

ANNEX H SCREENING FORM FOR POTENTIAL E&S ISSUES

This form is to be used by the PMU (with assistance from other stakeholders as relevant, including the community proposing the subproject) to screen potential environmental and social risks and impacts of a proposed subproject.

The purpose of screening is to (i) determine whether activities are eligible to be financed, and likely to have potential negative environmental and social risks and impacts; and (ii) identify appropriate specific mitigation measures for activities with adverse risks or impacts. Detailed mitigations for general E&S issues are found in the E&S tools and do not require repeating in this form. The screening will help the PMU in identifying the relevant E&S tools required to assess and manage the E&S risks associated with the subproject.

IMPACTS SCREENING FORM

(to be completed by E&S focal point)

Filled in by FMO and PMU E&S focal points (name): Xavie Vaisekavea

Support provided by (name/s and role/s): Titus Siapu (CLO), Boniface Talu (WSE),

Approved by CBSP PMU Project Manager (name) and FMO Fund Manager: Francis Kapini

Sub-project name and project code: Water Supply System for Vatupaua Community

Brief description of subproject and resources/materials (e.g., labour [skilled, unskilled], construction materials, machinery, water, etc) required for construction and operation:

This subproject is for the construction of water supply system for Vatupaua village. See map of location in Annex A. The site is in a predominantly hilly terrain which is mainly covered with grass and trees. The community is situated on a ridge, where houses are scattered along the elevated terrain.. The proposed source for the water supply is an existing spring located between Vatupaua and Verakabikabi village. See KML file attached. The community has previously constructed a small concrete block dam around the spring and sleeve a PVC pipe through the concrete block whereby they're currently using to collect water. This subproject aims to provide a larger concrete catchment (4mx4.7m) with a height of 1m around the source to enable sufficient supply of water that will be pumped to a 10KL and 5KL rotomould tanks located at higher elevations. The water will then be supplied via gravity to allocated stand pipes around the community.


The water supply system aims to provide a reliable and clean water source to the village and improving the quality of life for its residents. Approximate number of households at Vatupaua is 10 with a population of 63. The proposed water source is also accessed by Verakabikabi village and a 5KL tank and a stand pipe that will be installed for the community.

Skilled and unskilled labour, construction materials such as concrete, steel rods, HDPE pipe lengths, fittings, materials is anticipated for the works.

Target beneficiaries of the subproject (e.g., community/ individual groups/ age groups): Vatupaua and Verakabikabi Village

Location of Community: Bahomea Region

No.	Subject	Screening Questions	Yes	No	N/A	Note/Comment (column to be completed with additional information – use separate sheet if more space is required)
ELIGIBILITY SCREENING						
1a	Ineligibility for financing	Is the subproject listed as eligible in Table 3 of the ESMF?	Yes			<i>If yes, complete the screening. See Annex B</i>
1b		Is the subproject listed in the ineligible activity list?		No		<i>if yes subproject is not eligible funding.</i>
		<i>If the subproject type is not listed in Table 3 then consult with the by CBSP PMU Project Manager to confirm eligibility.</i>				
CONSIDERATIONS FOR SCOPING PHASE						
2	What major hazards apply to the selected site and could affect the subproject? (Circle or highlight those)	Sea level rise Earthquake Cyclone Storm Surge Flooding Drought Landslide	Yes	No		<ul style="list-style-type: none"> <i>Is the proposed site appropriate? The proposed project site is appropriate.</i> <i>Can risks associated with the hazards be reduced by different siting or location? The hazards applied to the selected site are natural hazards that are applicable throughout the Solomon Islands and therefore risks associated cannot be reduced by different siting or location.</i>


	that apply)	Wildfire Tsunami Industrial hazards Volcanic eruption Other (write):	Yes			<ul style="list-style-type: none"> Are measures possible around the subproject site to reduce hazard risk, to approve the location? <p>Measures will include minimal disturbance/clearance of slope areas.</p> <p>Provide comments/conditions:</p>
3	Land ownership	Who owns the land?				<p>The land belongs to the Vatupaua community and Verakabikabi community. The Vatupaua community are made up of one tribal group. The Verakabikabi community are a seperate tribal group.</p> <p>Projects requiring permanent resettlement are not eligible for funding.</p> <p>Projects requiring acquisition of customary land are not eligible for financing.</p> <p>Has a voluntary land donation form been signed for any customary land? A land use agreement has been signed. See Annex C</p>
4	Current land use	What is the land currently used for?				<p>The land is mostly grassland, fruit trees and a few residential areas.</p> <div data-bbox="1113 853 1821 1238">  </div> <p>Is it used to grow crops or raise animals?</p> <p>Yes</p> <p>There is a cattle farm in the community area. However, the farm is distant from the actual water source and residential areas.</p>


5	Community support	Does the community support the project?	Yes			<i>The community really supported the project. The community highlighted that water infrastructure is a need of the community for a very long time and look forward to support its implementation.</i>
		Have they raised any concerns?	Yes			<i>One of the concerns of the community is they wanted the pump to be connected to power instead of generator. The CBSP 2 informed that due to no power availability in the community at the moment, the system will have to be connected to a generator.</i>
6	Unexploded ordnance (UXO) (e.g., from WWII)	From discussions with local community around previous potential finds, is there potential to find UXOs at the site?		No		<i>If yes, need to get site cleared before ground disturbance activities can commence. Need to ensure allocation for this is included the project budget.</i>
7	Positive impacts	Is the project expected to have positive environmental and/or social impacts/benefits?	Yes			<i>Describe such impacts</i> <i>Positive social impacts from the subproject include improved access to water and improved sanitation for the community including the women and children. It is also reliable and convenient for the community during rainy weather.</i> <i>The water source will be protected and the proposed location for the borehole is not near any protected forests or sensitive ecological features.</i>
8	Sustainability	Does the community have a plan for the management and maintenance of assets (including prevention of vandalism if this is a risk) after implementation?	Yes			<i>Management Plan to accompany an application for funding</i> <i>A water committee will be set up with assistance from RWASH and they will be responsible for the plan for operation and maintenance of the water supply system.</i>
CONSIDERATIONS/IMPACTS DURING DESIGN & CONSTRUCTION PHASE						
9	Does the subproject design consider needs of woman and people with disabilities?		Yes			<i>Describe how the subproject design considered needs of woman and people with disabilities.</i> 1. Access to water will be within the village where women don't need to travel long distance to collect water. 2. Stand pipes will be at convenient locations as desired by the community, taking into consideration cultural values of the community and households of people with disabilities. 3. Reliability of water supply will help improve women's hygiene practices.
10	Vegetation cover, trees, insects, animals	a) Will the subproject remove vegetation cover, cut down trees for timber or site clearance?	Yes			<i>It is anticipated that only minimal clearance of vegetation cover will be required.</i> <i>Specify the number and the type of trees to be cut down or area of vegetation (m²)</i>

