile phone where possible. All accidents and incidents will be reported immediately. The driver involved in the incident and the concerned Subcontractor Manager will be required to cooperate with any investigation carried out by The Construction Manager (CM) and H&S Manager (HSM). Main aspects of this procedure will be covered during the induction training for vehicle drivers and pedestrians.

A full list of emergency contact phone numbers will be communicated via induction training and will be posted on information boards throughout the project sites. SI Government law states that a driver will not leave the scene of an accident unless authorities' arrive.

11. Documentation and Record

The contractor will record and document all accidents or incidents in (Appendix 7 Health & Safety Plan) occurred either during haulage time or at site. The subcontractor will have their own checklist for maintenance and vehicle inspection which should be produced upon request of the Contractor.

Annex 6.3: Site Specific TMP BAOLO

1. Site Description

Baolo is located on the western end of Isabel Province and is fifteen minutes by OBM from the nearest airport, Suavanau. The proposed solar site is located on a Perpetual Estate (PE) land in Baolo area.

In regard to traffic, Baolo PV plant site is an isolated area and distant from the villages and community facilities. Hence a minimized traffic management is required for this site.

2. Site Route

Possible unloading and haulage route is indicated in figure below. The route is 400m.

Figure 11.0:Baolo Site and possible traffic route for material Haulage

The affected party/parties will not be impacted during the haulage and construction phase. Sensitive receptors has been indicated in Annex 15.0.

3. Pedestrian Routes

The site will be completely fenced and access to site will be only through the access gate provided by the Contractor. This would not only provide public safety during construction but long-term safety measures for residents near the project site and public at large. There are no impacts

associated with restrictions on local community access since there are no foot tracks or roads inside the acquired area.

During the haulage of the materials and where heavy machinery work is done near the main road, a pedestrian route will be marked with caution tape or cones.

4. Risk Assessment and Mitigation

Risk	Risk Description	Mitigation
Increased Heavy vehicle traffic	Increase in volume of heavy vehicles can cause congestion, road wear and damages of gardens and property.	Communities and affected people to be informed for deliveries. Schedule deliveries to minimize impact on community.
Dust	Heavy vehicle movement can cause dust.	Keep within speed limited and drive slow to minimize the dust generation.
Noise	Heavy vehicle movement can cause noise and disturbance to local communities.	Ensure vehicles and equipment are well maintained to minimize noise.
Pedestrian Safety	Heavy vehicle operation on main road can cause danger to pedestrian.	Pedestrian routes are to be marked with cones and caution tape.
Driver or Operator Fatigue	Long Hours and repetitive routes can lead to driver fatigue, increasing risk of accidents.	Enforce working hours and break schedules.
Lack of Coordination	Poor coordination between contractors and stakeholders can lead to traffic management issues.	Regular coordination meeting, use a centralized communication system.

5. Road Safety and Traffic Management Rules

All road safety and traffic to be followed as per act available at
http://www.ird.gov.sb/Resource.aspx?ID=155

6. Hazardous Loads

The H&S Manager (HSM) to brief the driver about the safety precautions via pre-task briefing. Hazardous loads will be carried in accordance with the guidance (Appendix 1) from H&S Manager (HSM) and local Regulations. Any necessary signs (Appendix 2) etc. are to be in accordance with the statutory requirements. The appropriate documents will be available in the vehicle's cab. Loads on vehicles will be adequately secured and the vehicle will not be overloaded at any time.

While transporting heavy equipment or large consignment, The Contractor (JV GSGESF) and sub-contractors will ensure that pedestrians and public vehicles are given the priority to pass through any narrowing of the road or one way bridges to ensure their safety as reasonable and practical.

7. Signage and Marking

The TMP will implement appropriate signage to inform both its drivers, workers and the public on the activities on the roads ahead. This signage will be clear and illuminated during night time works.

8. Road, Site and Speed Signs

Signage should be clearly placed at designated sites to avoid risk of accidents. Examples of include the following:

9. Driving in Construction Area

There are a lot of expectations within the construction area. Very low speed limits between 5-20km/hr will apply. The driver will be required to be alert and pay attention to road signs..

10. Accident Reporting

Any accident whether it is minor or major irrespective of location, on or off site, on or off road must be reported immediately by the driver to his immediate manager who in turn will report to the Construction Manager (CM).

This reporting will be done by the supervisor and the driver through mobile phone where possible. All accidents and incidents will be reported immediately. The driver involved in the incident and the concerned Subcontractor Manager will be required to cooperate with any investigation carried out by the Construction Manager (CM) and H&S Manager (HSM). Main aspects of this procedure will be covered during the induction training for vehicle drivers and pedestrians.

A full list of emergency contact phone numbers will be communicated via induction training and will be posted on information boards throughout the project sites.

SI Government law states that a driver will not leave the scene of an accident unless authorities' arrive.

11. Documentation and Record

The contractor will record and document all accidents or incidents in (Appendix 7 Health & Safety Plan) occurred either during haulage time or at site. The sub-contractor will have their own checklist for maintenance and vehicle inspection which should be produced upon request of the Contractor.

Annex 6.4: Site Specific TMP VISALE

1. Site Description

Visale is located 40 km west of Honiara, the capital of Solomon Islands. It is approximately one half hours' drive by land transport and an hour by sea transport. Visale is a catholic station. The catholic mission operates the area health center, primary and secondary schools, The Daughters of Mary Immaculate and a training college. The proposed solar site is located on The Daughters of Mary Immaculate (DMI) registered land in Visale.

2. Site Route

Possible unloading and haulage route is indicated in figure below. Road route is 40km and can be utilized if the road and bridge condition are good.

Figure 12.0: Route by road from Honiara to Visale

The other route is by which is only 300 m from site

Figure 12.1: Route from Landing to Site-Visale

The contractor will ensure that access roads to privately owned land are not disturbed. The affected party/parties will not be impacted during the haulage and construction phase. Sensitive receptors has been indicated in Annex 15.0.

3. Pedestrian Routes

The site will be completely fenced and access to site will be only through the access gate provided by the Contractor. This would not only provide public safety during construction but long-term safety measures for residents near the project site and public at large. There are no impacts associated with restrictions on local community access since there are no foot tracks or roads inside the acquired area.

During the haulage of the materials and where heavy machinery work is done near the main road, a pedestrian route will be marked with caution tape or cones.

4. Risk Assessment and Mitigation

Risk	Risk Description	Mitigation

Increased Heavy vehicle traffic	Increase in volume of heavy vehicles can cause congestion, road wear and damages of gardens and property.	Communities and affected people to be informed for deliveries. Schedule deliveries to minimize impact on community.
Dust	Heavy vehicle movement can cause dust.	Keep within speed limited and drive slow to minimize the dust generation.
Noise	Heavy vehicle movement can cause noise and disturbance to local communities.	Ensure vehicles and equipment are well maintained to minimize noise.
Pedestrian Safety	Heavy vehicle operation on main road can cause danger to pedestrian.	Pedestrian routes are to be marked with cones and caution tape.
Driver or Operator Fatigue	Long Hours and repetitive routes can lead to driver fatigue, increasing risk of accidents.	Enforce working hours and break schedules.
Lack of Coordination	Poor coordination between contractors and stakeholders can lead to traffic management issues.	Regular coordination meeting, use a centralized communication system.

5. Road Safety and Traffic Management Rules

All road safety and traffic to be followed as per act available at http://www.ird.gov.sb/Resource.aspx?ID=155

6. Hazardous Loads

The H&S Manager (HSM) to brief the driver about the safety precautions via pre-task briefing. Hazardous loads will be carried in accordance with the guidance (Appendix 1) from H&S Manager (HSM) and local Regulations. Any necessary signs (Appendix 2) etc. are to be in accordance with the statutory requirements. The appropriate documents will be available in the vehicle's cab. Loads on vehicles will be adequately secured and the vehicle will not be overloaded at any time.

While transporting heavy equipment or large consignment, The Contractor (JV GSGESF) and sub-contractors will ensure that pedestrians and public vehicles are given the priority to pass through any narrowing of the road or one way bridges to ensure their safety as reasonable and practical.

7. Signage and Marking

The TMP will implement appropriate signage to inform both its drivers, workers and the public on the activities on the roads ahead. This signage will be clear and illuminated during night time works.

8. Road, Site and Speed Signs

Signage should be clearly placed at designated sites to avoid risk of accidents. Examples of signage include the following:

9. Driving in Construction Area

There are a lot of expectations within the construction area. Very low speed limits between 5-20km/hr will apply. The driver will be required to be alert and pay attention to road signs. Warning signs are generally posted in advance of the construction projects.

10. Accident Reporting

Any accident whether it is minor or major irrespective of location, on or off site, on or off road must be reported immediately by the driver to his immediate manager who in turn will report to the Construction Manager (CM).

This reporting will be done by the supervisor and the driver through mobile phone where possible. All accidents and incidents will be reported immediately. The driver involved in the incident and the concerned Subcontractor Manager will be required to cooperate with any investigation carried out by The Construction Manager (CM) and H&S Manager (HSM). Main aspects of this procedure will be covered during the induction training for vehicle drivers and pedestrians.

A full list of emergency contact phone numbers will be communicated via induction training and will be posted on information boards throughout the project sites.

SI Government law states that a driver will not leave the scene of an accident unless authorities' arrive.

11. Documentation and Record

The contractor will record and document all accidents or incidents in (Appendix 7 Health & Safety Plan) occurred either during haulage time or at site. The subcontractor will have their own checklist for maintenance and vehicle inspection which should be produced upon request of the Contractor.

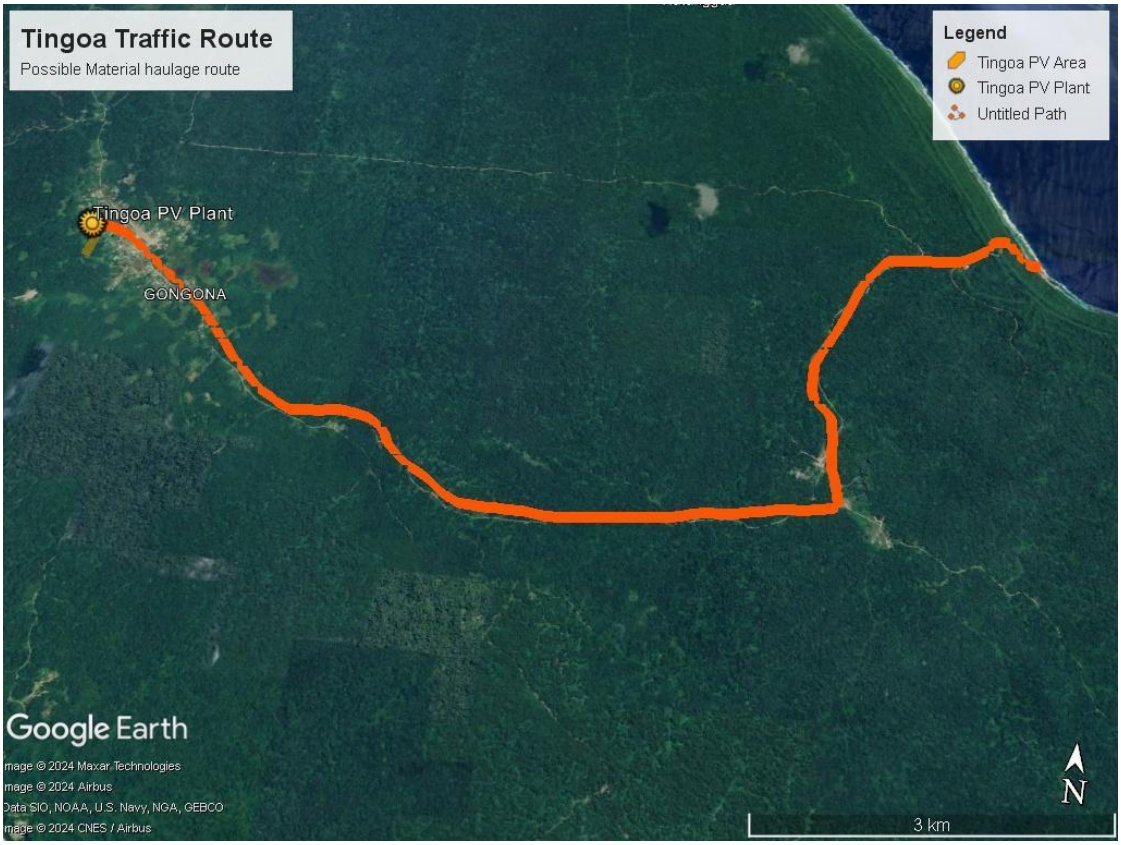
Annex 6.5: Site Specific TMP TINGOA

1. Site Description

Tingoa is the provincial capital of Rennell and Bellona Province. It is approximately one hour by plane from Honiara. Rennell and Bellona are inhabited by Polynesians with a population of 3041, 2009 census. The islands, located south of the main Solomon group lies in the path of annual cyclones and are frequently hit by the cyclones that usually originate and pass through the Solomon group in southeast and southwest directions.

