Second Solomon Islands Roads and Aviation Project (SIRAP2)

Munda Airport, Environmental and Social Management Plan (ESMP), New Georgia Island

Update (Final)

Version K, March 2024

Prepared by SIRAP Project Support Team

Quality Information

Document	Second Solomon Islands Roads and Aviation Project, Munda Airport Environmental and Social Management Plan - Update (Final)
Date	7 March 2024
Prepared by	SIRAP PST

Version History

Version	Version Date	Details	Submitted Name/Position
A	30 July 2018	First Draft for Review	Kate Walker / TFSU Safeguard Specialist
B	5 Oct 2018	Second Draft for Review	Malakai Kaufusi/TFSU Safeguards Specialist
C	22 Oct 2018	Third Draft for Review	Kate Walker / TFSU Safeguard Specialist
D	2 Nov 2018	Final for Appraisal	Kate Walker / TFSU Safeguard Specialist
E	20 Nov 2018	Incorporated RSS Comments	Kate Walker / TFSU Safeguard Specialist
F	5 Jan 2021	Updated for detailed design	Kate Walker / SIRAP PST
G	20 Oct 2021	Updated for SIRAP2 scope and ESF requirements	Kate Walker/SIRAP PST
H	Nov 2023	Updated with Detailed Design Information	Egis ESS Team/SIRAP PST
I	11 Jan 2024	Incorporated PST E&S comments	Egis ESS/SIRAP PST
J	26 Feb 2024	Incorporating WB's comments	Egis ESS/SIRAP PST
K	7 Mar 2024	Incorporating WB's comments	SIRAP PST

Contents

Executive Summary 9
1 Introduction 11
1.1 Background 11
1.2 Environmental and Social Management Plan Objectives and Scope 12
1.3 Integration of the Project ESMP (ESMP) 12
1.4 Environmental Safeguards Document Hierarchy and Development 13
1.4.1 UXO Environmental Management Plan 13
1.5 ESMP Methodology 13
2 MUA Upgrade Description of Works 15
2.1 Overview of Proposed Works 15
2.1.1 Land Requirements 18
2.1.2 Current Situation 18
2.1.3 Overview of the Munda ATCT Works 18
2.1.4 UXO 21
2.2 Alternatives 23
2.3 Construction Methodology 24
2.3.1 Method of Works Plan 24
2.3.2 Equipment 24
2.3.3 Aggregate Supply 24
2.3.4 Construction Camp and Lay Down Areas 25
2.3.5 Workers Camp 28
2.3.6 Haulage Routes 28
2.3.7 Hazardous Substances and Materials 29
2.3.8 Waste 29
2.3.9 Occupational Health and Safety (OHS) 30
2.3.10 Duration and Timing of Construction Activities 30
3 Policy, Legal and Administrative Framework 32
3.1 National Requirements 32
3.1.1 The Environment Act and Regulations 32
3.1.2 Lands and Titles Act 33
3.1.3 Other Acts 35
3.2 Regional Governance 39
3.3 Consents and Permitting 40
3.4 COVID-19 Global Pandemic 41

3.4.1 Covid-19 Global Pandemic – Solomon Islands Emergency Powers (Covid-19) Regulation 2020 41
3.4.2 Covid-19 World Pandemic – World Bank Guidelines 41
3.5 World Bank Environmental and Social Framework 42
4 Natural and Social Environment 46
4.1 Physical Environment 46
4.1.1 Location and Geography 46
4.1.2 Climate 47
4.1.3 Water Resources 48
4.1.4 Land Resources and Soils 49
4.1.5 Land Use Around MUA 49
4.2 Biological Environment 50
4.2.1 Coastal and Marine Environment 50
4.2.2 Terrestrial Biodiversity 52
4.2.3 Marine Protected Areas 52
4.2.4 Rare or Endangered Species 53
4.2.5 Invasive Species 53
4.3 Socio-Economic Conditions 54
4.3.1 Population and Demographics 54
4.3.2 Education and Health 55
4.3.3 Livelihoods and Economic Activity 55
4.3.4 Land Tenure and Rights 55
4.3.5 Community Infrastructure and Services 56
4.4 Projected Climate Change and Impacts 57
5 Consultation and Stakeholder Engagement 60
5.1 Disclosure 60
5.2 Sensitive Receptors 60
6 Environmental and Social Impacts 62
6.1 Overview of Impacts 62
6.2 Labour and Working Condition 62
6.2.1 Occupational Health and Safety 62
6.2.2 Working Conditions and Management of Workers Relationship. 63
6.3 Pollution Prevention and Resource Efficiency 63
6.3.1 Solid Waste Generation 63
6.3.2 Water Resources 63
6.3.3 Hazardous Substances and Materials 64

6.3.4 Erosion and Sediment Control 64
6.3.5 Wastewater Discharges 64
6.3.6 Local Quarry and Aggregate Supply 65
6.4 Community Health and Safety 66
6.4.1 Noise and Vibration 66
6.4.2 Landside Traffic 66
6.4.3 Community Health and Safety 66
6.4.4 Human Trafficking 67
6.4.5 HIV/AIDS, Gender-Based Violence, and Child Abuse and Exploitation 67
6.4.6 Business Impacts 68
6.5 Biodiversity and Natural Resources 68
6.5.1 Biosecurity 68
6.5.2 Coastal and Marine Impacts 69
6.6 Secondary and Cumulative Impacts 69
7 Mitigation Measures 70
7.1 Aggregates, Materials and Equipment 70
7.2 Biosecurity 72
7.2.1 Giant African Snail Management 73
7.3 Hazardous Substance Use, Storage and Disposal 74
7.3.1 UXO 75
7.4 Safety and Traffic Management 75
7.5 Storm Water and Water Management 76
7.5.1 Stormwater Management 76
7.5.2 Water Management 76
7.6 Construction Lay Down Area 77
7.7 Erosion and Sediment Control 78
7.8 Wastewater Management 79
7.9 Solid Waste Management 80
7.10 Occupational Health and Safety 81
7.10.1 Covid-19 84
7.11 Community Health and Safety 85
7.11.1 Code of Conduct 85
7.11.2 Labour Influx 85
7.11.3 HIV/AIDS, Gender Based Violence, Human Trafficking and Sexual Abuse Exploitation 86
7.11.4 General Social Mitigations 88
8 ESMP Implementation 89

8.1 Roles and Responsibilities 89
8.2 Contractor's ESMP 91
8.2.1 CESMP required Sub Plans 93
8.2.2 CESMP Preparation 96
8.3 Institutional Capacity 97
8.3.1 Project Support Team 97
8.3.2 Environment and Conservation Department 97
8.3.3 Civil Works 97
8.3.4 Training 98
8.4 Grievance Redress Mechanism 98
9 Compliance and Monitoring Plan 102
9.1 Monitoring Plan 102
9.2 Monitoring Plan Reporting 102
10 Contingency Planning 104
Appendix A: Munda ATCT Location 105
Appendix B: Mitigation Tables 108
Appendix C: Monitoring Plan 143
Appendix D: CESMP Monitoring Checklist 152
Appendix E: Codes of Practice and Guidelines 159
Appendix F: SIRAP Code of Conduct 181
Appendix G: UXO Procedure Policy and Response Plan 203
Appendix H: Previous Consultation Minutes 214
Appendix I: Safeguard supervision for the SIRAP Munda Airport upgrade works 224
Appendix J: Native Land Leasing Process 229
Appendix K: Concept Designs of Munda ATCT 230

Figures

Figure 1: Proposed new site for Munda ATCT 17
Figure 2: Munda Airport ATCT Proposed Locations 19
Figure 3: Proposed ATCT at Munda Airport (Source: Egis 2023, Munda ATCT Design Report) 20
Figure 4: Proposed Munda Airport structural plan (Source: Egis 2023, Munda ATCT Design Report) .20
Figure 5: Map of Munda International Airport UXO Cleared Areas 22
Figure 6: UXO Survey covered the proposed ATCT Site 22
Figure 7: UXO Clearance Areas for Lungga River Quarry....23
Figure 8: Contractor laydown areas 1 and 2 26
Figure 9: Top. Aerial view of the Laydown area site in UC owned land south west of the airport. Bottom. The Laydown Area and camp site in relation to the MUA Airport (E&S Semi annual Report Jan-Jun 2023) 27
Figure 10: Geographic location of New Georgia Island and Munda Airport 46
Figure 11: Location of Munda Airport within the New Georgia group 47
Figure 12: Water supply boreholes in Munda (source from Solomon Water)....49
Figure 13: Sensitive receptors surrounding MUA 50
Figure 14: Coastal reinforcements along southern side of runway 51
Figure 15: Vegetation clearance western end of MUA runway 51
Figure 16: Western Province are denoting location of significant coral reefs 52
Figure 17: Approximate boundary of Kindu MPA....53
Figure 18: Observed and projected relative sea-level change near the Solomon Islands 59
Figure 19: Grievance redress mechanism 99
Figure 20: Flow chart for grievance management under SIRAP....101