			No		<p>Will you clear vegetation from a riverbank or within 10m of a river?</p> <p>For projects that require clearing of vegetation within 10m of a river bank, erosion and sediment control planning should be included in the CoESP or ESMP for the project.</p>
	b)	Will the subproject affect cropland or gardens with waste and wastewater?	No		<p><i>Assess if waste and wastewater generated during construction may affect existing crops/ gardens</i></p>
	c)	Will the subproject disturb protected wildlife?	No	No	<p><i>Are populations of protected wildlife near the subproject site and likely to be affected by the subproject?</i></p>
	d)	Will the subproject remove or disturb sensitive habitat?	No		<p><i>What area of land is required to be cleared for the project in m²?</i></p> <p><i>Minimal clearance of shrubs will be required on less than 10 square meter area.</i></p> <p><i>Which of the following describe the site (choose more than one if relevant):</i></p> <p>(a) Cleared area (grass only)</p> <p>(b) Cleared area with some trees and plants</p> <p>(c) <i>Food gardens</i></p> <p>(d) <i>Mix of food garden plants and bush plants</i></p> <p>(e) <i>Bushland which has not been cleared previously</i></p> <p>(f) <i>Located in or within 10m of a river or on a steeply sloped site</i></p> <p><i>If your project will require clearing of more up to 10m² of undisturbed bushland (category e above) the project design should consider options to minimize the area to be cleared.</i></p> <p><i>For projects which will be constructed on cleared areas or garden areas a CoESP for Small Infrastructure is sufficient to manage risks provided no other screening</i></p>

					<p>questions trigger an ESMP.</p> <p>For projects that require clearing of vegetation within 10m or a river bank, or on a steeply sloped site, erosion and sediment control planning should be included in the CoESP or ESMP for the project.</p> <p>Project which impact on protected areas are not eligible for funding.</p>
11	Pests and diseases (land-based and marine)	Does the subproject have a risk of introducing or spreading pests and diseases (e.g., through use of non-local soil and plant matter, use of non-local machinery/equipment, translocation of animals)?		No	<p><i>It is anticipated that all materials will be sourced locally and only large trucks to be used for the transportation of materials. Therefore spreading of pests or diseases is very unlikely.</i></p>
12	Natural resources	Is the subproject located near forest or protected areas?		No	<p><i>Describe any such nearby areas and estimate the distance from the subproject site</i></p> <p>Project which impact on protected areas are not eligible for funding.</p>
13	Landscape	Will the subproject cause significant changes to, or negatively affect the landscape of the area?		No	<p><i>Describe the nature of change, e.g. from green site to concrete/ wooden structures, dumps created in green area</i></p> <p><i>There won't be any significantly large structures built that will be visible from a distance. The dam structure will be 1m high with a length and width of 4x4.7m.</i></p> <p>Projects which are expected to significantly negatively effect the landscape (e.g. large structures that are visible from a distance and would significantly change the landscape) require preparation of an ESMP.</p>
14	Solid waste	Will the subproject generate solid waste such as excavated soil, unused materials	Yes		<p><i>Solid wastes such as unused packaging plastics, domestic waste from labourers and unused materials.</i></p> <p><i>Will the generated waste be able to be managed in accordance with WMP (Annex D of ESMF)?</i></p> <p>If no, a subproject specific waste management plan must be prepared.</p>
			Yes		

15	Hazardous wastes	Will the subproject generate hazardous waste such as batteries, unused paints, oil, lubricant, etc.	Yes Yes			<p><i>It is anticipated that paints will be used.</i></p> <p><i>Will the generated waste be able to be managed in accordance with WMP (Annex D of ESMF)?</i></p> <p><i>If no, a subproject specific waste management plan must be prepared.</i></p>
16	Wastewater	Will the subproject generate wastewater from the site?	Yes			<p><i>List the types of activities (e.g. concrete mixing, tools washing etc.) that may generate waste water and quantity.</i></p> <p><i>Minimal amounts of concrete waste will be generated and this will be from washing of the concrete mixer. This is likely to be small amount only.</i></p> <p><i>Projects that generate small amounts of wastewater can manage risks via a CoESP for Small Infrastructure. Projects which generate large volumes of wastewater must prepare a ESMP.</i></p>
17	Dust and smoke	Will the subproject cause increased dust level at the site, or generate smoke	Yes			<p><i>Identify the sources, e.g. barren soil, disturbed ground, solid waste dumped at the sites, sand, gravel loaded at the site etc.</i></p> <p><i>Transportation of materials will generate dust at site. However, the generation of dust will be minimal.</i></p> <p><i>Describe the distance from the nearest house</i></p> <p><i>If the subproject will increase dust/smoke at nearest house/school/church, measures to reduce dust/smoke should be included in the subproject CoESP (or ESMP if ESMP preparation is required based on other screening questions).</i></p>

18	Noise and vibration	Will the subproject generate high noise and vibration	Yes		<p>Identify the sources, e.g. drilling, pile driving, steel/timber cutting and the time that noise/vibration lasts</p> <p><i>It is anticipated that only minimal noise will be generated since no heavy machinery works will be required.</i></p> <p><i>Describe the distance from the nearest house to noise sources</i></p> <p><i>If the subproject will increase noise and vibration substantially at nearest house/school/church, measures to reduce noise/vibration should be included in the subproject CoESP (or ESMP if ESMP preparation is required based on other screening questions).</i></p>
19	Erosion risks	Will the subproject disturb slopes?	Yes		<p><i>Describe the construction site, status of vegetation cover and the level of interference by the project. Consider rainfall during construction phase.</i></p> <p><i>The distribution network of the water supply shall be along certain slope areas, however only manual digging will be required; therefore minimal disturbance of slope is expected.</i></p> <p><i>For projects located on steep slopes which will disturb more than 10m² an ESMP should be prepared.</i></p> <p><i>For projects where erosion and sediment control risks are lower (flat sites, small area to be cleared) a CoESP for Small Infrastructure can be used to manage risks.</i></p>
20	Water quality	<p>Will the subproject cause water pollution by construction waste and materials loaded at the construction site</p> 	No		<p><i>Estimate the type and quantity of materials loaded at the site at a time, the distance from construction site to the nearest water bodies and topographical condition</i></p> <p><i>The area around the water source is flat area and large enough to cater for any materials loaded to the site hence, materials loaded to the site won't interfere or contribute to any water pollution. Also, the source is piped out from an existing concrete box that protects the opening of the water source. See pictures.</i></p> <p><i>There will be no water pollution by construction waste materials loaded at the site.</i></p> <p><i>Projects that generate low risk of water pollution (small projects, only minor excavation required, and/or located away from waterbodies) can manage risks</i></p>