2. Site Route

Possible unloading and haulage route is indicated in figure below. The route is 40 km.
Figure 13.0: Possible route from Landing to Site-Tingoa



The contractor will ensure that access roads to privately owned land are not disturbed. The affected party/parties will not be impacted during the haulage and construction phase. Sensitive receptors has been indicated in Annex 15.0.

3. Pedestrian Routes

The site will be completely fenced and access to site will be only through the access gate provided by the Contractor. This would not only provide public safety during construction but long-term

safety measures for residents near the project site and public at large. There are no impacts associated with restrictions on local community access since there are no foot tracks or roads inside the acquired area.

During the haulage of the materials and where heavy machinery work is done near the main road, a pedestrian route will be marked with caution tape or cones.

4. Risk Assessment and Mitigation

Risk	Risk Description	Mitigation
Increased Heavy vehicle traffic	Increase in volume of heavy vehicles can cause congestion, road wear and damages of gardens and property.	Communities and affected people to be informed for deliveries. Schedule deliveries to minimize impact on community.
Dust	Heavy vehicle movement can cause dust.	Keep within speed limited and drive slow to minimize the dust generation.
Noise	Heavy vehicle movement can cause noise and disturbance to local communities.	Ensure vehicles and equipment are well maintained to minimize noise.
Pedestrian Safety	Heavy vehicle operation on main road can cause danger to pedestrian.	Pedestrian routes are to be marked with cones and caution tape.
Driver or Operator Fatigue	Long Hours and repetitive routes can lead to driver fatigue, increasing risk of accidents.	Enforce working hours and break schedules.
Lack of Coordination	Poor coordination between contractors and stakeholders can lead to traffic management issues.	Regular coordination meeting, use a centralized communication system.

5. Road Safety and Traffic Management Rules

All road safety and traffic to be followed as per act available at http://www.ird.gov.sb/Resource.aspx?ID=155

6. Hazardous Loads

The H&S Manager (HSM) to brief the driver about the safety precautions via pre-task briefing. Hazardous loads will be carried in accordance with the guidance (Appendix 1) from H&S Manager (HSM) and local Regulations. Any necessary signs (Appendix 2) etc. are to be in accordance with

the statutory requirements. The appropriate documents will be available in the vehicle's cab. Loads on vehicles will be adequately secured and the vehicle will not be overloaded at any time.

While transporting heavy equipment or large consignment, the Contractor (JV GSGESF) and sub-contractors will ensure that pedestrians and public vehicles are given the priority to pass through any narrowing of the road or one way bridges to ensure their safety as reasonable and practical.

7. Signage and Marking

The TMP will implement appropriate signage to inform both its drivers, workers and the public on the activities on the roads ahead. This signage will be clear and illuminated during night time works.

8. Road, Site and Speed Signs

Signage should be clearly placed at designated sites to avoid risk of accidents. Examples of signage include the following:

9. Driving in Construction Area

There are a lot of expectations within the construction area. Very low speed limits between 5-20km/hr will apply. The driver will be required to be alert and pay attention to road signs. Warning signs are generally posted in advance of the construction projects.

10. Accident Reporting

Any accident whether it is minor or major irrespective of location, on or off site, on or off road must be reported immediately by the driver to his immediate manager who in turn will report to the Construction Manager (CM).

This reporting will be done by the supervisor and the driver through mobile phone where possible. All accidents and incidents will be reported immediately. The driver involved in the incident and the concerned Subcontractor Manager will be required to cooperate with any investigation carried out by The Construction Manager (CM) and H&S Manager (HSM). Main aspects of this procedure will be covered during the induction training for vehicle drivers and pedestrians.

A full list of emergency contact phone numbers will be communicated via induction training and will be posted on information boards throughout the project sites.

SI Government law states that a driver will not leave the scene of an accident unless authorities' arrive.

11. Documentation and Record

The contractor will record and document all accidents or incidents in (Appendix 7 Health & Safety Plan) occurred either during haulage time or at site. The subcontractor will have their own checklist for maintenance and vehicle inspection which should be produced upon request of the Contractor.

APPENDIX 1: Hazardous Material Transportation Guidance

Transportation of Hazardous material

The transportation of hazardous materials involves several key procedures to ensure safety and compliance with regulations. Here's an outline of the typical steps involved:

1. **Classification and Identification**: The first step is to classify the hazardous material according to its properties and potential risks. This involves identifying the material's primary hazards, such as toxicity, flammability, corrosiveness, or reactivity. The material is then assigned a proper classification code and identified with the appropriate hazard labels and markings according to regulatory requirements.
2. **Packaging**: Hazardous materials must be packaged in containers that are suitable for the specific properties and hazards of the material. Packaging requirements vary depending on factors such as the type of material, quantity, mode of transportation, and regulatory standards. Packaging must prevent leaks, spills, and interactions with other substances during transit.
3. **Documentation**: Proper documentation is essential for the transportation of hazardous materials. This includes preparing shipping papers, manifests, and other required documents according to regulatory guidelines. The documentation should accurately describe the hazardous material, its quantity, classification, handling instructions, emergency response information, and other relevant details.
4. **Labeling and Marking**: Hazardous materials must be labeled and marked correctly to provide clear identification and communicate essential information to transporters, handlers, and emergency responders. Labels and markings should include hazard symbols, warning statements, and other required information as specified by regulations.
5. **Training and Certification**: Personnel involved in the transportation of hazardous materials must receive appropriate training on safety procedures, regulatory requirements, and emergency response protocols. Training should cover topics such as proper handling, packaging, loading, and unloading of hazardous materials, as well as procedures for responding to emergencies.
6. **Transportation Planning and Routing**: Transportation routes and modes should be carefully planned to minimize risks and ensure compliance with regulations. Factors such as distance, mode of transport, handling facilities, and potential hazards along the route should be considered when planning transportation of hazardous materials.
7. **Emergency Response Preparedness**: Companies involved in the transportation of hazardous materials must have robust emergency response plans in place. These plans should outline procedures for responding to spills, leaks, fires, or other emergencies during transportation. Emergency response equipment, such as spill containment kits and personal protective gear, should be readily available and maintained in good condition.
8. **Monitoring and Compliance**: Regular monitoring and inspections of transportation vehicles, containers, and facilities are essential to ensure compliance with regulations and identify potential hazards or risks. Compliance with regulatory requirements should be verified through audits, inspections, and record-keeping procedures.

By following these procedures diligently, companies can transport hazardous materials safely and responsibly, minimizing the risks to people, property, and the environment.

APPENDIX 2: Signage

1. Hazard Transportation Signs

2. Constructions Site TMP Sigs and Marking

Annex 7.0: Community Engagement Plan

1.0 Introduction

A community engagement for any project is crucial for fostering positive relationships with local communities, addressing concerns, and maximizing the project's social benefits.

The Contractor shall ensure that the affected communities are not disenfranchised due to the construction activities on site. This will include the Contractor engaging qualified managers and subcontractor to interact with the Communities to manage the Communities' expectations to provide on-going information and to alleviate any discontent.

2.0 Objective:

To engage with the local community and stakeholders to ensure that the solar-hybrid farm project is developed and implemented in a way that benefits the community, minimizes environmental impact, and promotes social responsibility.

3.0 Applications

This Community Engagement Plan is applicable to all 5 site (Bina , Dala, Baolo, Visale and Tingoa PV plant sites)

4.0 Target Audience:

- Local residents and property owners;
- Community leaders and organizations;
- Environmental groups and advocacy organizations;
- Local businesses and industries;
- Government agencies and officials; and
- Media.

Table 9.0: Stakeholders List

Site Name	Stakeholders
Bina	• Ministry of Environment Conversation , Climate change , Disaster Management and Meteorology (MECDM) Climate change , Disaster Management and Meteorology (MECDM); • Ministry of Mines, Energy and Rural Electrification (MMERE); • Malaita Provincial Government; • Royal Solomon Islands Police Force; • Bina tribal chiefs, village chiefs, church leaders and women; and • Bishop of the Catholic Diocese of Auki
Dala	• Ministry of Environment Conversation , Climate change , Disaster Management and Meteorology (MECDM) Climate change , Disaster Management and Meteorology (MECDM);

	• Ministry of Mines, Energy and Rural Electrification (MMERE); • Malaita Provincial Government; • Royal Solomon Islands Police Force; • Dala tribal chiefs, village chiefs, church leaders and women; and • Bishop of the Catholic Diocese of Auki.
Baolo	• Ministry of Environment Conversation , Climate change , Disaster Management and Meteorology (MECDM) Climate change , Disaster Management and Meteorology (MECDM); • Ministry of Mines, Energy and Rural Electrification (MMERE); • Isabel Provincial Government; • Royal Solomon Islands Police Force; and • Baolo and Zuoto tribal chiefs, village chiefs, church leaders and women tribal chiefs, village chiefs, church leaders and women.
Visale	• Ministry of Environment Conversation , Climate change , Disaster Management and Meteorology (MECDM) Climate change , Disaster Management and Meteorology (MECDM); • Ministry of Mines, Energy and Rural Electrification (MMERE); • Guadalcanal Provincial Government; • Royal Solomon Islands Police Force; • Six main village of Visale tribal chiefs, village chiefs, church leaders and women tribal chiefs, village chiefs, church leaders and women; and • Catholic Church (DMI).
Tingoa	• Ministry of Environment Conversation , Climate change , Disaster Management and Meteorology (MECDM) Climate change , Disaster Management and Meteorology (MECDM); • Ministry of Mines, Energy and Rural Electrification (MMERE); • Rennell and Bellona Provincial Government Provincial Government; • Royal Solomon Islands Police Force; and • Rennell tribal chiefs, village chiefs, church leaders and women.

5.0 Communication Strategy:

To effectively keep the community and stakeholders updated on the project is the responsibility of The Contractor (JV GSGESF) and the Employer (SP). Some of means by which this can be achieved as below:

5.1. **Public Meetings:** Host regular public meetings to discuss the project, answer

questions, and gather feedback from the community.

5.2. **Social Media:** Utilize social media platforms to share information about the project, provide updates, and engage with the community.

5.3. **Press Release:** Issue a press release to announce the project and provide information about the solar-hybrid farm. This can be done the Employer (SP) as owners of the project

5.4. **Fact Sheets:** Develop fact sheets to provide detailed information about the project, including its benefits, impacts, and environmental considerations.

6.0 Community Engagement Activities:

6.1. **Public Hearings:** Host public hearings to provide an opportunity for community members to speak about the project and provide feedback.

6.2. **Stakeholder Meetings:** Meet with local organizations, businesses, and government agencies to discuss the project and gather feedback.

6.3. **Open House:** Host an open house event to provide an opportunity for community members to visit the project site and learn more about the solar-hybrid farm.

6.4. **Community Benefits Agreement:** Develop a community benefits agreement that outlines the benefits of the project, including economic benefits, job creation, and environmental improvements.

7.0 Community Engagement at Project Stages

The Contractor/Subcontractor wherever possible prioritizes employment of people from within the local communities at the project locations areas, in order to maximize benefits for the local populations. The Contractor/Subcontractor will do so taking in consideration that there may be differences between island cultures that may lead to conflict should labor of outsiders be employed at the given Site. JV GSGESF will encourage subcontractors for employment of women in support activities such clerical, site clearance etc etc.

The Contractor (JV GSGESF) in conjunction with Employer (SP) shall practice the following during Construction Phase as part of CESMP implementation:

- Conduct regular community meetings to provide updates on project.
- Receive and address grievance, complaints and concerns raised during visit. This will form part of GRM of the project.
- Continuous update on GBV and HIV/STI.
- To publish ongoing updates via the project website and social media.
- Direct communication channels (hotline, email) for real-time feedback and inquiries.

7.1. Pre-Construction Phase

The Contractor JV GSGE to practice the following during Pre-Construction Phase as part of CESMP implementation:

- To conduct an Initial community meeting to introduce the project.
- Highlight the key activities that might impact the community as outlined in risk matrix of CESMP of CESMP.
- Awareness on HIV and Gender Violence.

7.2. Construction Phase

The Contractor, wherever possible, prioritizes employment of people and subcontractors from within the local communities at the Bina, in order to maximize benefits for the local populations.

The Contractor will do so taking in consideration that there may be differences between islands cultures that may lead to conflict should labor of outsiders be employed at the given Site. JV GSGE will encourage subcontractors for employment of women in support activities such site administration, clerical and site clearance.

The Contractor (JV GSGE) in conjunction with Employer (SP) shall practice the following during Construction Phase as part of CESMP implementation:

- Conduct regular community meetings to provide updates on project.
- Receive and address Grievance, complaints and concerns raised during visit.

This will form part of the GRM of the project.