Tables

Table 1: Other Acts and definitions 35
Table 2: Schedule of the Provincial Government Act....39
Table 3 Permitting Requirements for the MUA ATC Works....40
Table 4: Relevant ESS to SIRAP 42
Table 5: Sea-level rise projections for the Solomon Islands....58
Table 6 List of Sensitive Receptors 61

Glossary and Abbreviations

AP	Affected Person/People
ATC	Air Traffic Control
CESMP	Contractors Environmental and Social Management Plan
ECD	Environmental and Conservation Department
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FOD	Foreign Object Debris
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IA	Implementing Agency
ICAO	International Civil Aviation Organisation
IFC	International Finance Corporation
GBV	Gender Based Violence
IUCN	International Union for Conservation of Nature
LAeq	Equivalent Continuous Level
MCA	Ministry of Communication and Aviation
MID	Ministry of Infrastructure and Development
MOWP	Method of Works Plan
MUA	Munda International Airport
NGOs	Non-government organisations
OHS	Occupational Health and Safety
PER	Public Environmental Report
PPE	Personal protective equipment
PST	Project Support Team
SIG	Solomon Islands Government
SIWA	Solomon Islands Water Authority
STD	Sexually transmitted diseases
SWMP	Solid Waste Management Plan
TFSU	Technical and Fiduciary Services Unit
TMP	Traffic Management Plan
UXO	Unexploded Ordnance
WB	World Bank

Executive Summary

The Solomon Island Government (SIG) is implementing the Solomon Islands Roads and Aviation Project (SIRAP) to improve operational safety and oversight of air transport and strengthen the climate resilience of the road and aviation sectors in the Solomon Islands (SI). In 2021, SIG requested a new transport project called the Second Solomon Islands Roads and Aviation Project (SIRAP2) given the need to expand SIRAP further. Activities planned under SIRAP2 are located on the following islands:

- Honiara International Airport located in Honiara, Guadalcanal.
- Munda International Airport located in Munda (MUA), New Georgia Island.
- Existing road network on Malaita Island and Noro Town on New Georgia Island.
- Santa Cruz Airport on Nendo Island, Temotu Province

The SIRAP2 risk for social is substantial and environment is moderate, therefore the overall rating is a 'substantial' risk project under World Bank (WB) Environmental and Social Framework and requires the development of a site-specific Environmental and Social Management Plan (ESMP). Due to the nature of the project, it is expected that impacts will be site specific, few if any are irreversible, and mitigation measures can be readily designed and implemented. The ESMP is required to identify and assess environmental and social issues associated with the proposed activities and develop mitigation and management measures consistent with World Bank requirements.

This ESMP was updated from the previous approved version E for SIRAP, which focused on the upgrading works at Munda Airport on New Georgia Island and included information on mitigation, monitoring, responsibilities and institutional capacity. The scope of upgrade works under SIRAP for the Munda International is summarized below :

- Overlay of runway, taxiway and apron
- Upgrade and reinstatement of ground markings
- Extension upgrades of airfield drainage
- Improvements to airfield gate
- Upgrade of carpark
- New Air Traffic Control Tower and equipment.

However, most of the above works were completed under SIRAP ESMP Version E. This updated ESMP version K, works will only focus on the construction of the New Air Traffic Control Tower and Air Traffic Control Equipment installation.

The majority of potential adverse impacts will occur during the construction phase, however, given the scope and nature of the works, mitigation measures should be able to alleviate or lessen any potential negative impacts. Moderate and significant impacts are discussed in detail in Section 6 of this ESMP. The key potential impacts that will be mitigated are:

- Sourcing of aggregate materials
- Solid waste generation
- Hazardous materials handling and storage
- Community disruption during construction activities.
- Transport of equipment and materials from the port and around the island.
- Safety hazards for workers and users of the facilities where upgrades are occurring.
- Water demand management for freshwater resources.

This ESMP is designed to address these issues through a series of mitigation and management measures described in Section 7 and Appendix B. The measures will be implemented through:

- Implementation of this ESMP through the approved Contractor's ESMP (CESMP) and associated sub-managed plans guided by the Code of Practice documents included in Appendix E.
- Regular supervision and monitoring of the implementation of the ESMP (refer ESMP monitoring plan).
- Meaningful and ongoing consultations with the Munda communities during the design and construction phases of this project.

1 Introduction

1.1 Background

The Solomon Island Government (SIG), with WB financing, is implementing the Solomon Islands Road and Aviation Project (SIRAP) to improve the climate resilience and safety of the Solomon Islands (SI) road and aviation sectors. In 2021, SIG requested a new transport project called SIRAP2 given the need to expand SIRAP further.

The Solomon Islands is the Pacific's largest archipelagic nation, extending some 1,500 km from east to west and consisting of nearly 1,000 islands, the largest of which include Guadalcanal, Malaita, and New Georgia (in Western Province). The country is bordered by Papua New Guinea to the west, Nauru to the north, Tuvalu and Fiji to the east, and Vanuatu to the south. It has an estimated population of 652, 858 (2018)[1], the second largest in the Pacific following Fiji. Over 70% of the country's population, dispersed across some 90 inhabited islands, is residing in Malaita Province, Guadalcanal Province, Western Province, and Capital Territory of Honiara. The country has among the lowest population densities in the world.

The Solomon Islands has a total of 28 airports: eight are government-owned airports including Honiara (which is also interchangeably used with Henderson), Munda and Gizo, and 20 are community-owned airports including Auki. Among these, Honiara and Munda are the only international airports in the country. The Ministry of Communication and Aviation (MCA) is responsible for policy development and operation and maintenance (O&M) of the airports, whilst the Civil Aviation Authority of Solomon Islands (CAASI) is responsible for safety and security regulation. For some years, aviation reform has been underway with the assistance of New Zealand to improve operation efficiency of major airports. The key reform agenda includes separation of O&M responsibilities from MCA. In September 2016, SIG established Solomon Islands Airports Corporation Limited (SIACL), a state-owned enterprise under MCA. It was planned that Honiara, Munda and Gizo Airports would be transferred into SIACL's management in early 2018. However due to initial delays, and then the impacts of COVID-19, this transfer has been put on hold until at least mid-2021.

The SIG has placed the upgrading of Munda Airport as a high priority in the National Transport Plan (NTP) 2017-2036, National Infrastructure Investment Plan (2013) and Aviation Master Plan (2007). Located in New Georgia Island, Western Province, Munda's upgrading will contribute to tourism development and support the fish processing at Noro, some 20 km away. It would also provide an alternative emergency airport for Henderson. This is particularly important since each international flight destined to Honiara is required to carry extra fuel in case of an emergency landing at the nearest international airport in Santo, Vanuatu. New Zealand has financed the rehabilitation of the Munda runway and the road to Noro. The proposed investments on this project would complement New Zealand's by ensuring Munda achieves full international operations, with an appropriate level of safety and facilities.

To meet the requirements of Munda as an international airport, the following investments are already completed under SIRAP: (i) overlay of runway/taxiway/apron, (ii) reinstatement of the visual aids on the runway, taxiway and apron, (iii) removal, reinstatement, testing and commissioning of the existing inset threshold lights and airfield ground lighting for the runway and taxiway; (iv) extension of the existing culverts in the existing creek to outside the airport fence line, (v) upgrade of the existing culvert, (vi) replacement of the No. 2 existing gates used by the public along the airport perimeter fence north and south of the runway with hinged self-closing gates, (vii) upgrade of the airport carpark,

[1] Source: World Bank

while the following investments are yet to be implemented under SIRAP2: (viii) construction of new Air Traffic Control tower (SIRAP2), and (ix) installation of ATC equipment (SIRAP2)

This scope of works is updated from the previous version of this ESMP and now focuses on the new works implemented under SIRAP2.

1.2 Environmental and Social Management Plan Objectives and Scope

SIRAP is a Category B project under WB OP4.01 Environmental Assessment, and Substantial Risk for SIRAP2 under the Environmental and Social Framework for safeguards instruments, a site specific ESMP is required. Due to the nature of the project, it is expected that the majority of the environmental and social impacts will be site specific, few if any are irreversible, and mitigation measures can be readily designed and implemented.