						<p><i>vias a CoESP for Small Infrastructure.</i></p> <p><i>Other projects must prepare as ESMP to address water pollution risk.</i></p>
21	Local flooding	Will the subproject increase localised flooding risk by temporary/permanent loading of construction materials/wastes?		No		<p><i>Describe site topography of the site and how the subproject may affect it and hence affect flood risk</i></p>
22	Water quantity	Will the subproject extract or use a large amount of water in local river/streams may cause shortage to water supply to other users in the locality?	Yes			<p><i>Estimate the water requirements of the project and proposed source of water</i></p> <p><i>The water demand is 6.3KL. The water source is also used by another village apart from Vatupaua village. A community consultation will be carried out to discuss options of intermittent use of proposed pump to Vatupaua proposed storage tank and Verabariki proposed storage tank. This is to ensure both villages continuous access to the water supply.</i></p> <p><i>Projects which could negatively impact water supply to other users in the locality must arrange an alternate water source to avoid impacts to users.</i></p>
23	Social disturbance	a) Will the subproject disrupt local traffic/ transportation/ pedestrian traffic		No		<p><i>List the activities/circumstance that can cause social disturbance (e.g. disrupt the pedestrian traffic or the operation of local water supply system etc)</i></p>

		b) Will the subproject disrupt the operation of local water supply system?	Yes			This water supply is currently used by the villagers therefore measures for a temporary water supply will be required during the construction works at the source.
		c) Will the subproject disrupt the operation of local irrigation system?		No		
		d) Will the subproject disrupt the operation of local drainage system?		No		
		e) Will the subproject disrupt local farming activities?		No		<i>Refer to the Ministry of Agriculture and Livestock (MAL) process for crop compensation calculation if crops will be removed for the subproject.</i>
		f) Will the subproject disrupt community meetings/social events?		No		
		g) Will the subproject affect community security or safety?		No		
24	Public health	Will the subproject cause concerns on public health/ sanitation /hygiene in the local community / increase risk of mosquito-borne disease (e.g., through standing/ponding water)?		No		<i>Describe the nature of the activities that may cause health risks or create unhygienic conditions in project area</i>
25	Worker's health & safety	Will the subproject cause workers health and safety concerns	Yes			<i>Any construction works will create worker health and safety risks.</i> <i>A health and safety management plan or Environmental and Social Code of Practice which incorporates health and safety measures are required for all projects.</i>
26	Cultural heritage	Will the subproject cause impact cultural sites such as church, historical site, graveyard, etc.		No		
27	Others:					Specify

						Impacts to cultural sites must be avoided wherever possible. If these cannot be avoided appropriate consultations must be completed with the community.
CONSIDERATIONS/IMPACTS DURING OPERATION PHASE						
28	Water/soil pollution	Will the subproject generate wastewater from the site?		No		Subprojects which will generate wastewater during operation must prepare a wastewater management plan prior to construction.
29	Waste	Will the subproject generate solid waste	Yes			Subprojects which will generate solid waste during operation must prepare an operational waste management plan prior to construction. <i>Repair and maintenance works can result in generation of solid wastes such as damaged pipes & fittings.</i> Ensure the water committee to prepare an operational plan to manage solid wastes.
30	Nuisance noise, odour	Will the subproject result in noise or odour impacts to nearby receivers (houses, schools, community facilities etc.)?		No		Where a project will generate noise/ odour, have nearby receivers been consulted?
31	Unhygienic conditions, public health risks		Yes			Subprojects which will generate public health risk during operation must prepare an operational management plan prior to construction. Dirty water supply can cause public health risks. Ensure the water committee to prepare an operational plan to manage the risks.
32	Worker's health & safety	Will the subproject require training and health and safety management for workers to allow for safe operation	Yes			<i>List the activities/circumstance that may create safety risks to workers and how these are proposed to be managed</i>
33	Visual impacts				N/A	

34	Conflict with downstream water users?			No		List the activities/circumstance that may create conflict with downstream water users and how this is proposed to be managed
35	Fish stocks	Will the project contribute to or encourage overfishing?			N/A	
36	Sustainability	What maintenance is required? Who will undertake this maintenance?				Specify Operation and maintenance of the water supply system is required which will include repair of pipe leaks or changing of fittings etc. The community will undertake the maintenance of the infrastructure. A water committee will be set up to ensure maintenance is conducted
37	Others					Specify

Conclusion: Based on the above screening preparation of the following E&S tools is recommended (refer to guidance in notes column):

Health & Safety (all works require a Health and Safety Plan that is aligned with the scale of the works)



Health and Safety Plan (refer to Annex I of the ESMF as an example)

Environment & Social *(the CoESP for Small Infrastructure will cover most works. For subprojects with risks/impacts that are not covered in CoESP for Small Infrastructure, a Subproject-specific ESIA/ESMP will be required. For subproject with a high level of risks/impacts a full EIA incorporating ESMP (following Solomon Islands regulations and World Bank requirements) would be required, however, projects of this scale this would typically be ineligible for funding).*



CoESP for Small Infrastructure (Annex C of the ESMF)

OR

☐ Subproject-specific ESIA/ESMP (following template in Annex J of the ESMF)

OR

☐ Subproject-specific full EIA incorporating ESMP (following Solomon Islands regulations and World Bank requirements)

Waste Management *(the Generic Waste Management Plan will cover most works. Where waste types will be generated that are not included in the Generic Waste Management Plan then a Subproject-specific Waste Management Plan will be required)*



Generic Waste Management Plan (Annex D of the ESMF)

OR

☐ Subproject-specific Waste Management Plan

Chance Finds *(the Chance Finds Procedure is required for any works that involve ground disturbance)*



Chance Finds Procedure (Annex B of the ESMF)

Operational Management Plan a subproject specific operational management plan may be required where a subproject will generate operational risks.

☐ Subproject-specific Operational Waste Management Plan

OR



Operational Management Plan (to address any non-waste) operational risks

Signatures

Completed by:Xavie Vaisekavea..... date:25/03/2025.....

Verified by:Xavie Vaisekavea..... date:28/03/2025.....

Approved by:Francis Kapini..... date:28/03/2025.....