- Continuous update on GBV and HIV/STI.
- To publish ongoing updates via the project website and social media.
- Direct communication channels (hotline, email) for real-time feedback and inquiries.

8.0 Documentation

All community engagement activities either by JV GSGESF or its subcontractor will be recorded through community engagement register (Appendix 1).
APPENDIX 1: Community Engagement Register

Community Representation	Engagement Type	Goals / Objectives	When	Actual Attendance[4]	Discussion / Outcome

[4] If possible attach signed attendance sheet

Engagement Conducted By:

_____

Annex 8.0 Gender Based Violence and HIV Training

1. Introduction

As per Employer requirement (SP), The contractor (JV GSGESF) is required to ensure there is awareness about Gender Based Violence (GBV) and Sexual Transmitted Disease (STD) especially HIV at work sites.

Gender based violence (GBV) is a serious violation of human rights and JV GSGESF has zero tolerance towards GBV.

Our goal is to reduce GBV and create awareness about HIV on our Project site as well as within the organization. The participation of all genders in the day to day running of the business in all aspects of the job is the way forward and having a level and merit-based platform is what JV GSGESF aims to achieve. GBV is a reality, and JV GSGESF takes this very seriously and we are totally committed to eliminating it from the organization.

Should an incident of GBV occur, JV GSGESF has procedures in place to address the situation.

Health and Safety Manager (HSM) who will undertake STIs, HIV/AIDS, Malaria, Dengue, GBV, SEA and COVID-19 briefings and awareness raising amongst the contractor's employees

2. Application

This Gender Violence and HIV Training is applicable to all 5 sites (Bina, Dala, Baolo, Visale and Tingoa PV plant sites)

3. Gender Based Violence

a. Definition

GBV is violence directed against a person because of that person's gender or violence that affects persons of a particular gender disproportionately.

GBV can take various forms:

- Physical: it results in injuries, distress, and health problems. Typical forms of physical violence are beating, slapping, strangling, pushing, and the use of weapons.

- Sexual: it includes sexual acts, rape, attempts to obtain a sexual favour, trafficking, harassment, or acts otherwise directed against a person's sexuality without the person's consent.
- Psychological: includes psychologically abusive behaviors, such as controlling behaviour, coercion, economic violence and exploitation, verbal abuse, and blackmail.

GBV and violence against women are terms that are often used interchangeably as it has been widely acknowledged that most gender-based violence is inflicted on women and girls, by men. However, using the 'gender-based' aspect is important as it highlights the fact that many forms of violence against women are rooted in power inequalities between women and men.

A. Unequal power relations between men and women significantly contribute to gender violence. In fact, GBV is intended to maintain gender inequalities and/or reinforce traditional gender roles for both men and women. Although men and boys are also victims of GBV, especially in trafficking, conflict and educational settings, the majority of GBV victims worldwide are female. Accordingly, this guide will highlight prevention and response interventions for reducing gender violence against both genders, but with an emphasis on women's experience (both in the workplace and communities).
B. GBV experienced by women and girls includes but is not limited to: battering and other forms of intimate partner violence including marital rape; sexual violence; dowry-related violence; female infanticide; sexual abuse of female children in the household; honour crimes; early marriage; forced marriage; female genital cutting and other traditional practices harmful to women; sexual harassment in the workplace and educational institutions; commercial sexual exploitation; trafficking of girls and women; and violence perpetrated against domestic workers. GBV cuts across public and private spheres, including home, school and work, and takes place during peacetime and conflict. It includes violence that is perpetuated or condoned by the state. It is both a human rights and a development issue, with negative consequences for both women and men.
C. In infrastructure projects, GBV often takes the form of sexual exploitation, abuse and harassment (SEAH). It is defined as any abuse of a position of vulnerability, differential power, or trust for sexual purposes, including but not limited to profiting monetarily, socially, or politically from the sexual exploitation of another. Sexual abuse is the actual or threatened physical intrusion of a sexual nature whether by force or under unequal or coercive conditions.

b. Promoting Equality (The Contractor and its subcontractors)
    i. **Equal Rights and Opportunities:** Everyone, regardless of gender, will have equal rights, opportunities, and access to employment.
    ii. **Non-Discrimination:** Gender will not be a basis for discrimination or differential treatment. All individuals should be treated fairly and without prejudice, regardless of their gender identity or expression.
    iii. **Elimination of Gender Stereotypes:** Gender equality principles challenge and seek to dismantle traditional gender stereotypes and roles that limit individuals' potential and reinforce inequality. This includes breaking down expectations about what jobs, behaviors, and interests are appropriate for different genders.
    iv. **Empowerment of All Genders:** Gender equality principles focus on empowering individuals of all genders to have agency, autonomy, and control over their lives and decisions. This involves promoting self-

confidence, leadership opportunities, and the ability to participate fully in social and economic of the project

v. **Gender-Inclusive Policies and Practices:** Subcontractors will be encouraged to adopt policies and practices that promote gender equality and inclusivity.

c. GBV Response

JV GSGESF is committed to preventing and responding to GBV by working in partnership with local service providers ((GBV department of Royal Solomon Islands Police Force, Church group and Medical Centres) who may have specialist expertise in this area and can provide protection and support services. Managers should be able to identify GBV and understand the proper response and prevention protocols. All incidents of GBV should be reported to SP PMU and where necessary (to prevent immediate harm) to the Police or hospital.

JV GSGESF will:

- **Respect survivors' safety, rights, and confidentiality.**

Priority attention shall be given to confidentiality, privacy, disclosure, and informed consent in all responses to gender-based violence. Great care must be taken not to re-victimize the survivor. This not only involves the way information is handled but also official recognition that the victim's rights must be accommodated throughout the process. Furthermore, before victims are encouraged to legally report cases of GBV, an assessment should be made of how this could potentially put them at greater risk within their communities or from the perpetrator.

- **Access to reporting:**

JV GSGESF has an open-door policy to give access to victims to be able report a violent crime committed. A trained individual (HSM) shall be designated to receive reports in confidentiality and will forward these to the Solomon Power Project Management Unit (SP PMU) while respecting the complainant's privacy. The SP PMU to ensure that victims are referred to the appropriate local services, where gender specialists with technical expertise will be able to assist without re-traumatizing the victim.

- **Monitoring and Reports*:***

The designated officer (HSM) shall be responsible for not only receiving complaints but also registering the basic details of the incident, raising general awareness of GBV in weekly toolbox meetings and at monthly CESMP meetings. The service providers will have their own reporting systems and may not release confidential details unless necessary to prevent further incidents.

- **Create a communication.**

Communication chain with the community stakeholders and raise awareness in the community and at work meetings.

d. Strategies for reducing prevalence and Impact of GBV

i. **Peace, safety and security:**

A conflict-free environment will mitigate the risk of gender-based violence. The key factor is creating a work environment with gender equality, equal opportunities, and merit-based compensation and fostering an enabling environment where regular awareness is made possible on the topic of GBV.

ii. **National policies and local services:**
Local GBV laws and legislation shall be upheld as well as the UN human rights codes. All GBV shall be reported, and the victim's livelihoods taken into consideration so as not to disturb it or create a situation where there is backlash from his/her community. Local GBV service providers (GBV department of Royal Solomon Islands Police Force, Church group and Medical Centres) will be critical in dealing with GBV impacts since they are conversant with the local situation and have the relevant expertise to assist survivors.

iii. **Governing justly and democratically:**
All GBV cases shall be treated as priority and dealt with confidentiality; local authorities will only be contacted with the consent of the victim.

iv. **Investing in staff:**
BV and communicable diseases awareness raising and training will be provided for all staff. All staff will also sign a workers' Code of Conduct (see below) which will be part of their contract. Workers should be inducted on requirements of the Project's communication procedures, grievance redress procedure and the CoC for awareness and compliance. Employees violating the Code of Conduct will be disciplined and may have their employment terminated depending on the gravity of the offense.

4. HIV

a. Definition

HIV, or Human Immunodeficiency Virus, is a virus that attacks the body's immune system, specifically targeting CD4 cells (T cells), which play a crucial role in the immune response. Over time, HIV can destroy so many of these cells that the body becomes unable to fight off infections and diseases

b. Modes of Transmission

i. **Sexual Contact:** HIV can be transmitted through unprotected vaginal, anal, or oral sex with an infected person. Both homosexual and heterosexual intercourse can transmit the virus.

ii. **Blood-to-Blood Contact:** HIV can be transmitted through the sharing of needles or syringes contaminated with infected blood, often associated with injection drug use. It can also be transmitted through blood transfusions with infected blood, although this is rare in regions with blood screening protocols.

iii. **Mother-to-Child Transmission:** HIV can be transmitted from an HIV-positive mother to her child during pregnancy, childbirth, or breastfeeding.

However, with proper medical care and treatment during pregnancy and childbirth, the risk of transmission can be significantly reduced.

iv. **Occupational Exposure:** Healthcare workers may be at risk of HIV transmission through accidental needle sticks or exposure to contaminated blood or bodily fluids

c. Awareness Strategies

i. **Employee Induction**- All employees of JV GSGSE as part of their induction, will go through STD/HIV awareness in conjunction with Health & Safety induction

ii. **Subcontractor Induction** - All subcontractors of JV GSGSE as part of their induction, will go through STD/HIV awareness in conjunction with Health & Safety induction

5. Codes of Conduct

JV GSGESF is committed to preventing all levels of GBV during the Project within its operations and has ensured that the managers' and workers' Codes of Conduct reflects JV GSGESF's values on zero tolerance of GBV (Appendix1 and 2). Project workers will face disciplinary procedures if the codes of conduct is violated. JV GSGESF commit to this prevention plan and will adopt and implement the required steps to maintain peace and harmony and prevent GBV. JV GSGESF will provide equal opportunity to all regardless of gender and our decisions will be entirely based on merit and potential. We commit to also establishing good communication with SP and the respective local authorities to respond effectively and efficiently while maintaining privacy as well as confidentiality when dealing with any incident that may occur.

APPENDIX 1: Manager's Code of Conduct

JV GSGESF is committed to ensuring that the Solar Hybrid project is implemented in such a way which minimizes any negative impacts on the local environment, communities, and its workers. This will be done by respecting and ensuring the environmental, social, health and safety (ESHS) standards are met.

The company is also committed to creating and maintaining an environment where children under the age of 18 will be protected, and where Sexual Exploitation and Abuse (SEA) and sexual harassment have no place. Improper actions towards children, SEA and sexual harassment are acts of Gender Based Violence (GBV) and as such will not be tolerated by any employee, subcontractors, supplier, associate, or representative of the company.

Managers at all levels have a responsibility to uphold the company's commitment. Managers need to support and promote the implementation of the Code of Conduct. To that end, managers must adhere to this Manager's Code of Conduct and also to sign the Individual Code of Conduct. This commits them to supporting the implementation of the Contractor's Environmental and Social Management Plan (CESMP), the H&S Management Plan, and developing systems that facilitate the implementation of the GBV policy.

Managers need to maintain a safe workplace, as well as a GBV-free environment at the workplace. Their responsibilities to achieve this include but are not limited to:

Implementation

1. To ensure maximum effectiveness of JV GSGESF's GBV policy and Individual Codes of Conduct managers will:
    a. Prominently display the Individual Codes of Conduct in clear view at site, offices, and in public areas of the workspace. Examples of areas include waiting, resting areas of sites and eating areas.
2. Verbally and in writing explain the Individual Codes of Conduct to all staff.
3. Ensure that:
    a. All direct reports sign the 'Individual Code of Conduct', including acknowledgement that they have read and agree with the Code of Conduct.
    b. Staff lists and signed copies of the Individual Code of Conduct are provided to the Health & Safety Manager who forwards it to the SP Gender Based Violence office/representative.
    c. Participate in training and ensure that staff also participate as outlined below.
    d. Put in place a mechanism for staff to:
        i. report concerns on Health & Safety compliance; and,
        ii. confidentially report GBV incidents through the Grievance Redress Mechanism (GRM)
    e. Staff are encouraged to report suspected or actual Health & Safety, GBV issues, emphasizing the staff's responsibility to JV GSGESF and the country hosting their employment, and emphasizing the respect for confidentiality.

4. In compliance with applicable Solomon Island laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees not ordinarily resident in the country where the works are taking place.
5. Ensure that when engaging in partnership, sub-contractor, supplier or similar agreements, these agreements:
    i. Incorporate the Health & Safety, GBV Codes of Conduct as an attachment.
    ii. Include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the Individual Codes of Conduct.
    iii. Expressly state that the failure of those entities or individuals, as appropriate, to ensure compliance with the HS standards, take preventive measures against GBV, to investigate allegations thereof, or to take corrective actions when GBV has occurred, shall not only constitute grounds for sanctions and penalties in accordance with the Individual Codes of Conduct but also termination of agreements to work on or supply the project.
6. Provide support and resources to the HSM to create and disseminate internal sensitization initiatives through the awareness-raising strategy under the GBV training plan.
7. Ensure that any GBV complaint warranting Police action is reported to the Police, and SP Project Management Unit (PMU) immediately.
8. Report and act in accordance with the agreed GRM response protocol any suspected or actual acts of GBV.
9. Ensure that any major HS incidents are reported to SP PMU and the supervision engineer immediately, non-major issues in accordance with the agreed reporting protocol.
10. Ensure that children under the age of 18 are not present at the construction site, or engaged in any hazardous activities.