The objective of the ESMP is to provide a set of stipulations for managing the airport upgrade works in a manner that incorporates the principles of environment sustainability according to the SIG legislation and World Bank Environmental and Social Framework (ESF) while minimizing potential adverse effects on the local community and the environment.

To achieve this objective the ESMP outlines the mitigation measures required for avoiding or minimizing the potential impacts of the works and provides a monitoring program to confirm effectiveness of the required mitigation measures. Roles and responsibilities are clearly defined for all stages of the project works and execution of project works. The ESMP also provides the details of how the community and stakeholders are to be engaged and the mechanisms for ongoing consultation and communication.

This ESMP (or approved version) will be included in all bidding documents and form the basis of the CESMP which will detail the practical implementation of the mitigation measures identified in this ESMP. The ESMP is a dynamic document which should be updated to include any variation from the current scope or addition of newly identified impacts and mitigation measures that may arise through the bidding and contracting process (if not addressed in the CESMP) or consultation. The mitigation measures associated with the impacts identified above are detailed below.

This ESMP is limited to the scope of works for MUA as described in Section 2 of this document and addresses impacts and mitigation measures identified at each stage of the project's execution, namely detailed design, construction and operation. This ESMP will be included in the bidding documents and will form the basis of the CESMP. The mitigation measures identified in this ESMP form the minimum requirement for reducing impacts on the environment as a result of works associated with the project. The CESMP will be prepared by the contractor, approved by the Supervision Engineer and disclosed prior to commencing civil works.

1.3 Integration of the Project ESMP (ESMP)

As the MUA works will be implemented under SIRAP2, this ESMP refers to SIRAP2

It is the responsibility of the SIRAP2 Project Support Team (PST), to ensure that the SIRAP2 MUA ESMP is fully integrated into all Project preparation and planning. The ESMP shall form part of any tender documentation for physical works, and it shall be the Client's (MCA) responsibility to ensure that the technical requirements and data sheets of Project bid documentation are subject to review against this ESMP to ensure that all appropriate safeguard measures are captured at the bid stage.

Further, it is the responsibility of the SIRAP2 PST to ensure that this ESMP is considered in the review of any Terms of Reference (TOR) for Technical Assistance developed for the Project. The safeguard

requirements for any design or supervision of the Project will be fully integrated into TOR to ensure that all safeguard responsibilities allocated within the ESMP are realized at the tender stage. In this way, the ESMP will be fully integrated within the Project so that the required measures will be fully appreciated by all responsible parties, and successful implementation will be achieved.

1.4 Environmental Safeguards Document Hierarchy and Development

This ESMP is a dynamic document which is updated as and when project scope, detailed designs[2] or further information becomes available or when there are changes to the project which will impact on the public, thus creating a hierarchy of document versions as the project progresses. It contains measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project impacts. It defines roles and responsibilities and provided guidance for the Implementing Agency (IA), Executing Agencies (EA) and the Civil Aviation Authorities for developing the environmental and social safeguards documents in compliance with respective WB ESF Environmental and Social Standards (ESS) and respective country system environmental and social safeguards requirements. At any one time there is only one ESMP which is considered current and applicable to the project. As of October 2023, the August 2021 Version G of the MUA ESMP is considered superseded with this current version (ESMP Version K).

Issues, impacts and mitigation measures identified in superseded ESMPs are incorporated into this version as have been addressed during the detailed design as identified in this current ESMP version.

The Contractors are required to comply with this ESMP and use it to identify and guide what mitigation measures need to be implemented. The CESMPs will document implementation and specific measures that will be used based on their construction methodology (if different from that identified in Section 2). The CESMP is, in turn, a dynamic document and must be updated as and when scope, design or actual works and circumstances change. This finalized ESMP should be included with the procurement bid documents for the MUA works.

1.4.1 UXO Environmental Management Plan

Previous work at Munda Airport by the New Zealand Government found a significant amount of unexploded ordnance (UXO). In order to eliminate the UXO risk to the SIRAP works at Munda Airport, a standalone UXO Environmental Management Plan (EMP) was developed by a UXO specialist for the survey and removal of any UXO. The survey was completed, the UXO EMP was integrated into the previous approved MUA ESMP Version E prior to the release of bid documents for SIRAP.

In addition to the UXO EMP, the project activities have included: (i) UXO Specialist developed technical requirements for UXO survey and removal, undertook technical reviews of all UXO Contractor pre-project documentation, and oversaw the work of the UXO Contractor; and, (ii) UXO Contractor conducted UXO survey and removal of any identified UXO as required at Honiara and Munda airports.

1.5 ESMP Methodology

The pre-appraisal ESMP for MUA (approved ESMP version E) was developed based on similar scopes of work undertaken under this Program and was verified by a site visit to New Georgia Island and Munda Airport in March 2018.

[2] This version is currently updated with detailed design information.

The initial proposed scope of works and the current airport condition were extracted from the technical report produced by aviation specialists during this site inspection. Potential impacts and mitigation measures were extracted from similar projects implemented under the Pacific Aviation Investment Program projects and have been made suitable for the receiving environment of the SI.

Consultations with MCA, CPIU and DEPC have been held to discuss specific impacts with particular focus on areas such as community consultations, country safeguard systems and aggregate sourcing. Stakeholder consultation for the project has been ongoing during the course of the design phase with key government ministries, utility providers in Munda, non-government organisations (NGOs), affected communities, resource owners and other key stakeholders in Munda and Noro.

ESMP version E was approved based on the actual site investigations and assessment works performed in 2019 and 2020 by the design and supervision engineer (SMEC) for SIRAP. This updated ESMP version K contains only the revised scope of works (construction of new Air Traffic Control tower (ATCT), and installation of ATCT equipment) for Munda under SIRAP2.

The final detailed designs of this undertaking therefore focused on the final scope of works outlined in Section 2.1 of this report which also incorporates appropriate mitigation measures to ensure minimal disturbances to the environment and the surrounding communities.

This ESMP has been a dynamic document that had informed the designs of the airport upgrade works and yet modified accordingly as the detailed designs were finalized (and subsequently reissued). After the issuance of this ESMP, any revision made to the technical specification to the airport works by MCA and WB will be addressed and updated in this ESMP either by the Design Engineer Supervision Consultant or SIRAP NSS before the project reaches the bidding stage.

2 MUA Upgrade Description of Works

2.1 Overview of Proposed Works

The construction works for the MUA program follows through from SIRAP to SIRAP2. Works completed under SIRAP consist of the following primary tasks:

a) **Overlay of runway, taxiway and apron.** A non-structural asphaltic concrete overlay of the runway, taxiway and apron, over existing chip seal surface and resurfacing with an asphalt concrete pavement layer for the taxiway.

b) **Reinstatement of the visual aids.** On the runway, taxiway and apron this will consist of centre line markings; edge markings; designation markings; threshold markings; fixed distance markings; taxi-holding position markings, and apron markings.

c) **Improved lighting:** The removal, reinstatement, testing and commissioning of the existing inset threshold lights and airfield ground lighting for the runway and taxiway. Where required protection of the other existing airfield ground lighting during works.

d) **Drainage improvements (culverts 2 and 3):** Extension of the existing Culvert No 2 (1 No. 425 diameter RCP) and Culvert No 3 (3 No. 525 diameter RCPs) in the existing creek to outside the airport fence line including: Minor excavation works for the laying of the culverts, jointing between the new and existing culverts, construction of new outlet structures, minor earthworks for the construction of a grassed embankment over the culverts, and reinstatement of the fence line and all disturbed areas to match existing conditions.

e) **Drainage improvements (culvert 4):** Upgrade of the existing Culvert No 4, a 250mm diameter RCP with a 1000mm diameter RCP including: Replacement of the associated inlet and outlet structures, minor reshaping of the runway embankment area to drain into inlet structure, minor reshaping of the embankment and side drains at the outlet structure, construction of a 200m long bund at the north western end of the runway along the perimeter fence, and reinstatement of the fence line and all disturbed areas to match existing conditions.

f) **Improve safety for public access:** Replacement of the No. 2 existing gates used by the public along the airport perimeter fence north and south of the runway with hinged self- closing gates including: Installation of warning signage for the dangers of live airside operations, and provision of rubbish bins at each gate to minimize Foreign Object Debris (FOD) and littering and associated signage.

g) **Airport Car Park:** Upgrade of the existing car park area.