ANNEX A LOCATION OF VATUPAUA AND VERAKABIKABI



ANNEX B ELIGIBILITY AND INELIGIBILITY LIST

Table 3 – Eligible and Ineligible Activity List

The following activities **are** eligible for funding under the project provided the Screening Form for Potential Env & Social Issues (Annex III) is completed according to the processes outlined in this ESMF:

- Staff housing (educators, healthcare workers)
- Gravity fed piped water supplies (schemes servicing less than 2,000 people)
- Boreholes and shallow wells (if investigations confirm sufficient good quality groundwater is available)
- Rainwater harvesting (rooftop catchment) and ground water replenishment (small infiltration dams), spring protection works and rainwater storage tanks
- Sanitation facilities, ablution blocks
- Pedestrian and off-road access infrastructure, such as footpaths, footbridges, handrails, and drainage facilities
- Road maintenance/repairs (roads, bridges), and climate resilient road upgrades
- Sporting fields/ facilities/ courts/ youth centres
- Classrooms/ education facilities
- Community halls/ resource centres/ Women's Centres
- Health facilities/ Rural health clinics / Aid posts
- Cyclone shelters
- Drainage and erosion control measures, retaining walls
- Electrification systems including standalone solar power systems, and solar pump systems (water supply)

The following activities **are not** eligible for financing under the Project:

- Activities of any type classifiable as "Substantial" or "High" risk pursuant to the World Bank's ESS1 of the ESF.
- Examples of "High" risk activities are activities that:
 - may cause long term, permanent and/or irreversible (e.g., loss of major natural habitat) adverse impacts
 - have potential to cause significant loss or degradation of critical natural habitats whether directly or indirectly or those that could adversely affect forest and forest health; Critical natural habitats include reefs, mangroves, forest areas which have not previously been cleared or disturbed.
 - have high probability of causing serious adverse effects to human health and/or the environment
 - would result in adverse impacts on cultural heritage
 - could affect sites with archaeological, paleontological, historical, religious, or unique natural values
 - may have significant adverse social impacts and may give rise to significant social conflict
 - would affect indigenous peoples, unless due consultation and broad support has been documented and confirmed prior to the commencement of the activities
 - may affect lands or rights of indigenous people or other vulnerable minorities
 - may involve permanent resettlement or land acquisition.
 - would result in adverse impacts on involuntary taking of land, relocation of households, loss of assets or access to assets that leads to loss of income sources or other means of livelihoods, and interference with households' use of land and livelihoods
 - use goods, equipment or lands abandoned due to social tension/conflict, or the ownership is disputed or cannot be ascertained
 - involve the demolition or removal of assets, unless the ownership of the assets can be ascertained, and the owners are consulted
 - involve forced/conscripted labour, child labour (under the age of 18), or other harmful or exploitative forms of labour
 - use goods and equipment for military or paramilitary purposes
 - involve major construction and civil works that would cause significant adverse impact and require a full ESIA report according to the national ESIA regulation.
- "Substantial" risk activities are likely to have considerable adverse E&S impacts but are less sensitive and more limited than those under category "High". Their impacts are site-specific and largely reversible, which could be readily identified and mitigated through recognized good practices. Examples of

“substantial” risk activities which are not eligible for finance include:

- Construction of runways, ports, large jetties, and some roads (see points below for clarification on roads)
- Incinerators, landfills, and other waste management systems
- Extraction of water from rivers and streams:
 - where the average extraction rate is greater than 100 m³ per day; or
 - where the average extraction rate greater than 5% of the annual average discharge; or
 - involving diverting the stream or river or may affect the downstream flow pattern.
- Industrial or large-scale agricultural manufacturing and processing facilities
- Road sub-projects ineligible for finance are:
 - Construction of new roads
 - Construction and/or rehabilitation of roads that are not included in MID National Transport Master Plan
 - Roads that primarily benefit commercial private use with no valid developmental justification or low public use
 - Roads which would likely directly encourage or benefit mining, logging or (other) illegal activities

ANNEX C LAND USE COMMITMENT LETTER

Land Use Commitment Letter

Dear Sir,

Re: LAND AVAILABILITY FOR THE PROJECT – VATUPAUA WATER SUPPLY

This letter serves to confirm our commitment that land is available for the Community Benefit Sharing Project.

This area of land is confirmed to be available to use for the construction of Permanent Water Supply Infrastructure to provide water to Vatupaua & Verabaka community. Once complete, the water supply system will be available for free use by any member of the local community.

We are providing this land for the improvement of the water supply to the surrounding villages. No payment will be made for the use of the land.

The signatories agree that this commitment is irrevocable.

1. Community representative (Name)

Derick Tabulo

2. Community representative (Name)

MARTIN HETI & HILLIK BANGA

2. Signature

Tabulo

[Signature] [Signature]

3. Date

8/4/25

10/04/2025

4. Verified by Village Chief and CBSP-2 Staff

[Signature]
Village Chief

[Signature]
CBSP-2 Staff

ANNEX C CODE OF ENVIRONMENTAL AND SOCIAL PRACTICE FOR SMALL INFRASTRUCTURE

This Code of Environmental and Social Practice (CoESP) has been developed to manage the risks associated with the construction of water supply system for Vatupaua Community. The water supply aims to improve the community's access to clean and safe water with the construction of the proposed dam, installation of tank and water supply system network.

This CoESP must be updated to include only risks relevant to the specific sub-project activity, and to include any additional risk management measures required based on site-specific risks.

All civil works supported under the Project are required to comply with the CoESP and this will be specified in the contractor(s) agreements.

The CoESP provides the guidance for the environmental and social risk management of the civil works during the implementation of the Project. The potential environmental and social impacts, mitigation measures, and responsibilities during the planning / design and construction stages are outlined.

This CoESP should be read in conjunction with the following Project documents:

- Environmental and Social Management Framework (ESMF)
- Stakeholder Engagement Plan (SEP)
- Operations Manual

Monitoring and Compliance

The planning and design stages of the CoESP will be followed by the PMU and compliance monitored by the World Bank E&S Risk Management Team.

The construction and installation stages of the CoESP will be followed by the contractor(s) and compliance monitored by the PMU.

Reporting

Six-monthly reports will need to be prepared by the PMU and provided to the World Bank. The semi-annual environmental and social monitoring reports to the World Bank will include: (i) the status of the implementation of mitigation measures; (ii) the findings of monitoring programs; (iii) stakeholder engagement activities; (iv) grievances log; and (v) any incidents/accidents with adverse impacts and the actions taken to address it and prevent reoccurrence.

Incidents/accidents must be initially reported within 24 hours for serious/ severe incidents (major injuries, fatalities, environmental or social harm). Minor accidents/ incidents may be reflected in regular reporting. The PMU will investigate incidents and accidents and provide inputs into investigative reporting, and corrective action plans in accordance with the World Bank Environmental and Social Incident Reporting Toolkit (ESIRT).

Monthly reports shall be prepared by the contractor(s) and submitted to the PMU for review. The reports will include information on: (i) the implementation of Health and Safety and

Waste Management plans; (ii) any health and safety or environmental incidents; and (iii) information on any grievances received and how they were resolved.