Training

11. The managers are responsible for:
    i. Ensuring that the H&S Management Plan is implemented, with suitable training required for all staff, including subcontractors and suppliers; and,
    ii. Ensuring that staff have a suitable understanding of the CESMP and are trained as appropriate to implement the CESMP requirements.
12. All managers are required to attend an induction manager training course prior to commencing work to ensure that they are familiar with their roles and responsibilities in upholding the GBV elements of these Codes of Conduct. This training will be separate from the induction training course required of all employees and will provide managers with the necessary understanding and

technical support needed to begin to develop the GBV plan for addressing GBV issues.

13. Managers are required to attend and assist with the project facilitated training courses for all employees. Managers will be required to introduce the training and announce the self-evaluations, including collecting satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.
14. Ensure that time is provided during work hours and that staff, prior to commencing work on site, attend the mandatory project facilitated induction training on:
    i. HS; and,
    ii. GBV required of all employees.
15. During civil works, ensure that staff attend ongoing HS training, as well as the monthly mandatory refresher training course required of all employees on GBV.

Response

16. Managers will be required to take appropriate actions to address any HS incidents.
17. Regarding GBV:
    i. Provide input to the GBV procedures and response protocol developed by the HSM and SP GBV Officer
    ii. Once adopted by the JV GSGESF, managers will uphold the accountability measures set forth in the GBV protocol to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
    iii. If a manager develops concerns or suspicions regarding any form of GBV by one of his/her direct reports, or by an employee working for another contractor on the same work site, s/he is required to report the case using the GRM.
    iv. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a minimum possible time frame from the date which the sanction was decided
    v. If a manager has a conflict of interest due to personal or familial relationships with the survivor and/or perpetrator, he/she must notify the Contractor and Employer. JV GSGESF will be required to appoint another manager without a conflict of interest to respond to complaints.
    vi. Ensure that any GBV issue warranting Police action is reported to the Police and the Employer.
18. Managers failing to address HS incidents or failing to report or comply with the GBV provisions may be subject to disciplinary measures, to be determined

and enacted by the Project Manager, or equivalent highest-ranking manager. Those measures may include:

i. Informal warning.
ii. Formal warning.
iii. Additional Training.
iv. Loss of up to one week's salary.
v. Suspension of employment (without payment of salary) due to gross misconduct, for a minimum period of 1 month up to a maximum of 6 months.
vi. Termination of employment.

19. Ultimately, failure to effectively respond to HS, and GBV cases on the work site by the company's managers or CEO may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the foregoing Manager's Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, and GBV requirements. I understand that any action inconsistent with this Manager's Code of Conduct or failure to act mandated by this Manager's Code of Conduct may result in disciplinary action.

Appendix 2: Individual Code of Conduct(CoC)

This individual CoC will be signed off by all individual workers of JV GSGESF, its subcontractors, and service providers.

I, _____, acknowledge that adhering to environmental, social, health and safety (ESHS) standards, following the project‘s health and safety (HS) requirements, and preventing Gender Based Violence (GBV) is important.

JV GSGESF considers that failure to follow ESHS and HS standards, is misconduct.

Participation in GBV activities — be it on the work site, the surroundings, at workers accommodation, or in the communities—constitutes an act of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution by the Police of those who commit GBV may be pursued if appropriate.

I agree that while working on the_____*(insert name of site)* Solar Hybrid Project , I will:

1. Consent to Police background check (for non-Solomon Islanders).
2. Attend and actively participate in training courses related to ESHS, H&S, and GBV as requested by my employer.
3. Will always wear my personal protective equipment (PPE) when at the work site or engaged in project related activities.
4. Take all practical steps to implement the contractor ‘s environmental and social management plan (CESMP).
5. Implement the H&S Management Plan.
6. Adhere to a zero-alcohol policy during work activities, and refrain from the use of narcotics or other substances which can always impair faculties.
7. Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
8. Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
9. Not sexually exploit or abuse project beneficiaries and members of the surrounding communities.
10. Not engage in sexual harassment of work personnel and staff —for instance, making unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature which is prohibited. e.g. looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; touching someone inappropriately; whistling and catcalls; in some instances, giving personal gifts; reading pornography; stalking; sending inappropriate electronic messages; making personal comments; or publicly humiliating someone.
11. Not engage in sexual favours —for instance, making promises of favourable treatment (e.g. promotion), threats of unfavourable treatment (e.g. loss of job) or payments in kind or in cash, dependent on sexual acts—or other forms of humiliating, degrading or exploitative behaviour.
12. Not use prostitution in any form at any time.

13. Not participate in sexual contact or activity with children under the age of 18—including grooming or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
14. Unless there is the full consent[5] by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex (including prostitution). Such sexual activity is considered non-consensual within the scope of this Code.
15. Consider reporting through the GRM or to my manager any suspected or actual GBV by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

16. Bring to the attention of my manager the presence of any children on the construction site or engaged in hazardous activities.
17. Wherever possible, ensure that another adult is present when working in the proximity of children.
18. Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
19. Not use any computers, mobile phones, video and digital cameras or any other medium to exploit or harass children or to access child pornography (see also 'Use of children's images for work related purposes' below).
20. Refrain from physical punishment or discipline of children.
21. Refrain from hiring children for domestic or other labour below the minimum age of 14 unless national law specifies a higher age, or which places them at significant risk of injury.
22. Comply with all relevant local legislation, including labour laws in relation to child labour and ADB/World Bank's safeguard policies on child labour and minimum age.
23. Take appropriate caution when photographing or filming children.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

24. Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
25. Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
26. Ensure photographs, films, videos, and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
27. Ensure images are honest representations of the context and the facts.

[5] **Consent** is defined as the informed choice underlying an individual 's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained using threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even if national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

28. Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

1. Informal warning.
2. Formal warning.
3. Additional Training.
4. Loss of up to one week‘s salary.
5. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
6. Termination of employment.
7. Report to the Police if warranted.

I understand that it is my responsibility to ensure that the environmental, social, health and safety standards are met. That I will adhere to the occupational health and safety management plan. That I will avoid actions or behaviours that could be construed as GBV. Any such actions will be a breach of this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, h&S, GBV issues. I understand that any action inconsistent with this Individual Code of Conduct or failure to act mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Annex 9.0: Management of Grievance & Complaints

1. Purpose

The Grievances Redress Mechanism (GRM) aims to provide a transparent, accessible, and fair for Affected Person (AP) to raise concerns, complaints, or grievances related to the project's activities. This GRM outlines the procedures for receiving, assessing, investigating, and resolving grievances in a timely and effective manner.

2. Application

This Management of Grievance & Complaint is applicable to all 5 site (Bina, Dala, Baolo, Visale and Tingoa PV plant sites).

3. Scope

This GRM applies to all Affected Person (AP) by the construction and operation of the Solar Hybrid Project, including but not limited to local communities, employees, subcontractors, suppliers, and government agencies. It covers grievances related to environmental, social, health, safety, labor, and human rights issues arising from project activities.

4. Principle
   - 4.1. Transparency: We commit to transparently addressing grievances and providing regular updates on the status of complaints.
   - 4.2. Accessibility: We ensure that stakeholders have access to multiple channels for reporting grievances and that these channels are easily accessible and well-publicized.
   - 4.3. Impartiality: We handle grievances impartially, ensuring fair treatment and due process for all parties involved.
   - 4.4. Confidentiality: We respect the confidentiality of individuals raising grievances and protect their identities, where requested.
   - 4.5. Accountability: We hold ourselves accountable for addressing grievances promptly and effectively and for implementing corrective actions as necessary.
5. Grievance Redress Mechanism
   - 5.1. Construction Phase

     It is anticipated that most complaints arising during construction will be minor complaints concerning health & safety, COVID-19,noise and vegetation clearing that should be able to be resolved easily.

   - 5.2. Grievance and Complaints Receivable method

     All complaints arriving at the Contractor’s Site Office will be received in a positive manner and entered in a Register (Appendix 1) that is kept at the site by: *date, name, contact address and reason for the complaint*. A duplicate copy of the entry is given to the Affected Person (AP) for their record at the time of registering the complaint.

   - 5.3. Initial Assessment , Investigation , Referral to Solomon Power project

management Unit (PMU) , Resolution and Response.

5.4. As per the GRM flowchart (Appendix 2).

5.5. For more complicated complaints, the PM will forward the complaint to the SP Management. The SP Management has a maximum of one week to resolve the complaint and convey a decision to the AP. The AP may if so desired, discuss the complaint directly with the SP Management. If the complaint of the AP is dismissed, the AP will be informed of their rights in taking it to the next step. A copy of the decision will be sent to the Environment and Conservation Division (ECD)[6].(ECD is department based within Ministry of Environment, Climate Change, Disaster Management and Meteorology).

5.6. Should the AP not be satisfied, the AP may take the complaint to the Permanent Secretary (PS) in Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) who will appoint the Director of the ECD to review the complaint. The PS will have 15 days to make a determination. Should the complainant still be unsatisfied with the response, they will retain the right to pursue the issue through the usual processes of the Solomon Island courts.[7]

5.7. Operation and Maintenance Phase.

During operation, the same procedure applies i.e., there are no fees attached to the AP for making a complaint, the complainant is free to make the complaint which will be treated in a transparent manner and the AP will not be subject to retribution for making the complaint.

6. Confidentiality and Protection.
   - 6.1. The identity of individuals raising grievances will be kept confidential, except where disclosure is necessary for investigation or resolution purposes or with the express consent of the complainant.
   - 6.2. Measures will be in place to protect individuals from retaliation or negative consequences as a result of raising grievances.
7. Review and Evaluation.
   - 7.1. The grievance mechanism will be periodically reviewed and evaluated to assess its effectiveness and identify areas for improvement.
   - 7.2. Affected Person and Employer feedback on the grievance process will be solicited and used to make necessary revisions and enhancements.
8. Compliance and Accountability.
   - 8.1. JV GSGESF is committed to complying with all applicable laws, regulations, and international standards related to grievance handling.
   - 8.2. Project personnel responsible for managing grievances will be held accountable for adhering to this policy and for addressing grievances in accordance with its principles and procedures.
9. Documentation and Reporting.

All grievances and complaints received, along with their resolution status, will be documented and reported regularly to Employer.

This grievance redress mechanism (GRM) serves as a framework for ensuring that grievances and complaints are addressed transparently, fairly, and effectively within the context of a solar

[6] As per the GRM process defined in Solar PV Hybrid Power Plants - Specification 2019

[7] As per the GRM process defined in Solar PV Hybrid Power Plants - Specification 2019

hybrid project. It outlines clear procedures and principles aimed at promoting accountability, trust, and positive stakeholder relations.

All grievances will be received by contractor at each subproject who then shall inform ESM. The ESM will record and activate the grievance redress on his/her weekly site visit.

APPENDIX 1: Grievance and Complaint Form / Register

1.0 Affected Person Information

Date Reported	
Site Name / Location	
Name of Person Reporting	
Contact Details	
Gender	

2.0 Nature of Grievance / Complaint

□ Environment □ Social

□ Health □ Safety

□ Labour □ Human Rights

3.0 Grievance /Complaint Details

When this occurred, who was involved, what occurred and where, and if this has been repeated behavior (attached additional sheet if needed)

_____
_____
_____
_____
_____
_____

Person Reporting: Signature …… Date: ……..
Person Addressing the Complain

Name…….. Signature: ……. Date: ……..

Has the Grievance or Complaint Solved Locally (by JV GSGESF Manager) : □ Yes □ No
If Yes, provide redress action below . if No provide the details to SP referral

Date referred to SP: ……

Name of SP Representative: …… Signature: …….

4.0 Redress Action (by Contractor or Employer or PS or Court)

_____
_____
_____
_____
_____

5.0 Communication to Affected Person

Date: ……. Method: …….
Is the affected person satisfied with remedial action: □ Yes □ NO

If yes, Date of Closure: ……

Affected Person Signature: …… Contractor Manager Signature:.....