Under SIRAP 2 and covered under this revised version of the ESMP, the following tasks is proposed for Munda Airport Program:

a) **Construct new Air Traffic Control Tower:** Design and build of new Air Traffic Control (ATC) tower located on the eastern side of the runway within MCA land.

b) **Installation of new Air Traffic Control Equipment:** Installation of ATC equipment at the ATC tower and along the runway.

The final scope of the MUA works under SIRAP is changed from the concept design proposed in MUA ESMP version E and places an emphasis on improving the condition of the runway, taxiway and apron to be in line with the International Civil Aviation Organization (ICAO) Standards. This means that the runway and related components will be capable of accommodating 4C A320 or B737 airplanes as per the MCA Masterplan which looked at 20 years traffic condition for that airport. According to the ICAO there is a provision for a small percentage of oversized aircraft to use an airport such as MUA with less

critical characteristics such as weight and dimensions. It is noted from MCA that in the event when there is the emergency response, it will most likely be from Australia or New Zealand and involve a C130J aircraft which is a Super Hercules military transport aircraft. These therefore have taken priority in the scope of works for SIRAP.

Figure 1: Proposed new site for Munda ATCT

2.1.1 Land Requirements

Previously MCA was looking at acquiring a plot of land outside the government land. The land was to be acquired for the Air Traffic Control tower. The MCA commenced the land acquisition process using the process described in this ESMP, based on the Ministry of Infrastructure Development (MID) process in the SI National Safeguards System. This process was approved for use under SIRAP and is documented herein.

However, after unsuccessful negotiation with the landowner, MCA has decided that the proposed ATCT will be located within the current MCA land. Therefore, no land acquisition will be required for the ATCT.

2.1.2 Current Situation

Munda Airport is located approximately 370km northwest of Honiara. The airport was built during World War II and consists of one paved runway with a length of 1,800m. In addition, there are concrete overrun areas of 150m each end, which can be used for take-off roll. As such, the total runway length for takeoff can be considered 2,100m, which allows operating single aisle aircraft such as the Airbus 320. Currently the airport is frequented by DASH 8 – 100 and DHC 6 Twin Otter turboprop aircraft domestic services.

MUA has undergone a major upgrade[3], which was financed by New Zealand's Ministry of Foreign Affairs and Trade (MFAT) in 2018. The objective of the MFAT works was to render MUA compliant with international standards, which included instrument and night capabilities. This allowed for international flights to MUA and MUA serving as an alternative airport to HIR with weekly Solomon Airlines A320 international flights from Brisbane since March 2019. This has been temporarily suspended as of March 2020 due to the Covid-19 global pandemic.

The activities that were recently completed in 2023 for Munda International Airport under SIRAP include:

- Overlay of runway, taxiway and apron.
- Reinstatement of the visual aids.
- Improved lighting.
- Drainage improvements (culverts 2 and 3).
- Drainage improvements (culvert 4).
- Improve safety for public access.
- Airport Car Park

2.1.3 Overview of the Munda ATCT Works

For the Munda ATCT, an assessment of the existing conditions has been carried out based on an initial site visit to the Noro Roads (August 2021) and follow up site visit in September 2023, and field observations and a number of secondary sources.

The location of the Air Traffic Control Tower in Munda Airport (Figure 2) was a proposal from MCA in lieu of the initial location identified in the Munda masterplan prepared in 2020. The location identified in the

[3] The improvements consist of a runway overlay, the installation of runway lighting, the replacement of a non-directional beacon (NDB) and distance measuring equipment (DME), the setup of a container-based control room for ATC services, the installation of an airport perimeter fence and the construction of a Rescue Fire Station for two fire vehicles.

masterplan is an ideal location for the ATCT but a decision to consider the area of the existing temporary passenger terminal as the new ATCT location was confirmed by MCA in July 2023, and formalized.

Further studies undertaken to assess the viability of the proposed location in consideration of the runway, passenger terminal and other important factors. The plot is part of the Aviation Complex, a property of the Solomon Islands Government. It is located on the east side of the temporary passenger terminal and west of the Airport Firefighting and Rescue Station.

Figure 2: Munda Airport ATCT Proposed Locations

The new ATCT tower will sit on a 15m x 30m lot that is currently an Existing Temporary Passenger Terminal Building which will be demolished. The area is on the eastern adjacent lot of the existing apron and west of the Airport Rescue and Firefighting Station.

Existing airside security fence south of the proposed ATCT location with a gate will provide security and no additional fence is needed for the new ATCT be moved to cover the new ATCT. Personnel access to the ATCT compound will be through the airside while ingress or egress of vehicles can be accommodated on the existing vehicular gate with access clearance pass. See below is the proposed Munda ATCT (Figure 3) and structural layout plan (Figure 4).

Figure 3: Proposed ATCT at Munda Airport (Source: Egis 2023, Munda ATCT Design Report)

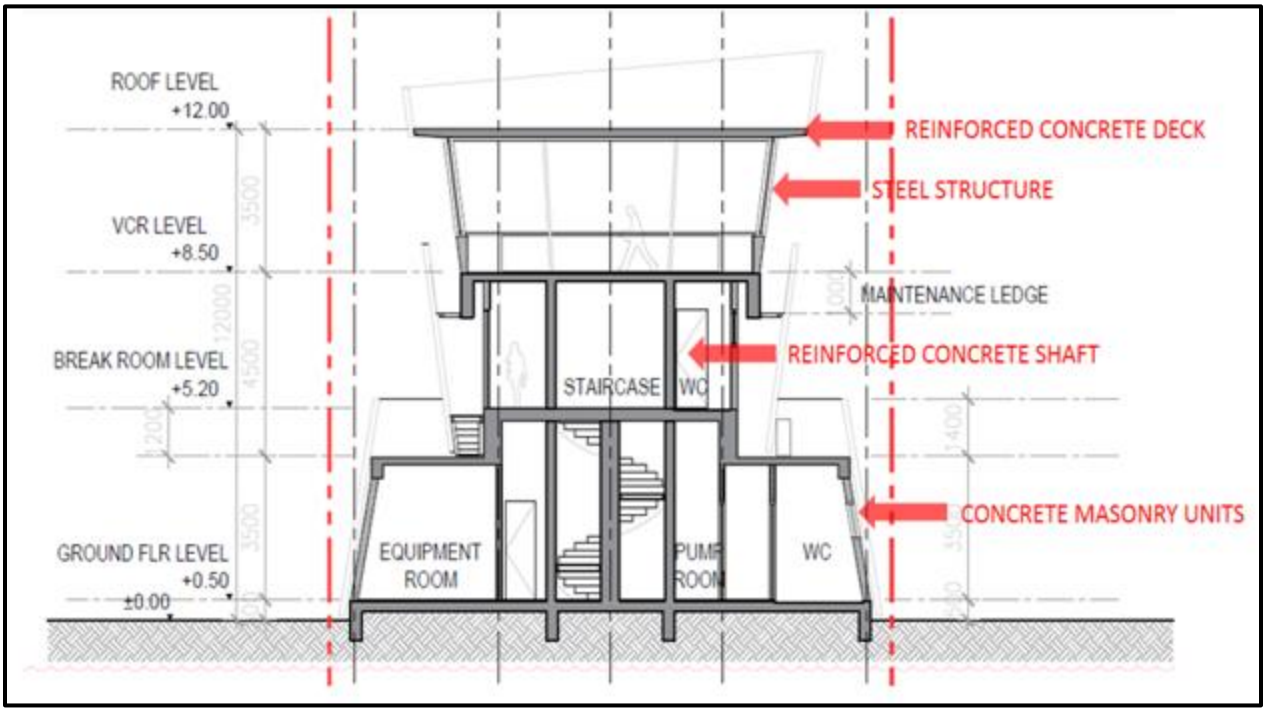


Figure 4: Proposed Munda Airport structural plan (Source: Egis 2023, Munda ATCT Design Report)

The structure or building will include the following and concept designs are attached in Appendix K:

- Technical Block:
    - Located on the ground floor is the Supervision Block. The block houses the Equipment, Supervision, UPS and Spare Rooms that are essential to the ATCT operations. A separate entry for the tower was designed to have access control for security purposes. The stair that is located inside the tower shaft was designed to have a maximum width to accommodate large equipment ingress and egress to and from the VCR.