Planning and Design Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
Design of facilities do not meet layout and engineering requirements	Consultation with end-users (e.g., Ministry of Health and Medical Services; Ministry of Education and Human Resources Development) accordance with the SEP to ensure design of proposed facilities are fit-for-purpose.	Approved engineering designs.	During detail design period – prior to works commencing – once	PMU and related department at national and provincial levels (implementation)
Siting of infrastructure results in physical or economic displacement, or restriction of access to natural resources	The acquisition of private land is not permitted. Undertake consultation to ensure proposed site would not result in physical or economic displacement, or restriction of access to natural resources and can be utilized for Project activities. See also Section Error! Reference source not found. of ESMF	Results of consultation.	During detail design period – prior to works commencing – once	PMU
Source water for water supply not sustainable resulting in unusable infrastructure.	Source water from sustainable sources (e.g., creeks that flow year-round)	Results of review by water engineer consultant	During detail design period – prior to works commencing – once	PMU
Location of water supply outlets (e.g., taps, boreholes) not freely accessible to community members, including vulnerable people	Consultation with community in accordance with the SEP to ensure proposed water supply outlet sites can be freely accessed by community members, including vulnerable people.	Results of consultation.	During detail design period – prior to works commencing – once	PMU

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
Air quality, noise, and vibration generated from civil works	<p>The contractor(s) is responsible for compliance with all relevant national legislation and international standards with respect to noise and vibration and ambient air quality.</p> <p><u>Noise and vibration:</u></p> <p>The contractor(s) undertaking works shall implement the following at a minimum:</p> <ul style="list-style-type: none"> Plan activities in consultation with communities so that noisiest activities are restricted to being undertaken during periods that will result in least disturbance. Noise levels should be maintained within the national permissible limits/standards. If necessary, use temporary noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines) and select equipment with lower sound power levels where possible. Minimize transportation of demolition waste and construction materials through community areas during regular working time Maintain a buffer zone (such as open spaces, row of trees or vegetated areas) between the project site and surrounding areas, if possible, to lessen the impact of noise. Noise impacts should not exceed 55 dB(A) for residential; institutional, or educational receptors during the daytime (07:00 – 22:00) and 45 dB(A) during the Night-time (22:00 – 07:00) and for industrial or commercial receptors should not exceed 70 dB(A) at anytime or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site). Given the small scale of subprojects, modification of noise levels in response to community concerns is likely sufficient and noise monitoring unnecessary. 	Designated stockpile areas approved; dust plumes; complaints register; vehicle and plant maintenance records.	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage															
Risks and Impacts	Mitigation Measures	Monitoring Verification	- Monitoring Frequency	- Responsibilities											
	<p><u>Air Quality:</u></p> <p>The contractor(s) undertaking works shall implement dust suppression measures (e.g., covering of material stockpiles, etc.) as required. At a minimum the following is required:</p> <ul style="list-style-type: none">• Materials used shall be covered and secured properly during transportation to prevent scattering of soil, sand, materials, or generating dust.• Keep stockpiles of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals.• Minimize dust from exposed work sites and stockpiles by applying water on the ground regularly.• No burning of site clearance debris (trees, undergrowth) or construction waste materials• Hydrocarbons shall not be used as a method of dust control.• Immediately re-vegetate and/or stabilize exposed areas (if required).• Ambient air quality should not exceed relevant national air quality guidelines/standards or the current WHO Ambient Air Quality Guidelines (below), albeit visual monitoring for dust is likely sufficient given the small scale of subprojects <table><tr><th colspan="3">WHO Ambient Air Quality Guidelines</th></tr><tr><th></th><th>Averaging Period</th><th>Guideline value in $\mu\text{g}/\text{m}^3$</th></tr><tr><td rowspan="2">Particulate Matter PM₁₀</td><td>1-year</td><td>20</td></tr><tr><td>24-hour</td><td>50</td></tr></table>	WHO Ambient Air Quality Guidelines				Averaging Period	Guideline value in $\mu\text{g}/\text{m}^3$	Particulate Matter PM ₁₀	1-year	20	24-hour	50			
WHO Ambient Air Quality Guidelines															
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	24-hour	50													

Renovation / Refurbishment / Installation Stage									
Risks and Impacts	Mitigation Measures			Monitoring - Verification	Monitoring - Frequency	Responsibilities			
	<table><tr><td>Particulate Matter PM_{2.5}</td><td>1-year 24-hour</td><td>10 25</td></tr></table>			Particulate Matter PM _{2.5}	1-year 24-hour	10 25			
Particulate Matter PM _{2.5}	1-year 24-hour	10 25							
Soil erosion and uncontrolled sediment causing negative impacts to surface or groundwater.	<p>The contractor(s) undertaking works shall implement the following at a minimum:</p> <ul style="list-style-type: none">• Implement suitable project design (e.g., establish appropriate erosion and sediment control measures) to minimize soil erosion and identify and protect receiving water courses and bodies.• Scheduling to avoid heavy rainfall periods; and• Use mulch, grasses or compacted soil to stabilize exposed areas promptly.• Minimise cleared areas.• Avoid clearing sloped areas where practicable.			On-site sediment control measures; records of water quality monitoring (visual); revegetation.	Weekly inspections throughout construction period.	Contractor(s)			
Resource efficiency issues, including materials supply and extraction of raw materials.	<p>The contractor(s) undertaking works shall at a minimum:</p> <ul style="list-style-type: none">• Estimate the quantities of raw materials needed for the minor civil works.• Source raw materials and construction materials locally and from licenced/permitted facilities only.• Use recycled or renewable building materials (e.g., timber) where possible.			Contract for local materials.	Prior to works commencing and then throughout construction as required	Contractor(s)			
Impacts on local communities from traffic obstruction, congestion, and traffic and road safety.	<p>The contractor(s) undertaking works shall implement the following at a minimum:</p> <ul style="list-style-type: none">• Construction and establishment of haul roads shall be kept to a minimum.			Traffic management plan included in the Contractor(s)	Weekly inspections throughout construction	Contractor(s)			