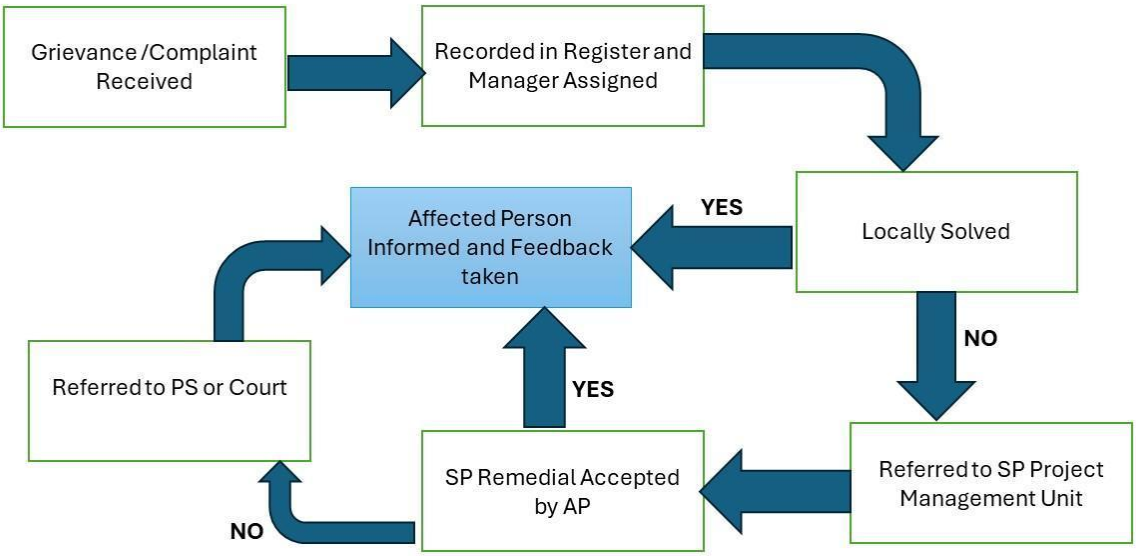
If No, details of referral to Permanent Secretary (PS)

Date Referred: ……. Name of PS:.....

Actual Date of Closure: ……..
(either by Government or Court)

6.0 Feedback and Learning

APPENDIX 2: Flowchart for Processing Grievances



Annex 10.0: UXO Management

UXO Clearance Frame and Guide[8]

1. Introduction

Solomon Islands was the site of severe battle between the Japanese Army and the American Allied Forces during WWII. The war resulted in hundreds of thousands of firearms and UXO items left behind.

WWII ordnance found in Solomon Islands can be defined as either unexploded (UXO) or abandoned (AXO). Unexploded ordnance are explosive ordinances that have been primed, fused, armed or prepared for use in armed conflict but have failed to explode. Abandoned explosive ordinances are explosive ordnance unused during the war and subsequently left behind.

For the purpose of this guide, UXO is used as the general term to describe unexploded or abandoned ordnance, munitions and explosive devices left behind during WWII which represents a hazard to people and to any future development of the land on which they are abandoned.

Although UXO is not captured in the Environmental Act 1998 and Environmental Regulation 2008, UXO clearance activities have become an integral part in any development activity in the Solomon Islands. As the ministry responsible for infrastructure development in Solomon Islands, the Ministry of Infrastructure and Development (MID) has a draft UXO procedure developed as a means to render safe and take responsibility for UXO related hazards on any development activity occurring in Solomon Islands.

Note that this guide only provides guidance for the management of UXO threats. It does not give detailed guidance on EOD contracting practice. The safety of Contractor employees, its employer, subcontractors and vendors are not guaranteed.

2. Objective of the Guide

The overall purpose of this guide is to provide a policy and framework governing responsibility and procedures to assess, mitigate and eliminate any UXO related hazard from any SP project site before any construction work commences. It provides guidance on the management of any UXO hazards associated with any development activity carried out by the Authority.

This guide also helps the Authority conduct appropriate UXO risk management procedures at the design phase, provide budget for and seek appropriate advice and guidance on UXO contamination and disposal.

It provides the steps to follow to allow EOD contractors to sweep and clear contaminated project sites before any building, engineering, geotechnical investigations, and maintenance work of a construction nature starts.

Annex 10.1: UXO Management Plan- Subproject Site

[8] Based on SIEA UXO Clearance Framework and Guide

During WWII, the subproject site was subjected to battles and while this occurred over 60 years ago, it is possible that a chance discovery of a UXO may occur. Provision in the contract BOQ will ensure the contractor to carry out a UXO survey prior to any construction. Should UXO be discovered, the contractor is to immediately cordon off the area, arrange the evacuation of nearby residences and inform the RSIPF of the find.

1. Application

This UXO management plan is applicable to all 5 site (Bina, Dala, Baolo, Visale and Tingoa PV plant sites).

2. Sites Intensity

Table 10.0: Site Battle Intensity

Site Name	Battle Intensity
Bina	Not Significant
Dala	Not Significant
Baolo	Not Significant
Visale	Intense (Battle of Guadalcanal)
Tingoa	Intense (Battle of Rennell)

3. Responsibility and Risk Mitigation Measures

Risk mitigation measures are put in place to ensure so far as is reasonably practicable the health and safety of the Contractor, subcontractors and of any other persons affected by the development activity.

4. Authority

JV GSGESF employees and subcontractors have a responsibility to ensure the safety of its staff and every other person involved or affected by its normal day to day project construction. The responsibility to report a sighting of a UXO or any suspicious article found at project site.

In the event of a suspicious UXO find, the following risk mitigation measures should immediately be followed.

- the area must be cordoned off appropriately;
- physical measures put in place to avoid unauthorized tampering of the UXO find;
- highly visible markings are provided at the HIGH RISK area; and
- the UXO risk is communicated to surrounding communities.

The find is reported to the SP Project Management Unit (SP PMU) and the RSIPF-EOU. The SP PMU will be responsible for the assessment, mitigation or elimination of any UXO related hazard with responsible authorities and EOD clearance contractors. JV GSGESF will keep statistics and

records of UXO information from studies done on its sites and the report made available to the public upon request.

A reporting system is required to be established, communicated to all parties and managed for UXO clearance activities.

The Contractor is responsible for public awareness and consultation and building employee and stakeholder capacity to respond to the UXO threats at project site.

5. EOD Contractors

EOD contractors are required to be competent and registered to carry out this type of service. They are required to have the necessary expertise and equipment to identify, isolate, remove and safely dispose of all UXO threats with assistance from the RSIPF-EOU.

The EOD contractor is responsible for site safety procedures and is required to have in place appropriate strategies to manage risks and environmental impacts and have appropriate insurance coverage.

The EOD contractor will provide to JV GSGESF before any clearance work begins,

- Supporting documentation on competency (experience and references), insurance coverage and legal registration where necessary;
- Proposed suitably qualified and experienced staffing to carry out the service;
- Proposed procedures complying with international standard UXO clearance practices;
- Proposed UXO identification and clearance methodology and timing;
- Contract amount for the service.

The typical activities to be carried out by EOD contractors is summarized below[9].

- Carry out and complete UXO survey of the project site including affected areas outside of the project site but related to the project;
- Cordon off areas and prevent unauthorized tampering where suspected UXO threats are determined;
- Arrange for and carry out safe removal of all UXO ordnance from project site;
- Responsibly dispose UXO ordnance in accordance with relevant local law;
- Ensure strategies and resources are in place to manage unintended accidents and explosions;
- Provide a report confirming completion of UXO survey, detection, removal and disposal; and
- Provide necessary documentation to RSIPF – EOD and other relevant SIG agencies for the issuing of a Certificate of Clearance.

The contractor will confirm and certify in accordance with CIRIA C681: Unexploded Ordnance (UXO) or an alternate internationally accepted standard.

6. RSIPF – EOU

[9] The procedures are summarized from the MID's '9.0 Unexploded Ordnance Procedure'

The RSIPF– EOU is the body responsible for clearance and disposal of UXO finds. The RSIPF EOU also responds to public reports of UXO and undertakes clearance activities. Where there are no nearby police stations in the outer islands, reports should be directed to relevant government district agencies which then notify police at the provincial headquarters.

The RSIPF EOU will provide a Certificate of Clearance after suspected UXO ordnances have been removed by them or by EOD clearance contractors before any construction work can begin.

7. Risk Assessment

Preliminary risk assessment has been done to identify any potential UXO risk or threat and decide whether a detailed risk assessment is required.

Preliminary risk assessment includes:

- examination of existing historical data;
- talking with local surrounding communities about any past occurrences with UXO's;
- provide probability on threat potential; and
- recommend further steps to take.

This is to be documented and filed and communicated to the SP PMU.

A Preliminary risk assessment is listed in Risk Register Annex 1.1. If potential risks are identified, a detailed risk assessment leading to detection and identification, recovery and disposal will be initiated.

8. Contact Details

Organization	**Contact Details**
Royal Solomon Islands Police Force (RSIPF)	Director Explosive Ordnance Unit P.O. Box G1723 Honiara Tel: 23820
Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM).	Director –Tel:24070 Environmental Conservation Division P.O. Box 21 Honiara Tel: 23031/28054 Undersecretary technical
Ministry of Infrastructure (MID)	Under Secretary (Technical) P.O. Box G8 Honiara Tel: 24247-Undersecretary Admin Tel: 20331-Undersecretary Technical

Annex 11.0 Environmental Social Management and Monitoring Plan

This Environmental Social Management and Monitoring Plan is applicable to all 5 sites (Bina, Dala, Baolo, Visale and Tingoa PV plant sites).

IMPACT MANAGEMENT					**IMPACT MONITORING**				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Pre Construction Phase									
UXO Survey	Contact with UXO	Completion of the UXO survey by qualified personnel.	The Contractor / Subcontractor	To be include in the BOQ	Survey been carried out by approved personals	Certificate showing the project area is UXO free	SP		
	Accidental Discovery of UXO.	Should UXO be discovered, The Contractor is to immediately cordon off the area to arrange the evacuation of nearby residences and inform the RSIPF of the find.	The Contractor Subcontractor	Include in constructio n cost	Occurrence of UXO at the construction site	Upon discovery of UXO	SP The Contractor		
Development of preliminary designs /site plans/maps.	Resettlement and damage to vegetation.	The concept drawings and route are designed to avoid resettlement impacts and disturbance to vegetation.	The Contractor	To be part of the project cost.	Plans approved by SP and Provincial planning board	Building permit	SP		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Construction Phase									
Site Clearance	Removal of grass, shrubs and trees.	Minimize clearance to construction perimeter and area acquired by Solomon Power. Unnecessary clearance avoided.	The Contractor/ Subcontractor	Include in construction cost	Area of vegetation; area of felled trees/vegetation removal	During survey and activities - visual inspection before, during and after	SP The Contractor		
Operation of construction machinery generating emissions.	Emission of exhaust from vehicles and machinery. Emissions of CO2 and POPs.	Maintain construction equipment. Prohibit the use of equipment that causes excessive pollution	The Contractor	Include in construction cost	Air Quality emissions	After complaint - periodic visual inspection; Any particulate matter and smoke.	SP		
	Dust caused by construction vehicles running at high velocity, Degrade air quality/ Increase TSS in the atmosphere.	Thorough watering to avoid dust. Restrict operations if particulates are causing nuisance to sensitive receptors.	The Contractor	Include in construction cost	dust, particulate matter; Use of tarpaulins and loading of vehicles; Stockpiles	After complaint - periodic visual inspection.	SP		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Operation of construction machinery creating noise	Noise impacts.	Construction machine exhaust systems and noisy equipment will be maintained to minimize noise. Limit noisy construction activities to day time hours, Agree works schedule with stakeholders.	The Contractor	Include in construction cost	Adherence to agreed schedule; Complaints (no. logged with resolution).	After complaint - review schedule. Consultation (ensure schedule being adhered to).	SP		
	Impacts on construction workers.	Workers limit of exposure to noise will be strictly below 70 decibels per 8-hour shift (See WB guideline in heading 2.1) Provide workers with noise abatement equipment (ear-muffs, etc.). Complaints through the GRM will be addressed by The Contractor.	The Contractor Subcontractor	Inc. in construction cost	Workers safety equipment.	Weekly Workers are provided with safety equipment.	SP The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Stockpile of Construction Materials.	Construction materials washed out into the marine environment Increase siltation and turbidity.	Construction materials will be stockpiled away from the drain and covered when necessary. Placement of diversion ditches around stockpiles.	The Contractor Subcontractor	Inc. in construction cost	No stockpiling close to water bodies.	Weekly-Visual Inspection.	SP The Contractor		
	Dust from exposed stockpiles.	Material stockpiles located in sheltered areas and to be covered.	The Contractor Subcontractor	Inc. in construction cost	dust, particulate matter; and stockpile covered	Weekly or after complaint - periodic visual inspection	SP The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Excavation work, installation of the solar farm	Accidental release of hydrocarbons from the construction machinery.	Ensure that all construction machines are well maintained. A prestart on a construction machine is carried out every morning.	The Contractor Subcontractor	Include in constructio n cost	Construction machinery is maintained in good working order. Spot check for visible oil Water quality.	Weekly - visual inspection.	SP The Contractor		
		Oil/fuel remediation agents, oil pads, oil booms and geo-fabric clothes are procured for usage as part of the emergency response plan	The Contractor Subcontractor						