- VCR / Breakroom:
    - The VCR Room can accommodate a maximum of 5 workstations for the ATCT Personnel. It has a door access to the viewing deck / ledge. The Breakroom was designed to have an area for the personnel to take a rest which includes pantry, toilet and a dining area. The area also has a 270-degree view through the wide windows provided.
- VCR Visuals:
    - The height of the VCR windows will have a maximum view as required for the ATCT Personnel to properly see the entire aviation area and the skies. The deck/ledge can also be used as a supplementary viewing deck during low visibility.
- VCR Ledge:
    - The VCR will have a ledge to serve as a viewing deck for the ATCT personnel to have a better visuals in some other cases of low visibility. The ledge will also serve as the main access to the VCR roof deck where navigation equipment will be installed.
- VCR Visibility:
    - The visibility of the major airport areas including the skies is the primary consideration of tower design and ensures that the ATC Personnel will have a non-obstruction 360-degree view inside the VCR room using strengthened glass to resist strong winds and vibrations.

2.1.4 UXO

Previous work on the MUA runway by the New Zealand Government found a significant amount of UXO – some 6,500 pieces were unearthed within 0.7m of the surface. The UXO survey that was conducted in September 2020 by Solsearch Consultancy Services for 3m depth of UXO clearance. The surveyed areas were for Munda Airport Terminal, Car Park and four (4) proposed sites for the ATCT (See Figure 5). For the terminal and car park there was zero (0) UXO. The terminal area surveyed also covered the proposed ATCT (See Figure 6). However, for the four (4) proposed ATCT site, there was only 1 UXO, and it was removed and disposed and cleared by EOD. The area was then recorded as '**Free From Explosives (FFE) Handover Certificate Log, Area 1 – New Passenger Terminal, Munda'** in the report produced by Solsearch Consultancy Services and reviewed by the UXO Specialist engaged under SIRAP. It will be essential for the contractor to conduct a UXO survey and clearance for the ATCT site prior to any civil works for this Project.

In the case of the quarry site for MUA works, it has been proposed by MCA that the Quarry Areas at Lungga River in Guadalcanal are assigned for both SIRAP HIR and MUA works. An Area Clearance Certificate for the Lungga Quarries have been undertaken. The certificate is issued only for the areas marked in Figure 7 below. Refer to Appendix G for the clearance certificate issued which only covers for the areas marked, any quarry work outside these areas marked will require further UXO survey. The contractor will need to review any previous works undertaken, previous UXO surveys and if required, undertake any further UXO survey prior to commencement of works.

Figure 5: Map of Munda International Airport UXO Cleared Areas

Figure 6: UXO Survey covered the proposed ATCT Site

Figure 7: UXO Clearance Areas for Lungga River Quarry

For Munda Airport, all airside areas have previously been cleared. Clearance of any laydown site external to the airside area will be the responsibility of the Contractor upon mobilisation. The areas for the drainage extension and upgrade works and Contractor Laydown Area No. 2 were cleared under SIRAP.

In the event of a discovery, the Contractor must immediately stop work and clear the worksite of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA, and the Royal Solomon Islands Police Force (RSIPF). It is the responsibility of the police force to report and coordinate the removal of the UXO. No works shall recommence on-site until instruction has been received from the RSIPF and MCA.

2.2 Alternatives

During project preparation, the main alternative recommendation considered was the construction of a new terminal building in its current location and the additional construction of a separate ATC tower. This option was rejected at the detail design phase, as the priorities to comply with ICAO were deemed to be a more urgent use of the project funds. Spending on a terminal and ATC would not make those ICAO compliant upgrades possible and it therefore not considered to be a feasible alternative. But after several analysis it was proposed that the Munda ATCT be included as part of the project works under SIRAP 2.

The 'no action' alternative would result in the MUA airport not meeting international aviation safety, operation and functionality standards regarding air traffic control tower (ATCT). This will decrease the operational effectiveness of receiving international flights. The 'no action' alternative would likely cause

negative impacts to the socio-economic environment of New Georgia Island and is not considered an appropriate option.

2.3 Construction Methodology

This ESMP is updated based on the final design plans and corresponding construction methodology as outlined below.

2.3.1 Method of Works Plan

The Method of Works Plan (MOWP) is a required document by Civil Aviation Authority of the Solomon Islands (CAASI) and MCA for any major construction works within the boundaries of an airport. The MOWP sets out the operational requirements for maintaining a functioning airport throughout the construction process. It includes the concessions and alternative arrangements that may need to be made (e.g. alternative aircraft parking apron) and staging of the construction process while ensuring the safety and security of all personnel, the community and aircraft and continued operation of the airport throughout construction works.

2.3.2 Equipment

For the construction of the Munda ATC tower, works will be mainly on the architectural structure and the installation of relevant ATC equipment, hence machineries used will be mainly crane(s), loaders, excavator, tipper trucks and other light machineries including hand tools.

All cargo, whether air or ship, will need to be processed in accordance with SIG quarantine and customs laws which require fumigation (proof of) of materials and equipment and declarations by personnel (specifically regarding communicable diseases).

Before transportation to Munda, all machinery and equipment (imported or local) which has not been subject to containment within a biosecurity-controlled area will be thoroughly cleaned before being transported to avoid the spread of the invasive Giant African Snail (GAS) from Guadalcanal to Munda.

2.3.3 Aggregate Supply

Aggregate demand for the Munda ATC tower works is 200m^3 Along the main road between MUA and Noro there are two operating small-scale quarries for coronus aggregate, however they are currently in dispute by opposing tribes and are therefore not available for use for this project. No new quarries will be opened at Munda for these works, therefore MCA have determined that aggregates will be sourced from Guadalcanal from a source approved by MMERE, MCA and ECD.

One of the main sources of aggregate for building and road works is from the Lungga River on Honiara. Sand and gravel from the Lungga River are often used as the main aggregate source for other development aid funded projects and MCA have designated two areas within the river for use by SIRAP for works at the Honiara and Munda airports. These sites are located at the western end of the runway, between 200 to 300m (straight line measurement). Although this site has been designated for use by this project, it should be noted that the Contractor has the option to use an alternative source. The Lungga River site is currently infested with GAS and regulations from the Ministry of Agriculture and Livestock (MAL) and MECDM state that use of infested quarry sites is not recommended without the appropriate mechanism or procedure

in place to avoid the increasing the spread of the GAS to Munda. Consultations with the SI biosecurity office have identified a recommended procedure (see Section 7.2.1) for the Contractor to adopt, should they opt to use this quarry site.

The river gravel material is basaltic, thus, is suitable for construction of the ATCT. However, it is expected that the aggregate will be obtained from approved quarry sources in Guadalcanal. The contractor will be required to present specific management plans within the CESMP for the sea and land transportation of these materials from the origin to the project site, especially the landing facility. These plans will be approved by the Supervision Engineer.

All efforts should be made to ensure that aggregates from Guadalcanal must be sourced from an area of the island which is not impacted by the invasive GAS and must not be transited through other parts of the island unless through a biosecurity controlled and approved stockpile site.

Apart from the aggregate sourced from the Lungga River, there are several aggregate mining companies on Guadalcanal which hold Building Materials Permits for the extraction of aggregates and can supply graded aggregates for the MUA works.

Accessible sources of suitable aggregate materials will need to be identified in the CESMP and approved by the Supervision Engineer and extracted under current Building Materials Permit. In case these are not available, or it is more cost effective, aggregate may be purchased from licensed operators on Guadalcanal or imported, subject to approval of the operator by the Supervision Engineer. No brand-new quarries will be opened for the MUA works.

2.3.4 Construction Camp and Lay Down Areas

The laydown site(s) (sometimes referred to as construction camp) generally will consist of the project offices, storage areas, stockpile site(s), and associated facilities. There are two sites identified that can be used by the contractor, these were previously used by Contractors (CCECC and CHEC) during the works under SIRAP. A potential site is the former CCECC laydown site, identified as Contractor Laydown area No.1 (Figure 8). The site is within the airport boundary has been identified for very close to the MUA ATCT site.

An area on the southwestern side of the airport, labelled as Contractor Laydown Area No 2 in Figure 8, was the former CHEC laydown site. The site is owned by United Church of Solomon Islands (UCSI) and is bounded by the airport fence. The site lies next to an unsealed road with limited vehicle and pedestrian traffic. It is also big enough to cater for the 20m by 30m laydown required size. It is at the other end of the airport and a bit further away from the ATCT site, compared to Laydown Area No.1. However, it can be considered for a contractor's laydown site as it is within the vicinity of the MUA Airport. There are no schools and no community areas within a 300m radius of the site, however there is one isolated household 150m away from the site which will need to be well monitored, informed and consulted with prior to and during works.

Figure 8: Contractor laydown areas 1 and 2

The Contractor will be responsible for following the procedures outlined in Appendix J (Laydown) to secure the relevant temporary lease arrangement with the UC for the Contractor Laydown Area No 2. Should the Contractor wish to propose alternative laydown sites for the works, strong justification and a thorough analysis of the alternatives must be provided. Any change from the identified site will be approved by all involved stakeholders and the Supervision Engineer.