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
	<ul style="list-style-type: none"> Communicate traffic management plans – including traffic volumes, schedules, road closures and community safety measures – to project stakeholders and local communities. Minimise the extent of traffic and construction impacts on adjacent villages and other residential areas where possible. All traffic signs used for the warning or direction of traffic at road works sites shall comply with appropriate traffic regulations. Homemade signs shall not be used. Implement dust suppression measures. 	H&S Management Plan; traffic control measures implemented; signage and barriers installed as required; complaints register.	period.	
Damage to cultural heritage.	The contractor(s) shall have a Chance Finds Procedure in place prior to any physical works beginning. Chance Finds Procedure is available in Annex B of the ESMF.	Chance-Finds Procedure in place; complaints register.	Prior to works commencing and then maintained throughout construction.	Contractor(s)
Disturbance of UXO results in OHS and community safety risks	<p>Discuss UXO potential with community and have the site cleared prior to ground disturbance activities if warranted.</p> <p>Should a UXO be discovered one works have commenced, the contractor is to immediately cordon off the area, arrange the evacuation of nearby residences and inform the police of the find. Currently, all UXO finds are reported to the police who arrange the pickup, transport, storage and ultimate disposal of the finds.</p>	Records of community consultation regarding UXO potential, UXO clearance and disposal	Prior to works commencing and then throughout construction.	Contractor(s)
Land and/or water pollution from waste generated by demolition debris, construction	<p>The contractor(s) undertaking works shall implement the following at a minimum:</p> <ul style="list-style-type: none"> Follow the Project WMP and develop site-specific WMP is required. 	Contractor's WMP; sanitation facilities maintained onsite;	Weekly inspections throughout construction	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring - Verification	Monitoring - Frequency	Responsibilities
materials, and/or workers (solid, hazardous, and wastewater)	<ul style="list-style-type: none"> The WMP must include the principles of the Waste Hierarchy (Reduce, Reuse, Recycle, Residual Disposal) as outlined in the National Waste Management and Pollution Control Strategy 2017-2026. The following methods for waste reduction and recycling should be utilized: <ul style="list-style-type: none"> Minimise waste production by reusing existing structures; initially remove materials by hand e.g., wooden floorboards, to avoid damage and excess waste; separating materials (metal, timber etc.) and storing them in neat piles to avoid cross contamination; ensuring safe and dry storage of salvaged items; placing clear signage on all waste separation and collection areas. Recyclable materials such as packaging material etc., shall be segregated and collected on-site from other waste sources for reuse or recycle (sale). Remove scrap metal, such as roofing materials and iron rebar from concrete, for reuse off-site or metal recycling where practicable. Steel off-cuts can be recovered and sold as scrap metal. Timber can be resold for utilisation as fuel (non-treated) or for repairing houses in villages or outer island communities (treated). On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public. Use litter bins, containers and waste collection facilities at all places during works. Store solid waste temporarily on site in a designated place prior to off-site transportation and disposal through a licenced waste collector. Dispose of waste only at designated place identified and approved by local authority. It is prohibited for the contractor(s) 	waste and recycling records; worker training records.	period.	

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
	<p>to dispose of any debris or construction material/paint in environmentally sensitive areas (including watercourses).</p> <ul style="list-style-type: none"> • Provide adequate portable sanitation facilities serving all workers at all construction sites. • Ensure onsite worker sanitation facilities be properly operated and maintained to collect and dispose of wastewater. • Minimize hazardous waste generation by ensuring hazardous waste is not co-mingled with non-hazardous waste. Collect, transport and disposal of hazardous waste to licenced/permitted hazardous waste sites only following good international industry practice (GIIP) for the waste being handled. • Design training for staff in the segregation of wastes. 			
Land and/or water pollution from use and storage of hazardous substances e.g. minor spills from fuel, oils, lubricants.	<p>The contractor(s) undertaking works shall implement the following at a minimum in accordance with relevant Solomon Islands laws and GIIP such as the IFC EHS Guideline: Hazardous Materials Management:</p> <ul style="list-style-type: none"> • Using impervious surfaces for refuelling areas and other fluid transfer areas. • Ensure that refuelling and maintenance facilities are not located, or that activities do not take place, within 30 m of a watercourse, or in ecologically sensitive areas. If a 30m limit is impracticable then a lesser limit may be adopted provided approval is obtained. On no account shall the limit be less than 10 m. • Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids. If the secondary containment used is bunding, then the area should also be lined and covered. • Ensure that vehicles and plant are not stored within 30 m of a watercourse, or in ecologically sensitive areas, overnight or when not in use. • Regular checks for leaking oil or fuel from machinery undertaken. Any leaks are promptly repaired and/or parts 	<p>Secured storage areas and secondary containment;</p> <p>spill kit and worker training records; records of safety briefings; vehicle and plant maintenance records.</p>	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
	<p>replaced within two days as part of maintenance of vehicles and equipment.</p> <ul style="list-style-type: none"> • Training workers on the correct transfer and handling of fuels and chemicals and the response to spills. • Spill kit, appropriate to the hazardous materials being used, to be kept on-site and workers to be trained in its deployment. 			
Loss of vegetation cover / trees	<ul style="list-style-type: none"> • Minimise area to be cleared. • Store topsoil from excavated area for vegetation planting/reinstatement at the end of construction. • Only cut trees and remove vegetation in areas specified in the design. • Keep the area of vegetation removal minimal. Avoid loading the pipes, timbers, construction tools on vegetated areas. Place them on barren soil. • Restore vegetation cover on barren soil at the end of construction. • Plant native trees to compensate for trees logged for timber used in the sub-project or create vegetation cover. • Refill excavated areas and cover with top soil for vegetation cover to regenerate. 	Revegetation with native species	Weekly inspections throughout construction period.	Contractor(s)
Occupational Health and Safety (OHS) risks for workers from civil works.	<p>The contractor(s) undertaking works shall comply with all national and good practice regulations and GIIP regarding workers' safety, such as OHS section of the IFC EHS Guidelines on Construction and Decommissioning, and implement the following at a minimum:</p> <ul style="list-style-type: none"> • Complete different levels of risk assessment, i.e. from whole Job Safety Analysis down to the personal level, to identify any potential hazards, rank the risks, and identify ways to eliminate, control or minimize the hazards. Develop and follow a site-specific health and safety (H&S) management plan that is compliant with the ESMF and World Bank Environment and 	Contractors Health and Safety plan(s); Emergency Action Plan; workers allocated and wearing PPE; first aid kits in vehicles and at	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring - Verification	Monitoring - Frequency	Responsibilities
	<p>Health and Safety Guidelines (EHSGs). H&S management plan(s) must be submitted to the E&S Officer for approval prior to any physical works commencing.</p> <ul style="list-style-type: none"> • Appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site. • Prepare and implement a simple action plan to cope with risk and emergency (e.g., fire, storm surge, cyclone, COVID-19 outbreak). • Have or receive minimum required training on occupational safety regulations and use of PPE. • Undertake training of staff to meet standards for the proper operation and use of equipment. • Training of workers in lifting and materials handling techniques in renovation / refurbishing projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary. • Training and use of temporary fall prevention devices, such as rails or other barriers able to support a weight of 200 pounds, when working at heights equal or greater than two meters (e.g., on scaffolding). • Use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as securing, marking, and labelling covers for openings in floors, roofs, or walking surfaces. • Take protective measures to prevent accidents such as: <ul style="list-style-type: none"> ○ implementing good house-keeping practices, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths. ○ Locating electrical cords and ropes in common areas and 	work sites; worker training records; complaints record; accident/ incidents register.		