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Excavation work, installation of the solar farm	Direct discharge to adjacent creeks or streams.	Development footprint will be provided with effective drainage systems which will avoid direct discharge to creeks or streams/ when the need arises.	The Contractor Subcontractor	Include in construction cost	No direct discharge to water bodies	Weekly visual inspection SP ECD	SP The Contractor		
	Access and Mobility at several road sections will be prohibited temporarily during the construction.	The Contractor to allow sections of the road area to be continuously accessed by the public. Signs and other appropriate safety features will be used to indicate construction works are being undertaken. Contractor to develop Traffic Management Plan as part of CESMP	The Contractor	Include in construction cost	Maintenance of access; Signage; Road free of materials and debris; Haulage routes rehabilitated	During activities - Visual inspection; Consultations; Review of traffic management plan	SP The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Fueling construction machines and storage of Hydrocarbons	Hydrocarbon leakage/spills from the construction sites/workshops	Detailed Emergency Response Plan (as part of CESMP) prepared by The Contractor to cover hazardous materials/oil storage, spills and accidents to land and water. Chemicals will be stored in secure containers away from the water bodies. Chemicals stored in bund area or compound with concrete floor or similar solution and weatherproof roof and fire extinguishers. Protective Equipment (PPE) to workers directly involved in handling hazardous substances. Ensure all construction machines are well maintained. Accidents reported to police within 24 hours.	The Contractor Subcontractor	Include in construction cost.	Ensure storage sites are using existing—concrete base or similar solution.	Weekly inspection.	SP The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Fueling construction machines and storage of Hydrocarbons	Spill associated with Hazardous substances.	Store kerosene, diesel, petrol and lubricants in a bunded area with an impervious surface and with stormwater drainage provisions. Store paint, and chemicals in a hazardous materials storage shed with walls, roof, ventilation and a bunded floor with an impervious surface; Ensure that the storage capacity of each bunded area is at least 105% of the total volume of hazardous material stored; Secure the areas and sheds used to store hazardous materials by erecting a security fence of minimum height 1.80m around each facility with the fence located outside the bund; Locate the hazardous materials storage areas at least 10.0m away from any watercourse; Contain and mop up spills of hazardous materials in accordance with manufacturer's specifications.	The Contractor Subcontractor	Include in construction cost.	Handling of hazardous materials.	Weekly inspection	The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Fueling construction machines and storage of Hydrocarbons	Smoking near storage and workshop areas causing a fire	Prohibit smoking close to fuel storage areas. Put up signs of no go smoking zones. Provide extinguishers and train workers on their use.	The Contractor Subcontractor	Include in construction cost.	Signs and fire extinguishers.	Code of conduct and housekeeping rules being adhered to. Verify records of accidents	SP The Contractor		
Presence of construction workers	Waste generated at construction and installation sites causing nuisance and potential contamination to adjacent water bodies	Garbage receptacles will be set up at construction sites, which will be regularly cleared. Prepare waste management plan (as part of CESMP). All wastes from the work sites shall be disposed of in approved landfill/areas by the provincial authority.	The Contractor Subcontractor	Include in construction cost.	Waste management - visual inspection that solid waste is disposed of as per CESMP.	Monthly, as required and spot checks - visual inspection. Review of waste management plan.	SP The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Presence of construction workers	Waste generated at construction and installation sites causing nuisance and potential contamination to adjacent water bodies	Provide sufficient training in appropriate waste disposal methods. No wastes shall be dumped in waterways. Ensures wastes not discharged to rivers or coastal waters and that all wastes disposed of in proper areas. Provide adequate and safe drinking water.	The Contractor Subcontractor	Include in construction cost	No direct discharges to local streams, coast or rivers; Regularity of waste removal	Visual inspection Weekly	SP The Contractor		
	Possibility of conflicts or antagonism between the public and the workers	Facilitate reconciliation between parties-affected person, Contactor to involve in resolving the issue. Call the Police once it goes beyond control. Facilitate grievances through the GRM process if it's relevant	The Contractor Subcontractor	Include in construction cost	No. concerns raised and resolution;	Ongoing - consult with the public to monitor environmental and social concerns	The Contractor		

IMPACT MANAGEMENT					IMPACT MONITORING				
Project activities	**Potential Environmental and Social Impacts**	**Mitigation Approaches**	**Responsibility**	**Mitigation Cost**	**Parameter to be monitored**	**Means of verification and frequency**	**Monitoring Responsibility**	**Achieved Yes/No**	**Remarks / Action**
Presence of construction workers	Risk of contractor engaged in GBV	All workers will be required to undertake GBV training and sign the associated code of conduct prior to commencement of civil works.	The Contractor Subcontractor	Include in construction cost	Zero GBV tolerance.	Incident reports and consultations.	SP		
	Climate Change and Natural disasters.	Inspection and maintenance.	The Contractor Subcontractor	Include in construction cost	Equipment failure	Weekly inspection and after every storm.	The Contractor		

Annex 12.0 Emergency Response Plan

1. Introduction

1.1. Background

An Emergency Response Plan is developed as part of the CESMP to prevent or minimize the impact of an emergency during the construction phase of the 5 Hybrid Solar project.

JV GSGESF is responsible for developing and implementing Emergency Response Plan (ERP) for all 5 sites.

1.2. Purpose

The purpose of this document is to:

- Provide a clear understanding of how to handle and react to any emergency at the solar farm (including non-dangerous and dangerous goods).
- Prevent or minimize the impact of an emergency.
- Facilitate a return to normal operations as soon as possible.

1.3. Objective

This ERP provides guidance on response actions to be taken in an emergency which may occur within all areas of the site, to minimize the potential for loss of life, injury to people, damage to the environment, and damage to property. The objectives of the ERP (in order of priority) are:

- Protection of human life and rescue of people;
- Protection of the environment;
- Protection of property, equipment, and products;
- Restoration of safety to affected areas;
- Restoration of facilities; and
- Resumption of normal operations.

1.4. Definition

An emergency is defined as an abnormal and dangerous situation needing prompt action, which cannot be provided by the personnel on duty using the available local resources to control, correct and return to a safe condition. All product spillage and fires are to be treated as emergencies. If there is any doubt, an event should be treated as an emergency.

1.5. Emergency Levels

The three levels of emergency are defined as:

- Local Alert for any situation which threatens life, property or the environment at one location on site, but may not spread to other areas on site.
- Site Alert where effects may spread to other areas on the site.
- External Alert where effects may spread and impact on people, property, or the environment outside the site.

Each of these three levels of emergency may be further classified as:

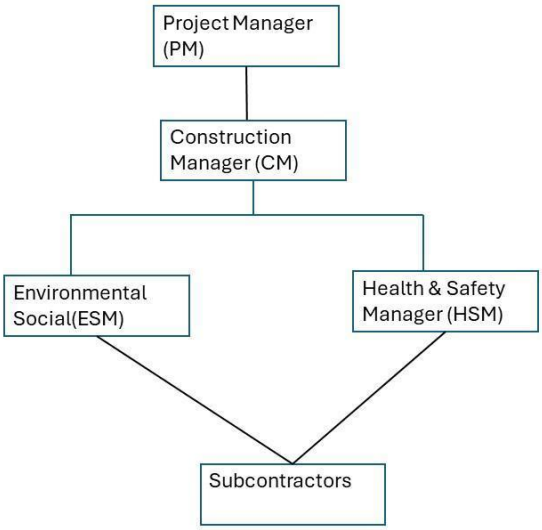
- Minor Emergency: Where the emergency can be handled entirely on site and no assistance is required from the public emergency services.
- Major Emergency: Where the situation requires the assistance of the public emergency services, i.e., ambulance, fire brigade or police.

An External Alert is automatically a Major Emergency, as action cannot be taken outside the site boundary independently of the public emergency services

2. Project Description

JV Gamma Solutions- Gamma Energy Sfraone (JV GSGESF) has been contracted by Solomon Island Electricity Authority (SIEA) trading as Solomon Power (SP) to design, procurement, construction and commissioning of Solar Hybrid mini plants in 5 key locations within Solomon Islands. The 5 key locations are Visale (Guadalcanal Province), Tingoa (Renbel Province), Bao'olo (Isabel Province) and Bina & Dala (Malaita Province).

3. Emergency Response Structure



4. Emergency Equipment and Alarms

Equipment has been installed around the site for use in response to emergencies. It shall be maintained and accessible for immediate use, and its location appropriately sign posted. The range of equipment installed at the site includes the following.

4.1. Fire Extinguisher

Fire extinguishers are provided for first attack firefighting, when safe, by employees trained in their use

4.2. First Aid Kit

First aid kits are to be available at every site. First aid kits contents (Annex 2, Appendix 7) will be regularly checked and maintained.

5. Types of Emergencies

5.1. Fire and Explosion - Appendix 1

There are several sources where a fire or explosion might occur at the site, including:

- Transformer internal arcing, resulting in an oil spill, possible ignition, and bund fire.
- Electrical fires in the solar panels modules (i.e., overheating of equipment, electrical failure resulting in short circuit),
- Vehicular accident resulting in a release of fuel as a result of the collision, ignition of released fuels,
- Bushfire/grassfire on adjacent land propagating on site and igniting transformers, etc.
- Spill response plan is in Appendix 2.

5.2. Medical and Personal Emergency- Appendix 3

Personal injuries can occur as a result of work-related accidents or illnesses. Operations at site such as vehicle movements, using tools, vegetation management may result in personal injury or illness to staff involved with the operations at the site and/or the handling of the materials. In this event it may be necessary to evacuate personnel as a medical emergency.

5.3. Natural Events

Solomon Island is prone to earthquakes and cyclones (Nov to April). While the facility is built using appropriate earthquake and cyclone standards, in an even of the earthquake or cyclone there could be potential damages to the infrastructure at the site. However, this would be expected to be localized and unlikely to result in escalation.

5.4. Civil Disturbance

Notwithstanding the low potential for civil disturbance, there is a potential for vandalism and intruders on site. The most likely scenario is intrusion on site during normal operations (i.e., intruder walking into the site). The main hazard arises when staff approach unauthorized personnel.

5.5. Evacuation

In the event an emergency escalates to the point that personnel must evacuate it is critical they are aware of the emergency assembly points. These locations will be part of site design and communicated to subcontractors through site induction.

APPENDIX 1: Fire and Explosive ERP

1. General

It is imperative that for all fires and explosions the alarm is raised as early as possible. In the

event a fire is discovered, or an explosion identified (i.e., heard), the person detecting the incident shall raise the alarm by immediately notifying others in the immediate vicinity and then contacting the site supervisor (Subcontractor). The Site Supervisor for Subcontractor will notify the CM, ESM and HSM about the findings.

2. Fire

All Employees

- Warn personnel close by or those who may be in immediate danger.
- Immediately notify the site supervisor. If the site supervisor cannot be located, notify his/her deputy.
- If appropriate, the site supervisor will notify the Fire Brigade as per contact details provided in Health and Safety Plan for specific site Annex 2.1 to 2.5, point 15).
- The Cm/HSM will direct subcontractors to commence evacuation if required.
- The Subcontractor shall attempt to extinguish the fire if it is feasible and rescue personnel casualties if involved in the fire area, but only where a rescue can be accomplished without undue risk to the rescuer. Use fire extinguishers as required. Take care to select the correct firefighting medium based on the fire type (i.e., care must be taken with electrical fires and water).
- The Subcontractor site supervisor will direct the team to ensure clear access for the Fire Brigade (i.e., remove trucks off site).

3. Explosive

This explosive is referred to as UXO. Therefore UXO Management Plan as Annex 10.o is applicable and to be followed

APPENDIX 2: Spill Response Plan

1. Make sure the area is safe for entry and the spilled material or liquid does not pose an immediate threat to the health and safety of the responder.

2. Check for hazards (flammable material, noxious fumes, cause of spill).

3. If serious hazards are present leave the area and call the emergency Contact provided in Health and Safety Plan (Annex 2, point 15)

4. If possible, stop the source of spill (plug hole, upright the container, shut off valve) following all health and safety procedures

5. Prevent spill from entering storm water drain using absorbent or other spill response material as necessary or as directed by Material Safety Data Sheets (MSDS).

6. Clean up spilled material/absorbent (do not flush area with water).

7. Dispose of cleaned material/absorbent in a secure container for disposal as hazardous waste.

8. Notify Project Manager and SP PMU

APPENDIX 3 -Medical and Personal Emergency

If injured, seek first aid/medical treatment immediately.

If a person is severely injured, has collapsed or is in distress, do not panic. The following procedure shall be carried out:

- The person discovering the casualty shall:
    - Advise the supervisor of the injured person.
    - Contact the HSM and advice of the casualty.
    - If qualified, apply first aid, if not qualified await arrival of first aid officer or qualified first aid person.
    - Prevent unqualified persons from attempting to assist or treat the casualty

The Health and Safety plan (Annex 2.1 to 2.5) shall be followed for medical response and treatment facilities.