Laydown site(s) size should be kept to a workable minimum, be fenced and materials and equipment kept secure to prevent access and use by non-authorized personnel. For the second laydown area, it is recommended that a local security firm should be hired to provide security for the area. The Contractor will require that the security personnel do not use any force unless it is necessary for preventative and defensive purposes proportionate to the nature and extent of the threat. The security firm would also be required to undertake all induction, gender-based violence (GBV) and occupational health and safety (OHS) trainings as well as sign all Codes of Conduct.

Planning and management of the laydown site(s) will follow all requirements of the ESMP and implementation of these mitigations, along with any additional mitigations identified by the Contractor, will be detailed in the CESMP.

Figure 9: Top. Aerial view of the Laydown area site in UC owned land south west of the airport. Bottom. The Laydown Area and camp site in relation to the MUA Airport (E&S Semi annual Report Jan-Jun 2023)

2.3.4.1 Contractor Laydown Area 1

This site was previously used by CCECC during the SIRAP MUA works. At this stage it is expected that this laydown site will primarily be used for office space, machinery and equipment storage, material storage and other relevant activities. This will be confirmed in the CESMP. The site is north of the fire shelter.

2.3.4.2 Contractor Laydown Area 2

This site was used by CHEC under SIRAP MUA works as the camp and laydown area which also houses the asphalt and batching plant site. It is a disturbed area with no critical habitats for any flora or fauna species. This site has been screened and surveyed for UXO was completed by the Contractor, CHEC, for the Munda Runway works in 2022 to clear the site before works start and for the preparation of the site for the batching and asphalt plant.

During site selection, it was screened for potential environmental and social impacts including noise, dust, wastewater production, vibration and increased traffic impacts which can negatively affect communities and sensitive receptors (the Kekehe communities to the west of the apron, primary schools and a hospital at the western end of the runway and Munda village to the east).

The layout of the site will be proposed by the Contractor and approved by the Supervision Engineer based on the requirements in this ESMP. The final details will be described in the CESMP and will include the

monitoring, information and consultation that will be targeted at the household within 150 m from the laydown sites.

2.3.5 Workers Camp

It is not anticipated that there will be a need for a residential workers camp at Munda for these works. However, should a contractor wish to establish a workers camp, and the workers camp is not within the boundary of the airport, appropriate land lease arrangements should be made and approved by the Supervision Engineer in conjunction with MCA. The Commissioner of Lands will approve the rate of the lease. The necessary steps required in the IFC/WB Workers Accommodation: Process and Standards Codes of Practice should be followed. Should a workers camp be required then these guidelines must be adhered to and updates made to the ESMP and CESMP as appropriate.

A Workers Camp Management Plan would be required from the Contractor following the guidelines provided in Appendix E. A Workers' Camp Management Plan addresses specific aspects of the establishment and operation of workers' camps.[4]

Particular attention should be paid to visitor management, sanitary water systems and waste management and measures to avoid instances of GBV (see section 7.11.4). An Influx Management Plan would also be required since there will be potentially an influx of skilled worker who may originate from overseas and other parts of the Solomon's to work at the airport. The focus of this plan is to ensure that nonlocal workers are inducted on the culture of Munda and to manage an inappropriate contact between the non-locals and the residents of Munda that may result in GBV, sexual abuse and other misconduct.

2.3.6 Haulage Routes

Transport to and from the site and the construction camp, particularly of materials and equipment, must occur on the existing road network and measures undertaken to prevent accidents, dust, spillages, noise and vibration nuisance (e.g. wheel wash, covering of loads, servicing of vehicles). Deviations from the nominated access routes will not be tolerated. Access to work areas can be via the airfield, so long as the route is approved by MCA and identified in the MOWP.

If the transport of material or equipment along the identified route is likely to impact on normal pedestrian and vehicle traffic or pose an increased safety hazard, consideration should be given to moving these items during off peak times. Measures such as prohibiting the use of engine breaking and use of speed control in and close to settlements can be implemented to reduce noise, speed, and vibration near sensitive receptors (Section 7.4). As the quarry site for Munda works will be on Guadalcanal the haulage route will be from the quarry to HIR Laydown area, then to Honiara Point Cruz Port by truck and then switch over to sea transport to Lambete Wharf at Munda or Noro depending on the contractor and finally from Munda Port to Munda SIRAP laydown area.

There are two proposed landing sites for building materials, equipment and machines. The first would be Noro Port, 18km away from Munda. On that port, the biosecurity and quarantine officers from the Ministry of Agriculture and Livestock are well established there to provide clearance on any consignments from overseas. Though the route is longer, the road that connects Noro to Munda is in good condition

[4] http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-labor- influx.pdf

and does not go through any township or public places. There were also limited residences along the route. There are, however, short sections of the road that are steep which require care when carrying a load. The Traffic Management Plan will be developed which will include this haulage route as well.

Munda in Lambete, also has a landing site. The landing site is only about 300m from the airport terminal and only about 4km to the proposal laydown site 2 travelling around the airport and accessing the site from the west. The route would only be just more a kilometre going through Kekehe but the conditions of the culvert under the roads and the heavy growth of trees over the road will not allow large vehicles to pass through that site.

The Lambete wharf vicinity includes Munda vegetable market stalls that operate 6 days a week, Monday to Saturday. This would pose safety issues to the vendors and the public for the haulage of materials and machines from Lambete wharf and through the marketplace.

Once quarries and haul routes have been finally confirmed, the CESMP should assess these requirements and any necessary measures will be reflected in the Traffic Management Plan. Should off peak transportation of materials be necessary, it is important to communicate this in a meaningful manner to the communities along the route, particularly those on any unsealed roads where additional traffic management may be necessary.

2.3.7 Hazardous Substances and Materials

2.3.7.1 Hazardous Substances

Hard stand areas must be available for storage of hazardous substances and other equipment that poses a potential risk to the environment (e.g. leaking lubricant from machinery). Runoff from hard stand areas used to store machinery will need to be collected and treated (e.g. oil water separator) to prevent contamination of soil or water bodies. Hazardous substances (e.g. fuel, lubricants, oil, paint) must be stored in a self-bunded tank or, with the Supervision Engineers permission, within a bunded with a capacity of 110% of the total volume of the tanks. Wastewater must be managed in such a way to prevent the spread of vector-borne diseases and contamination of soil and water bodies.

The requirements to handle, store, dispose or respond to accidental spillage of hazardous substances must be reflected in the appropriate CESMPs including Hazardous Materials Management Plan, Spill Prevention and Emergency Response Plan, Point Source Pollution Plan within OHS Plan and Waste Management.

2.3.8 Waste

Noro Council operates a landfill in Noro. There are no formally permitted landfills on the island, however the Honiara City Council operates the permitted Ranadi Landfill on Guadalcanal. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. Prior approval for the utilization of Ranadi Landfill will be undertaken by MCA. MCA will seek approval from Honiara City Council for the use of Ranadi Landfill for SIRAP's project use. The approval documents will be made available by MCA to the Supervision Engineer and the Contractors.

Solid waste includes:

- General waste (i.e., office type waste, household waste (from any workers camps), lightweight packaging materials).
- Recyclable waste (i.e., certain plastics, metals, rubber etc. that can be recycled).
- Organic biodegradable waste (i.e., waste that will decay / break down in a reasonable amount of time, such as green waste, food waste).
- Inorganic non-recyclable waste (i.e., waste that cannot decompose / break down and which cannot be recycled).
- Hazardous waste (i.e., bitumen, waste oil etc.).

Provisions within this ESMP provide the Contractor with the requirements for management of the above waste streams through a Solid Waste Management Plan (SWMP) in the CESMP.

2.3.9 Occupational Health and Safety (OHS)

All occupational health and safety requirements as per WB EHS and SIG law must be in place and workers trained in necessary procedures (e.g., spill response plan). The OHS Management Plan Guidelines in Appendix E have been designed to reinforce existing SIG health and safety law and must be applied to all aspects of the SIRAP project.

For the purposes of the project, in addition to the national OHS standards the employer is adopting guidelines for occupational health and safety based on good international industry practice. To be qualified for bidding contractors will be required to have in place an occupational health and safety management system which is compliant with, or equivalent to, OHSAS 18000 (http://certificationeurope.com/ohsas-18000-health-safety-managment-standards/) and is acceptable to the client. The contractor shall specify which occupational health and safety standards are to be applicable to the project and provide evidence of application of such standards on a project of similar size and complexity during the past 5 years. The standards to be adopted may include those of Australia, Canada, New Zealand, the EU and the US, which are referred to in the World Bank Group EHS Guidelines.