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
	<p>marked corridors.</p> <ul style="list-style-type: none"> ○ Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic. ○ Ensuring moving equipment is outfitted with audible back-up alarms. • Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as handrails and toe boards to prevent materials from being dislodged. Provide PPE and other safety measures as appropriate during works such as safety glasses with side shields, face shields, hard hats, hi-vis vests and safety shoes with non-slip soles, first aid kits, restricted access zones, warning signs, overhead protection against falling debris. • Refer any grievances received by the community or local businesses to the GRM point-of-contact. • Provide project workers with accessible means to raise workplace concerns (refer to Project LMP). 			
Health and safety risks for community from civil works.	<p>The contractor(s) undertaking works shall implement the following at a minimum:</p> <ul style="list-style-type: none"> • Develop and follow a site-specific health and safety (H&S) management plan that is compliant with the ESMF and World Bank Environment and Health and Safety Guidelines (EHSGs) and which includes health and safety measures for the community. H&S management plan(s) must be submitted to the E&S Officer for approval prior to any physical works commencing. • A Traffic Management Plan must be included in the H&S 	Contractor's Health and Safety plan which includes a Traffic Management Plan; signage and traffic control measures; site barriers such as fencing; records	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring Verification	Monitoring Frequency	Responsibilities
	<p>Management Plan.</p> <ul style="list-style-type: none"> • Comply with all national and good practice regulations regarding workers' safety and the ESMF. • Take protective measures to prevent accidents such as: <ul style="list-style-type: none"> ○ Barriers to prevent unauthorised access to worksites. ○ Implementing good house-keeping practices to eliminate the hazard where possible, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths. ○ Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic. ○ Ensuring moving equipment is outfitted with audible back-up alarms. • Provide safe access routes and other safety measures as appropriate during works such first aid kits, restricted access zones, warning signs, covering openings to small confined spaces, overhead protection against falling debris and barricaded exclusion areas for drop zones (e.g. when working at heights), lighting system to protect community against construction risks. • Communicate risks and community safety mitigation measures to project stakeholders and communities. • Grievance mechanism (GRM) developed and operational in accordance with the Project SEP. 	of consultations; complaints records; accident/incidents register.		
Increase in sexual exploitation and abuse/	The Contractor(s) should at a minimum:	Contractor's Health and Safety	Weekly inspections	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	Mitigation Measures	Monitoring - Verification	Monitoring - Frequency	Responsibilities
harassment (SEA/H) related to project workforce	<ul style="list-style-type: none"> • Comply with all relevant national laws and legislations. • Include SEA/H requirements in the site-specific H&S management plan including aspects relating to preventing GBV and SEA/H and zero tolerance for these behaviours. • Ensure that workers are well briefed on the GBV and SEA/H requirements in the H&S management plan. • Provide separate facilities for female and male workers. 	Management plan which includes SEA/H requirements; Agreed Code of Ethics and Professional Conduct; worker training records; complaints record.	throughout construction period.	
Workers are underaged.	Child labour for persons under 18 years of age and forced labour and absolutely prohibited in the project.	Records of workers by age; complaints record.	Weekly inspections throughout construction period.	Contractor(s)

ANNEX B CHANCE FINDS PROCEDURE

This subproject is for the construction of the water supply system proposed for Vatupaua community. The water supply aims to improve the community's access to clean and safe water with the construction of the proposed dam, installation of tank and water supply system network.

Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings and may be above or below land or under the water. Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

The list of negative activity attributes which would make an activity ineligible for support includes any activity that would adversely impact cultural heritage assets. In the event that during minor civil works sites of cultural value are found, the following procedures for identification, protection from theft, and treatment of discovered artefacts should be followed and included in standard bidding documents.

Chance find procedures will be used as follows:

- (a) Stop the earthworks, construction or land clearing activities in the area of the chance find.
- (b) Delineate the discovered site or area.
- (c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and/or the relevant ministries take over.
- (d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the relevant ministries, which are the Ministry of Traditional Governance Peace and Ecclesiastical Affairs and the Ministry of Culture and Tourism.
- (e) Responsible local authorities and/or the relevant ministries would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures.
- (f) Decisions on how to handle the finding shall be taken by the responsible local authorities and/or the relevant ministries.
- (g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the relevant Ministry; and
- (h) Construction work could resume only after permission is given from the responsible local authorities and the relevant ministries concerning safeguard of the heritage.

UXO Chance find will include the following procedures:

- a) Stop the earthworks, construction or land clearing activities in the area of the chance find.
- b) Do not make any attempt to get near, touch or remove the UXO.
- c) Delineate the discovered site or area.
- d) Secure the site to prevent any unauthorised access and ensure security guard shall be present until the responsible local authorities take over.
- e) Notify the supervisory Engineer who in turn will notify the Explosive Ordnance Disposal Department (EODD) of the Royal Solomon Islands Police Force (RSIPF) on their police toll-free line, 999 or 677 + 23666 or 677 +7495215.
- f) The EOD team would be in charge of removal of the UXO.
- g) Construction work could resume only after confirmation of clearance from the EOD team.

These procedures must be referred to as standard provisions in construction contracts. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.

Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project's cultural heritage mitigation, management, and activities.

WASTE MANAGEMENT PLAN FOR CONTRACTORS

This subproject is for the construction of the water supply system proposed for Vatupaua community. The water supply aims to improve the community's access to clean and safe water with the construction of the proposed dam, installation of tank and water supply system network.

Scope

The objective of this waste management plan (WMP) is to provide guidance to contractors on the management of Project-generated waste. If waste types will be generated that are not covered by this plan or if the proposed management strategy for waste types differs from this WMP, then contractors are to prepare a WMP for these waste streams and provide to PMU for review and approval.

Wastes, if not managed responsibly, have the potential to contaminate land, groundwater and/or surface water, which can adversely impact flora, fauna and human health.

Wastes will be generated by the Project through construction of subprojects. Subproject types are expected to include buildings (e.g., accommodation, markets, storage sheds, classrooms, health clinics), water supply (e.g., piped water supply systems, storage tanks, boreholes) and maintenance of small roads and bridges.