APPENDIX 4: Natural Events

The procedure below covers both tsunami and cyclone preparation, alert, warning, evacuation from site, lasting out the storm and aftermath.

1. **Prepare**

- Site will be maintained in as neat and tidy manner as is practical.
- Storage facilities will be constructed to stand high winds.
- Staff will be informed of emergency procedures in induction.
- Follow and monitor cyclone and tsunami early warning services.
- Throughout the project. The Project Manager and Construction Manager should build strong relationships with the local police in each Island. The police can then advise of any early warnings and provide further advice on emergency procedures.

2. **When a cyclone or tsunami alert is issued**

- Review site for any loose material and tie down (or fill with water) all large, relatively light items such as rubbish bins.
- Ensure all staff know where the evacuation point is.
- Subcontractor to ensure that staff get to their houses well before the event happens.
- Tune into local radio for further information and warnings. Stay in touch with local police and the weather station.

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3. **When a cyclone/tsunami/earthquake warning is issued**

- Park vehicles under solid shelter where possible (hand brake on and in gear). Or at least away from trees.
- Ensure site is clear of all items that could be picked up by wind.
- Tie down any structure or materials.
- Check and Pack the evacuation kit.
- Official advice will be given by local authorities. Until then keep the team indoors.
- If residing in a house perform all of the above for accommodation.

4. **Evacuation Warning Given**

- Wear work safety shoes (not thongs) and tough work clothing for protection.
- Lock doors; turn off power, gas, and water; take evacuation and emergency kits.
- Follow direction of local authorities.

5. **When the cyclone/tsunami/earthquake strikes**

- Stay inside and shelter (well clear of windows) in the strongest part of the building. Keep evacuation and emergency kits with you.
- Drop to the ground, find cover and hold on.
- If the building starts to break up, protect with rugs a strong table or bench or hold onto a solid fixture.
- Beware the calm 'eye'. If the wind drops, don't assume the cyclone is over; violent winds will soon resume from another direction. Wait for the official 'all clear'.

- If cyclone hits while driving, stop (handbrake on and in gear) - but as far from sea, trees and power lines as possible. Stay in the vehicle.

6. After the cyclone/tsunami

- Don't go outside until officially advised it is safe.
- Be aware of hazards.
- Check for injuries and apply first aid.
- Check for gas leaks. Don't use electric appliances if it's wet.
- Beware of damaged power lines, buildings, trees, and don't enter floodwaters. Don’t light matches.
- Heed all warnings and don't go sightseeing.
- Don't make unnecessary telephone calls.
- Listen to the radio such as the Solomon Islands Broadcasting Corporation (AM1035) and other sources of information about safety.

APPENDIX 5: Civil Disturbance

The infrastructure onsite may be attractive items and can draw particular attention from certain elements of the community. Whilst the entrance to the site is by secure access only, there may be times when intruders could access the site (although it is noted that the site is covered by security monitoring) and, hence, the products may draw unwanted attention. Site staff should be on the lookout for any suspicious activity by persons or vehicles on site.

Civil Disturbance can cause severe damage and major disruption to solar farm operations, both directly to the facility and to the infrastructure immediately surrounding the site. It is therefore essential that the site emergency response contains procedures for coping with civil disturbance Examples of civil disturbance include:

- Industrial disputes.
- Unpopular political decisions.
- Demonstrations and marches that get out of control.
- Clashes of opposing groups (i.e., youth gangs) that spill over into the site.

The procedure below is designed to minimize the danger to personnel and the risk of damage to assets.

As soon as the CM is aware of a civil disorder occurring:

- on the site;
- in the vicinity of the site;
- such that the event is imminent of unauthorized entry to the site by a disaffected person or group

The following action should be taken:

- Alert members of the project;
- Initiate action to restrict entry to the buildings on site;
- Prevent contact between demonstrators and the site occupants (employees);
- Notify the Police of the incident and request assistance;
- Notify nominated Project Manager and SP PMU.

1. Restrict entry to the site – site personnel, under direction from the CM should check security in their area and ensure all external gates and entry points to the site are locked.
2. The CM shall restrict contact between the site personnel and the demonstrators.
3. The CM shall contribute in a practical manner by:
    a. Withdrawal of staff where necessary
    b. Supervising the locking up of offices
    c. Securing all records, files, cash, and other valuables
    d. Promoting an air of confidence and calmness.

APPENDIX 6: Evacuation

1. Alarm is raised manually by personnel physically identifying an incident. Personnel will then notify the CM, who will initiate the site emergency evacuation as necessary.
2. On the instruction to evacuate, all personnel will assemble in the Emergency Assembly Point (to be included in site design by the contractor).
3. At the assembly point, staff and contractors will be given instructions on site evacuation or return to work as stipulated by the emergency condition.
4. In the event that the primary evacuation point is not available (i.e., the emergency is affecting the location), the alternate assembly point will be used.

Annex 13.0: The Employer Training

1. Overview

The purpose of the Training Plan is to identify the appropriate training strategies and activities required to achieve the desired learning outcome during the implementation of the Solar Hybrid Power System Project.

The Training Plan provides a clear understanding of what must happen to meet the training requirements that have been defined, thus, end-users receive training in the knowledge, skills, and/or abilities required to support the operation of the newly implemented renewable energy system across the five (5) sites of the Solar Hybrid Power System Project.

The Training Plan outlines the training method that will be used to train Solomon Power Personnel before and after pre-commissioning. Training is essential to ensure long term sustainability of the project and investments.
This training is applicable to all 5 sites (Bina, Dala, Baolo, Visale and Tingoa PV plant sites).

2. Audience

This training document is intended for use by the following people.

- Project Management Unit (PMU);
- Project and Construction Managers;
- Solomon Power Supervisors responsible for ensuring the systems are maintained properly;
- Technicians responsible for operating and maintaining the plants regularly; and
- Trainer.

3. Training Objectives

- Ensure that Solomon Power Personnel gain the skills, experience and knowledge to operate and maintain the plant.
- Provides technical capacity building within the Solomon Islands to reduce troubleshooting timeframes and costs associated with flying technicians from Spain.
- Prepare operators and maintenance personnel with skills required to perform their duties.
- Proper care and maintenance of the system ensures longevity of the plant.

4. Challenges

From our experience, we have encountered one major problem for the long-term sustainability and reliability of the system, the high turnover of technicians creates a training gap. Extensive training may have been provided during the initial training phase however, there is insufficient knowledge transfer for the new replacement. To overcome these challenges JV GSGESF proposes training be provided to as many Solomon Power Technicians as permissible and to extend the training to local operators who will be responsible for maintaining the system in each of the islands.

5. Training Method

Training will take place through the provision of; technical support activities, JV GSGESF training material and supplier equipment training material. JV GSGESF will provide two forms of training to achieve the best outcome. The two forms of training are;

- onsite practical learning and theoretical training through the use of training material and
- User manuals. This to ensure the trainee has the ability to apply theory to practice and to fully understand how to operate, troubleshoot and maintain the system. The training will also focus on the important safety aspects of the power plant.

JV GSGESF will do the following.

- Train personnel from Solomon Power. Train operator on each of the islands if approved by Solomon Power.
- Simplify the learning material which will enable the trainees to get the most out of the material. This approach will ensure future knowledge gaps are minimized or mitigated altogether.
- Technical support activities will be through the form of onsite training programs with special emphasis on teaching skills needed for troubleshooting and maintenance of the Hybrid System. This onsite training will allow trainees to gain practical knowledge. The trainees will have the opportunity to observe, familiarize themselves with the Hybrid power plant, the equipment, and interfaces and practice what they have learnt.
- Pre-commissioning training will be divided into theoretical lectures with practical examples to suit the needs of the trainees for operating and maintaining the plant. Training manuals and materials shall be provided during training.

6. Roles and Responsibilities

The Trainer and the JV GSGESF Project Manager shall be responsible for providing all training material and developing additional materials as required.

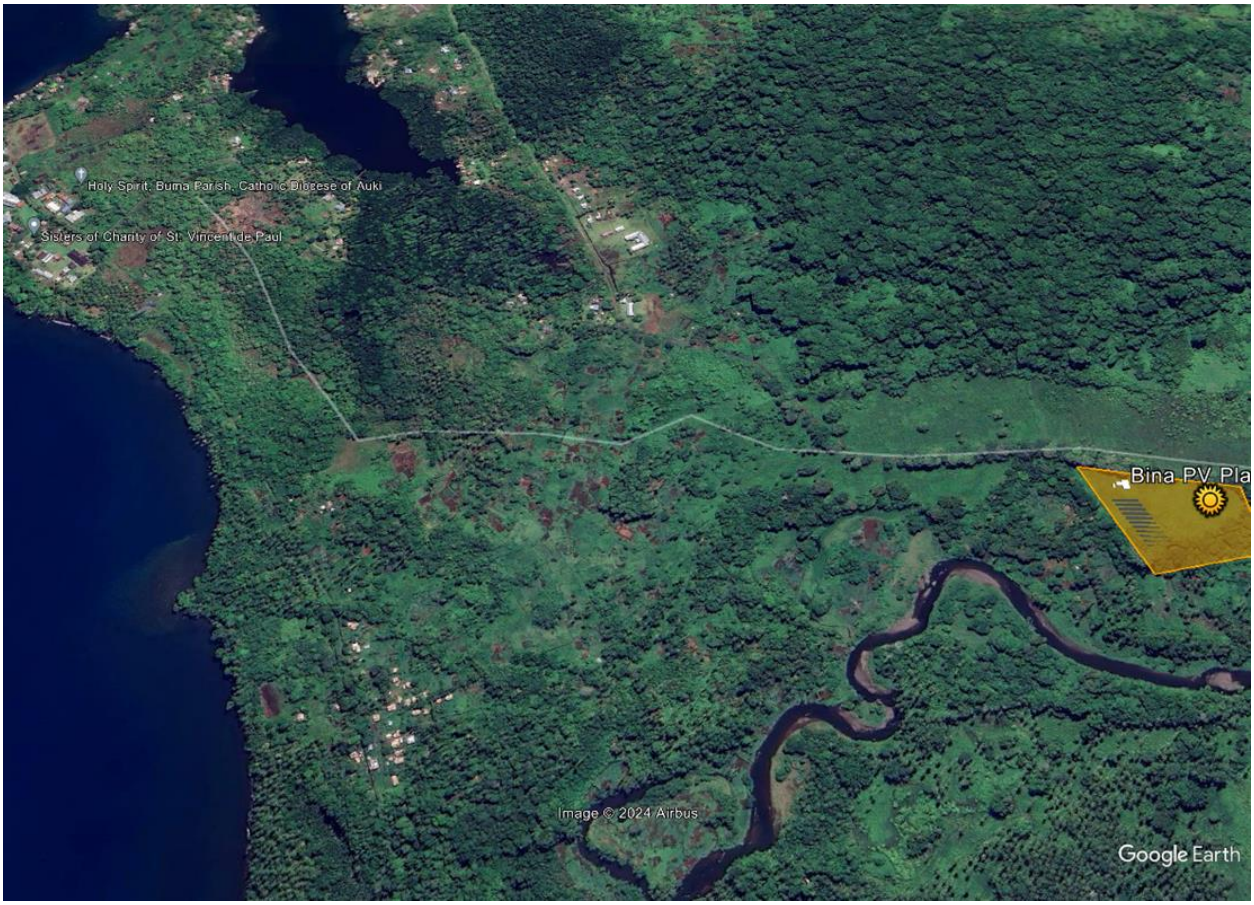
Annex 14.0 Site Restoration

Activity Description	**Remarks**
All debris / waste removed from construction site	
Any holes dug up has been filled	
Ground have been flattened	
Fence checked and ensure it has no damaged	
Drainage system all clear and free of blockages	
All spares have been handed over SP	
All construction machines has been removed from site	