Civil works shall not commence until the Supervision Engineer has approved the OHS plan, the Safety Officer is mobilized and on site, and staff have undergone induction training. Details of the expected content of the OHS Plan and expected practices of the Contractor with regards to health and safety are stipulated guidelines in Appendix E and summarized in section 7.10.

In light of the COVID-19 world pandemic, the project will ensure to protect its workers, and to comply with those regulations that of the national government requirements for COVID-19 protection measures. The Project should prioritize and look after the well-being of the workers and monitor and follow the local and national health authority guidance on Covid-19. All workers are required to undergo the COVID-19 testing, if a worker has been tested positive or in contact with a positive COVID-19 case, the worker will be required to undergo the 14 days quarantine.

2.3.10 Duration and Timing of Construction Activities

For the Munda ATCT works, it will take approximately 10 months for construction works, with an additional 4 to 6 months for mobilization and demobilization. The ATC equipment installation, testing and commissioning will be 6 months. The mobilization works is proposed to start in July 2024.

Once the contract is awarded, a detailed working plan showing the staging of the works for each working shift is to be submitted to MCA prior to any works commencing. The staging of the works is to be in

coordination between MCA, the Contractor and Supervision Engineer to eliminate disruptions to flight schedules and to ensure safety of all parties is maintained at all times. This means that works will be carried out either during the daytime or nighttime depending on the flight schedules and the type of activities required with the likelihood that working hour will not be in line with the conventional working hours of 7am to 6pm Mondays to Saturdays. The contractor will ensure that airport communities, schools, churches and business houses in Munda will be informed at least a week ahead on the works schedule.

Based on the scope of works in section 2.1,the construction works will be done during the day. .Normal working hours in the SI are Monday to Saturday, 7am to 6pm. Working on a Sunday or Public Holiday is not recommended and would likely only be approved if urgently required for safety purposes and with the approval of the Supervision Engineer. All flight and construction scheduling must be coordinated with air operators as documented in the MoWP.

During this covid-19 restriction period, there are only single flights going to Munda each weekday. There are no night flights and weekend flights have been suspended temporarily. However, this is now back on the normal schedule since the community outbreak in SI in 2022 and flights to Munda is now on a daily basis from Monday to Friday every week.

When works are required to be done during night-times, floodlights must be used to properly light up the construction area to ensure adequate visibility by all the workers. Impacts on the communities nearby would include noise and vibration, odour and some dust emission.

For staff involved in the night works, the contractor is responsible for providing them with appropriate PPEs. The contractor will also develop a work safety procedure for nighttime works and have its staff trained on it.

Approval for night-time works must be granted by MCA with the awareness of the Ministry of Commerce, Industry, Labour and Immigration. The staff involved must be informed prior to as well of the nighttime works.

The following is a breakdown of the construction staging for the works previously undertaken under SIRAP:

- Establishment and Mobilization – construction management plans, personnel, machineries, equipment and materials.
- Sourcing and Shipping of aggregates from, Honiara, Guadalcanal.
- Construction of the ATC tower - foundations, building structure and finishing;
- Installation of electricity and plumbing works including air conditioning and sanitary facilities.
- Installation of the ATCT equipment and other relevant equipment.
- Reinstatement; and
- Demobilization.

3 Policy, Legal and Administrative Framework

3.1 National Requirements

The SIG has a well-established regulatory framework that provides measures to protect and preserve the environment. Legislation concerning the protection and preservation of the environment is found in a number of acts and is the responsibility of a number of different ministries according to their focuses, they are detailed below:

3.1.1 The Environment Act and Regulations

The Environment Act 1998 (the Act) and Environment Regulations 2008 (the Regulations) make provision for the conservation and protection of the environment. The Act provides for an integrated system of development control, environmental assessment and pollution control including; prevention, control and monitoring of pollution including regulating discharge of pollutants to air, water or land and reducing risks to human health and prevention of degradation of the environment; Regulating the transport, collection, treatment, storage and disposal of waste and promoting recycling, re-use and recovery of materials in an economically viable manner; and Complying with, and giving effect to, regional and international conventions and obligations relating to the environment.

The Second Schedule of the Act lists prescribed developments for which consent from the Environment and Conservation Division (ECD), accompanied by an environmental assessment reported as either a public environmental report (PER) or an environmental impact statement (EIS), is required. All prescribed developments require a "screening" or "scoping", to see what form/level of environmental assessment is required. Most prescribed developments require a PER, while major projects such as logging, mining, or large-scale tourism or infrastructure developments, will need a more detailed appraisal which includes technical, economic, environmental, and social investigations and consultations with stakeholders, presented in an EIS.

The Regulations extend the requirements of the PER/EIS to include (a) social impact on the surrounding communities; (b) ensuring public participation; (c) spelling out employment opportunities for Solomon Islanders; (d) a demographic impact assessment; (e) health impact assessment; (f) gender impact assessment; (g) noise impact assessment; (h) state whether any of the above would have short- or long-term harmful effects on the environment. The Director may have other requirements that will need to be fulfilled, notifying applicant of any additional requirements within 31 days after notifying the applicant.

3.1.1.1 Development Consent Application

Using Form 1 (as set out in Section 17 of the Act) send a written application to the Director of ECD. This must be accompanied by a standard fee and must include all the information requested and requiring a ruling on the type of environmental assessment that will be required (PER, EIS or waiving of the requirement). Within 30 days the Director of ECD will reply to advise of the final requirements for the assessment of the development.

If an EIS is required, the Director will organize a Public Meeting allowing at least 30 days for people to access the reports, to discuss results of the assessments and hear objections from those that attend. For a PER, no public meeting is required. Within 14 days of the Public Meeting, or publication of a PER, the Director will issue a Development Consent, with or without conditions, or decline the application for development consent. The Director issues the Development Consent, if satisfied that all requirements will be met, using Form 5. This may be subject to additional conditions of implementation set by the Director.

The Development Consent will require the deposit of an environmental bond of a sum to be determined by the Director. The developer will bear all costs associated with mitigating any adverse environmental impacts and may also be charged for the monitoring requirements attached to the development consent. Costs incurred by ECD of monitoring a development will be paid to ECD by the applicant for an Environmental Inspector, or according to the costs charged by an external person or body.

Given the scope of works for Munda Airport and the Category B rating, it is expected that a PER will be the requirement which will be developed based on this ESMP. The conditions of the resulting Development Consent will be included in the CESMP.

3.1.2 Lands and Titles Act

The Land and Titles Act (1988 and amended in 1996) is the legislation that consolidates the law relating to the tenure of land, registration of interests in land, and compulsory acquisition of land. Part V of the Act deals with the purchase or lease of customary land by private treaty, and compulsory acquisition of land. Acquisition of customary land is usually only undertaken for non-public works such as gold mines, oil palm plantations, or hotels. For public works requiring location on customary land, the implementing agency typically consults with the members of a line and any other person who claims an interest in the land. For public works the land is not acquired as such, it is gifted or contributed following an extensive period of consultation and agreement through signing of a Memorandum of Understanding (MOU). The MOU waives the customary interest in the land in lieu of the public infrastructure (wharves, roads, schools, clinics and other public utilities).

Two articles of the Constitution also provide for compulsory acquisition. Article 111 which states that in regard to land which has ceased to be customary land, Parliament may; (i) provide for the conversion into a fixed-term interest of any perpetual interest in such land held by a person who is not entitled to hold such a perpetual interest (as defined by Article 110); (ii) provide for the compulsory acquisition where necessary of such land or any right over or interest in such land; and (iii) prescribe the criteria to be adopted in regard to the assessment and payment of compensation for compulsory acquisition (which may take account of, but need not be limited to, the following factors: the purchase price, the value of improvements made between the date of purchase and the date of acquisition, the current use value of the land, and the fact of its abandonment or dereliction). In respect of customary land, in Article 112, the Constitution, allows the compulsory acquisition of customary land or any right over or interest in it, as long as there have been negotiations with the owner(s) of the land, right or interest prior to the acquisition, the owner(s) have a right of access to independent legal advice, and the interest in the acquired land is limited to a fixed-term interest.