Waste Management Hierarchy

Waste should be managed according to the following hierarchy:

- Avoid – avoid generation of waste (e.g., purchase products with no packaging materials)
- Reduce – reduce generation of waste (e.g., purchase product in bulk to reduce packaging materials)
- Reuse – reuse waste products (e.g., reuse packaging materials)
- Recycle – recycle waste products (e.g., recycle packaging materials)

Waste Register

The following table provides guidance on the management of each waste type that is expected to be generated by the Project. The guidance includes:

- Classification
- Waste generating process
- Opportunities for minimisation
- Handling requirements
- Disposal method in order of preference. It is acknowledged that some works will be undertaken in remote areas with limited municipal waste management areas (WMA)

and therefore some options are provided for disposal to ensure this WMP remains practical, and the safe disposal of hazardous waste is prioritised.

All waste that require storage and/or transport prior to disposal should also be clearly labelled and care taken not to mix non-hazardous waste with hazardous waste.

All generated waste that cannot be recycled, buried or gifted to community and are required to be taken to municipal waste management area shall be taken to the Ranadi Landfill for disposal.

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Ash from burn pits- non-restricted	Non-hazardous	Residual matter from burning of non-restricted waste	Minimisation of waste in general before requirement for incineration	Avoid contact or ingestion. Wear standard PPE, leather gloves and dust mask when handling this waste. Cease ash handling activities during high wind conditions.	1. Bury
Clearing and grubbing waste	Non-hazardous	Excess soil, rock, and vegetative material produced from the clearing	Only clear area required for safe operation. Only grub when necessary.	Wear standard PPE and leather gloves	1. Use for rehabilitation. 2. Gift to community for building materials and fuel
Domestic – food waste	Non-hazardous	Kitchen scraps, food leftovers	Training of catering staff to cook only what is required.		1. Burn pit 2. Bury
Domestic - other	Non-hazardous	General rubbish from domestic bins in offices and accommodation	Print double sided		1. Burn pit
Electrical goods waste	Non-hazardous	Electrical parts, fittings, cable, electrodes.			1. Reuse where parts where possible 2. Take to municipal WMA
Empty containers (non-hazardous)	Non-hazardous	Generated from containerized products. Includes only containers that did not contain materials that would be hazardous wastes if discarded, or that have been emptied and cleaned of such contents.	Use returnable containers whenever possible.	Consult labelling of original material stored in the drum/barrel/container. Avoid physical contact with container residues.	1. Reuse 2. Gift to community (clean very well first) 3. Take to recycling facility 4. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Fill Material	Non-hazardous	Excess spoil material generated during construction activities.	Ensure Project design is followed to minimise Project footprint.		<ol style="list-style-type: none"> 1. Reuse 2. Gift to community 3. Spoil dump
Concrete	Non-hazardous	Non-combustible waste generated during construction activities. I.e., concrete.	Reuse/recycle to the maximum extent practicable.	Wear standard PPE and leather gloves.	<ol style="list-style-type: none"> 1. Reuse as fill Material 2. Take to municipal WM 3. Bury
Glass	Non-hazardous	Produced from glass containers and construction waste.		Wear standard PPE and leather gloves	<ol style="list-style-type: none"> 1. Take to municipal WMA
Paper and cardboard	Non-hazardous	Paper and cardboard produced from packaging materials		Wear standard PPE and leather gloves	<ol style="list-style-type: none"> 1. Burn pit 2. Bury
Plastic and insulation	Non-hazardous	Plastic and insulation used for construction and shipment of materials. Consumables and domestic products from packaging materials.	Order materials in bulk to decrease packaging materials.	Wear standard PPE and leather gloves	<ol style="list-style-type: none"> 1. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Scrap metal	Non-hazardous	Generated from construction activities.		Wear standard PPE and leather gloves when handling this waste. Scrap metals should be cut to size and sorted prior to conveyance to the WMA. Any contaminated scrap metal should be thoroughly decontaminated and landfilled.	1. Reuse 2. Take to recycling facility 3. Take to municipal WMA
Tyres	Non-hazardous	Used tyres from vehicles on site.	Avoid driving practices that promote wear and tear of tyres, regular wheel alignments on vehicles	Wear standard PPE and potentially supplemented with leather gloves when handling this waste.	1. Reuse 2. Take to recycling facility 3. Take to municipal WMA
Wood scrap	Non-hazardous	Wood waste, insulation, and other combustible waste from packaging and/or construction activities.	Reuse/recycle wood to the maximum extent practicable. Order materials in bulk to decrease packaging materials.	Wear standard PPE and leather gloves	1. Reuse 2. Gift to community 3. Burn pit
Empty gas cylinders	Hazardous	Empty pressurized gas tanks i.e.. from welding activities.	N/A	Wear standard PPE and leather gloves Secure and store in the designated area away from naked flames	1. Return to supplier for refilling 2. Take to recycling facility 3. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Empty containers (hazardous)	Hazardous	Generated from containerized products used that contained materials that would be hazardous wastes if discarded that have not been emptied and cleaned of such contents.	Use returnable containers whenever possible.	Consult labelling and MSDS of original material stored in the drum/barrel/container. Avoid physical contact with container residues.	1. Return to supplier for refilling 2. Take to recycling facility 3. Take to municipal WMA <u>*Do not gift to community*</u>
Filters	Hazardous	Spent engine oil filters used for vehicles.		Avoid skin contact with or ingestion of oil. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated breathing protection device when handling this waste. Drain free liquids.	1. Take to recycling facility 2. Take to municipal WMA
Miscellaneous Restricted	Hazardous	Restricted waste not represented in any other category.			1. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Spent Batteries	Hazardous	Lead-acid electrical storage batteries and disposable dry cells used in various fields and plant operations, including vehicles and construction equipment.	Use rechargeable batteries where possible	Avoid skin contact or ingestion of acid. Avoid acid fumes. Wear standard PPE, potentially supplemented with acid/caustic resistant gloves, acid/caustic resistant apron, and/or face shield when handling this waste. Do not damage or crack batteries. Neutralising materials should be readily on hand in the event of an accident or spillage at place of work.	1. Take to recycling facility 2. Take to municipal WMA
Waste Oils	Hazardous	Oil waste from maintenance and operations of construction equipment and vehicles.	Review processes to evaluate the effectiveness of current materials used to ensure maximum efficiency is obtained prior to changing oils and lubes. Ensure equipment arrives fully serviced.	Avoid skin contact or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to recycling facility 2. Take to municipal WMA
Oily rags and used absorbent materials	Hazardous	Oily rags from maintenance and operations of construction equipment and vehicles; used absorbent materials used for cleaning up spills		Avoid skin contact or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Soil contaminated with restricted waste	Hazardous	Soil that have been collected from the location of a spill of restricted substance	Minimise spills	Avoid skin contact or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to municipal WMA
Unused, spent, expired and contaminated solvents, paints, chemicals and additives	Hazardous	Chemical compounds and products used for maintenance and facility construction.	Personnel to ensure that the materials are fully used before generating as a waste.	Avoid skin contact with or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to municipal WMA