Annex 15.0 Detailed Map and Site Layout

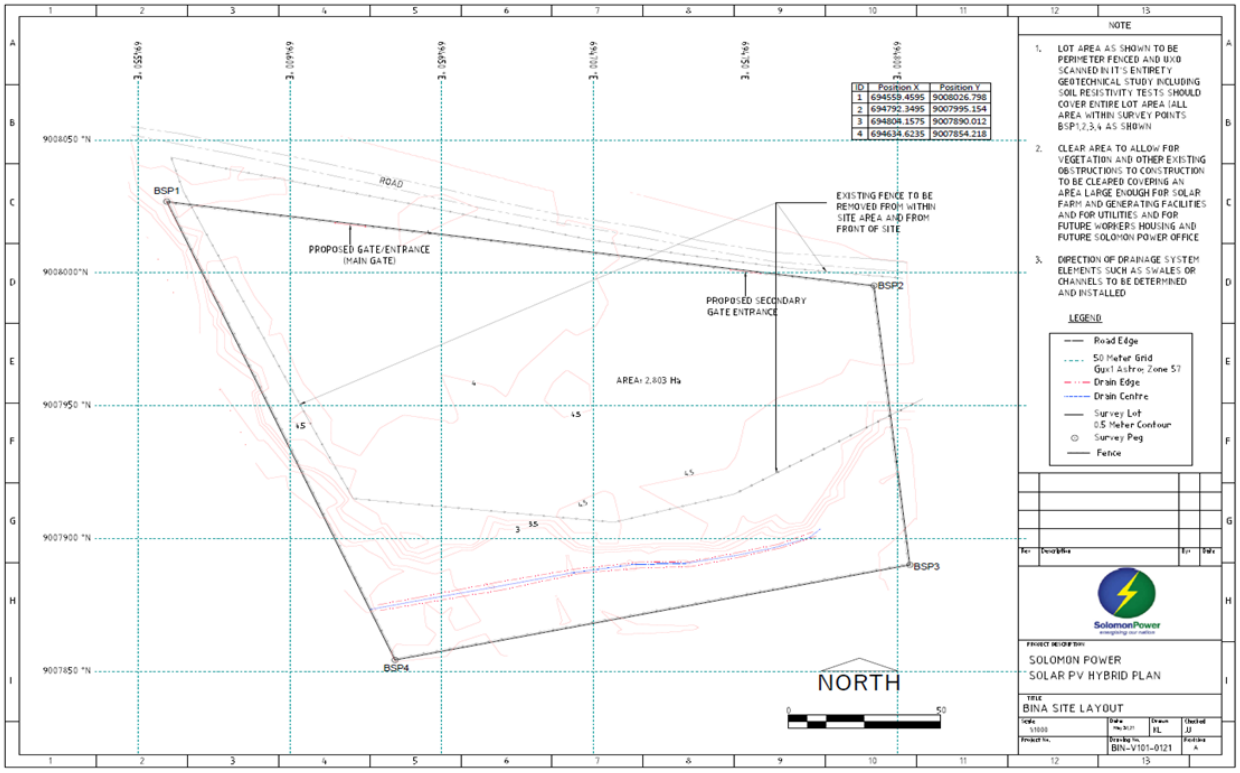
15.1 Bina Map and Site

15.1.1 Bina Site Map



Sensitive Receptors	Impact
Churches located at Buma unloading	Very minimized impact during haulage
Market area in Buma	Very minimized impact during haulage

15.1.2 Bina Site Layout

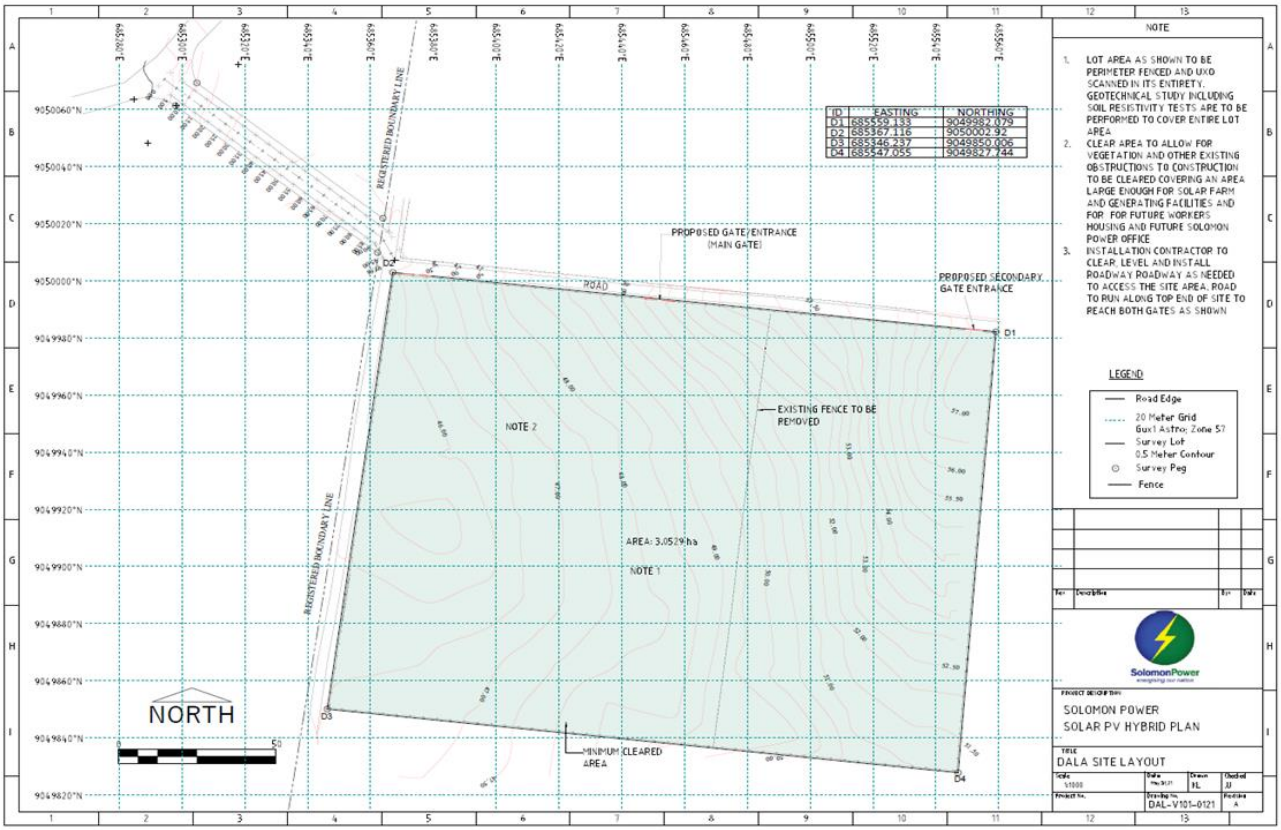


15.2. Dala Site Location

15.2.1 Dala Map

Sensitive Receptors	Impact
Churches located along the road from Auki to Dala	Very minimized impact during haulage
Approximately 4 schools along the road from Auki to Dala	Very minimized impact during haulage

15.2.2. Dala Site Layout

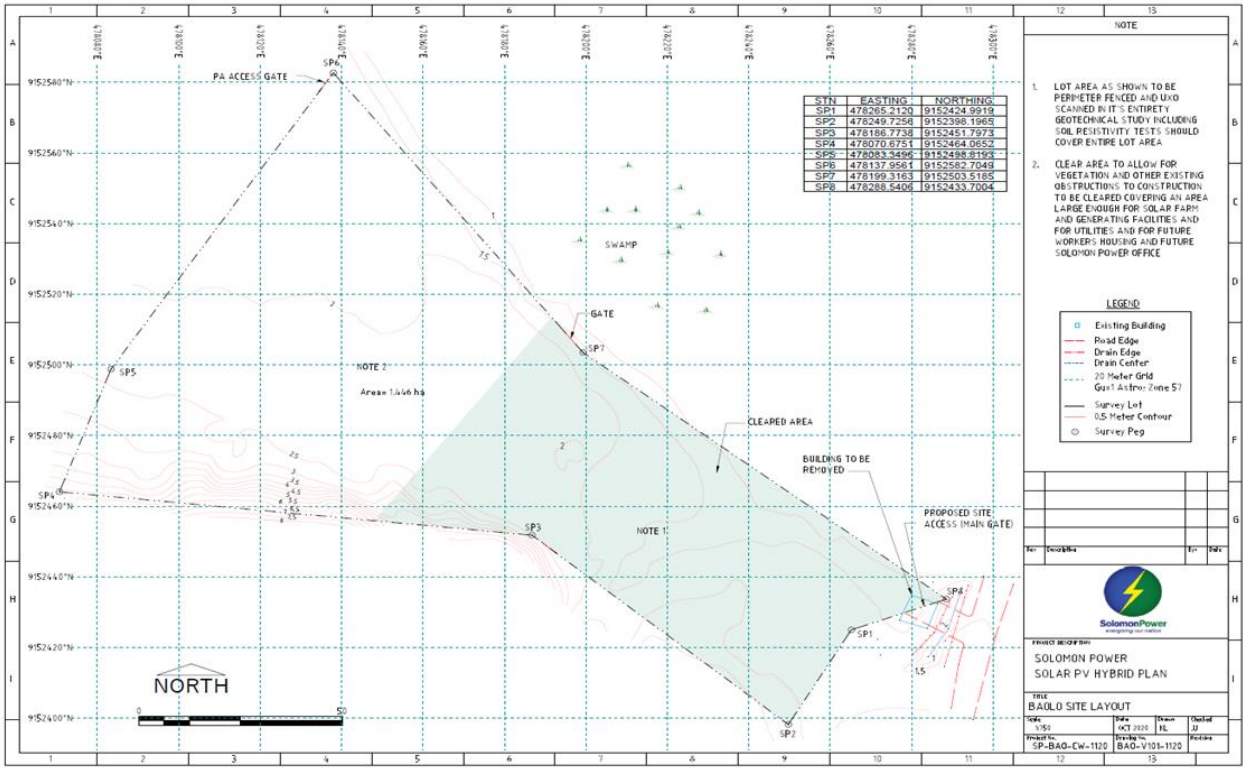


15.3 Baolo Site Location

15.3.1. Baolo Map

Sensitive Receptors	Impact
Nil	

15.3.2 Baolo Site Layout

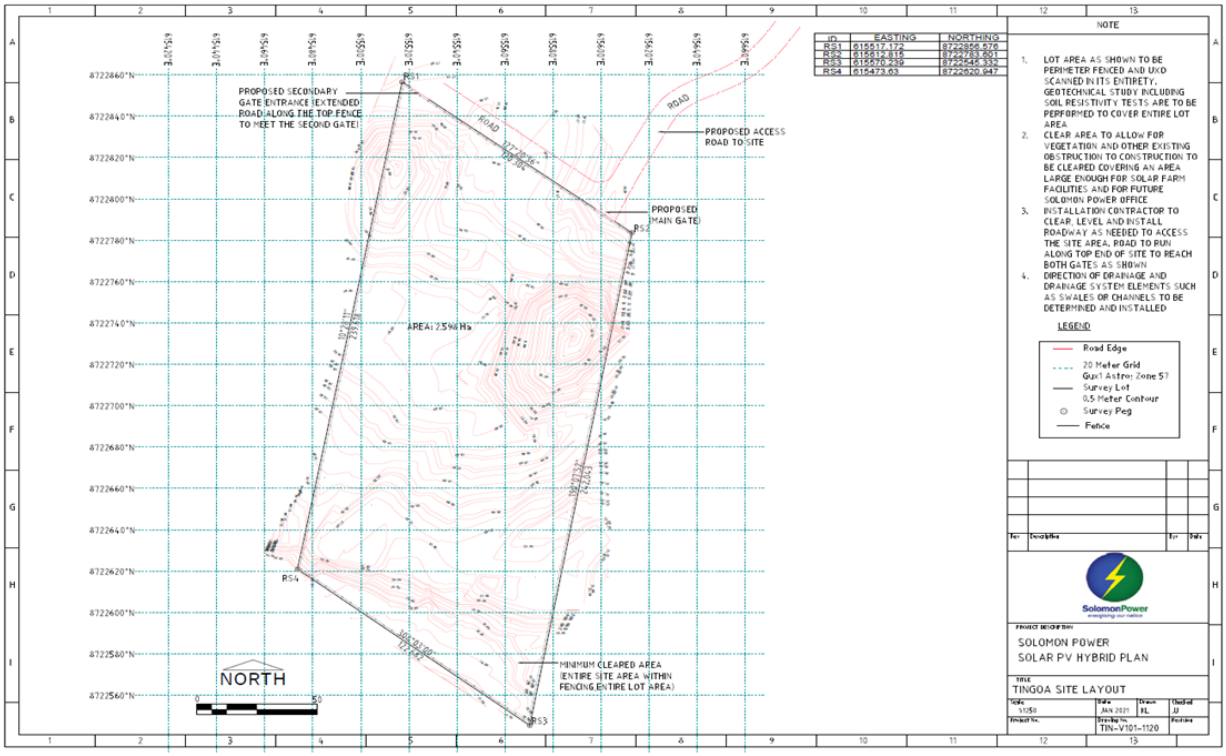


15.4 Tingoa Site Location

15.4.1 Tingoa Map

Sensitive Receptors	**Impact**
Shops and Offices before site at Tingoa Business area	Very minimized impact during haulage

15.4.2 Tingoa Site Layout



15.5 Visale Site Location

15.5.1 Visale Map

Sensitive Receptors	**Impact**
Sisters Church near sea	Very minimized impact during haulage
Communities, Church along the road from Honiara CDB to Visale	Very minimized impact during haulage

15.5.2 Visale Site Layout