3.1.2.1 Land Acquisition Process

Under the MID CPIU Safeguards Procedures Manual for National Transport Plan (NTP)[5] projects in the Solomon Islands, approved procedures for land acquisition have already been established following consultation with stakeholders and communities. While developed for roads projects, this procedure is also directly applicable to the Honiara Airport land acquisition needs and should be implemented for this as they are already approved by and familiar to the communities, they are in alignment with the requirements of the SIRAP RPF and they in alignment with the Lands and Titles Act:

[5] Ministry of Infrastructure Development Safeguards Procedures Manual

Land Acquisition: Project activities may require permanent land access and in these cases a Land Acquisition and Resettlement Plan (LARP) is required. For land acquisition, the following procedures apply:

1. The SIRAP PST NSS and CLO undertake scoping to gather information on the land subject to acquisition: its physical attributes (boundary areas and use), the fixed assets on it, its ownership, and any issues or disputes which may make land acquisition difficult. The information gathered is the same as for the laydown sites, however they also identify potential risks which can make land acquisition difficult.
2. The Project safeguards team discloses the project information during a community consultation/meeting. The terms of consultation are described in the SIRAP2 SEP.
3. The Project safeguards team commences the establishment of a Community Advisory Committee (CAC) with a broad selection of community representatives.
4. The NSS and CLO produce a scoping report which identifies impacts and the needed studies and instruments to address these impacts. The outputs of the scoping exercise are a scoping report and the outline for the preparation of a LARP.
5. An assessment of the Lands Acquisition Resettlement (LAR) impacts is undertaken and seeks to identify the positive and negative social impacts of the project, including resettlement. The results of the LAR impact assessment are incorporated into the LARP. Besides impact identification and analysis, the assessment of LAR impacts elaborates on measures to: (i) enhance positive impacts such as measures to promote equitable access to project by different affected people; and (ii) mitigate negative impacts. An assessment of LAR impacts consists of the following:
    a. Demographic and socio-economic study of affected persons
    b. Ethnic and inter-generational relations (where applicable)
    c. Poverty and vulnerability analysis of Aps
    d. LAR and other social impacts
    e. Gender analysis of Aps
    f. Accessibility analysis (where applicable)
    g. Institutional analysis of organizations which are involved in implementing mitigation and enhancement measures on LAR.

    LAR planning identifies measures to avoid, minimize, offset, or compensate the negative impacts of LAR and to improve, or at least restore, standard of living and livelihood of affected persons to pre-project levels. Assessment of LAR impacts and the LAR planning use quantitative and qualitative methods of research. Examples of the first are surveys and census. Qualitative studies include community meetings, focus group discussions, key informant interviews, and participant observation. The output of the NSS and CLO LAR studies is the LARP which incorporates the results of LAR impacts.

6. The draft LARP is submitted by the NSS and CLO to the PST for review by WB Social Safeguard Specialists for endorsement. The LARP is revised, finalized and approved.
7. The draft and final LARP is disclosed in a timely manner, in an accessible place and a form and language understandable to the affected persons and other stakeholders. The CLO facilitates the disclosure of the LARP in the project location.
8. With the CAC, the NSS and CLO consults with the landowners on accessing or acquiring the land. The option of granting an easement on the land through a Memorandum of Agreement (MOA) is presented to and discussed with the landowners. In the case of customary landowners, the tribal

representatives or leaders are asked to discuss with their members, document the proceedings, and decide. They are also advised to seek legal counsel. Unlike the MOU, the MOA is legally binding as it will go through the review and approval of the Attorney General's Office (AGO) before taking effect.

9. If the landowners do not agree with the grant of easement through MOA, the PMU coordinates with the Commissioner of Lands (COL) to initiate land acquisition through the modified land acquisition process developed by the MID under Division B, Part V of the Lands and Titles Act (LTA).
10. During the detailed design phase, the land to be acquired is surveyed, physical markers are installed, geotagged and marked on the cadastral map or the detailed design drawings.
11. After the physical survey of the land, the CLO tags and photographs the affected assets and identifies their owners. An inventory of losses (IOL) report is generated. Annual crops are allowed to be grown and harvested prior to the start of civil works.
12. Valuation of the non-land assets are undertaken by a private appraiser engaged by the PMU. If the non-land assets are small in number, the PMU may undertake valuation using the latest schedules of the Valuer-General and the Ministry of Agriculture and Livestock Development.
13. A census is conducted among the APs. For customary land, which can have hundreds or even thousands of families as members, a survey is done instead. The census also identifies who have principal and secondary rights to the affected land. The census results are incorporated into the updated LARP. The census is done to identify those who are eligible for entitlements and the vulnerable among them. Vulnerable groups consist of poor and female headed households, widows, the elderly, persons with disabilities, and children.
14. The end of the census is the cut-off date. The safeguards team, the CAC, and the detailed design consultant publicize the cut-off date in the project site. Any person who sets up a structure for whatever purpose or introduces improvements with the exception of annual crops after the cut-off date is ineligible for compensation.
15. The LAR budget is updated to reflect the current prices of the affected non-land assets and the land purchase or rental price agreed upon by the COL and the customary landowners.
16. The updated LARP goes through another round of review and approval. With the assistance of the PST NSS, the WB Social Safeguard Specialist reviews these documents. When the updated LARP is found satisfactory, PST accepts and discloses the LARP.

Negotiations continue during this stage, and if successfully concluded, the MCA enters into a MOA with the different landowners. The MOA is signed by the landowners, the MCA manager, and a third party. The MCA submits the MOA to the AGO for review and concurrence. The MOA is brought to a notary who will enter into the legal record, thereby making it legally binding on the parties in agreement.

3.1.3 Other Acts

Relevant articles from other Acts governing these proposed works are listed below. It is the responsibility of the Contractor to ensure that they are familiar with and compliant to these Acts.

Table 1: Other Acts and definitions

Other Acts	Definitions
Mines and Minerals Act (1996)	Definitions: "building materials" means clay, gravel, sand, and stone used for buildings, roads or other construction purposes

	Definitions: "landowner" in relation to a registered interest means the person in whose name the interest is for the time being registered; and in relation to customary land, means the person or persons who is or are according to current customary usage, regarded as the owner or owners of the land.
	Definitions: "open cast mining" means surficial mining or quarrying of minerals exposed either at the surface or after removal of overburden.
	Part VIII: Building Materials, **65.** -(1) Each applicant for a building materials permit shall specify in a written application to the Director- *(a)* his full name, address or, in the case of an application by a partnership or other association of persons, the full names, addresses and nationalities of all partners or of all such persons, or, in the case of an application by a corporate body, the registered name and address of such body and the full names and nationalities of the directors and the full name and nationality of any shareholder who is the beneficial owner of more than five per cent of the issued capital; *(b)* a plan of the area, which shall not exceed half a square kilometre, for which the permit is sought. *(c)* the proposed plan for mining the building materials; and *(d)* such other information as the Director may require. (2) Each application shall be accompanied by the written consent to the issuance of the permit of the landowners in the area for which application is made, which consent may include such terms and conditions relating to surface access fees and compensation for damage as may have been agreed between the applicant and the landowners. (3) Each application shall be accompanied by payment of such application fee as shall be prescribed.
River Waters Act (1964)	**5.** Any person who, except under and in accordance with the terms and conditions of a permit issued under this Act- *(a)* by means of a ditch, drain, channel, pipe or any other means whatsoever, diverts any water from a river. *(b)* fells any tree so that it falls into a river or riverbed. *(c)* in any manner obstructs or interferes with a river or riverbed. *(d)* builds any bridge, jetty or landing stage over or beside any river. *(e)* damages or interferes with the banks of any river; or

	(f) contravenes any order made under section 4 of this Act, shall be guilty of an offence and without prejudice to the provisions of section 6, shall be liable to a fine of two hundred dollars or to imprisonment for six months or to both such fine and such imprisonment: Provided that nothing in this section shall apply to the diversion of water by any person for domestic purposes.
	8.-(1) The Minister or, subject to the directions of the Minister, any inspector may in writing grant permits authorising, subject to the provisions of this Act and any regulations made thereunder and to such terms and conditions as shall be therein specified, any of the acts specified in paragraphs *(b), (c), (d)* and *(e)* of section 5.
Safety at Work Act	Purpose: an act to provide for the health, safety and welfare of persons at work and to protect persons against risks to health or safety arising out of or in connection with the activities of persons at work; to impose specific requirements in respect of certain articles and substances that are a potential source of danger; to make minor amendments of the labour act and the workmen's compensation act; and for connected purposes. Provides detailed regulations governing duties of dangerous machinery (article 19), electrical installations (article 20), flammable substances (article 22), and training (schedule 1)
Labour Act	**13.**-(1) Subject to any lower maximum number of hours of employment applicable to him by virtue of any regulation, rules, contract, or agreement negotiated on his behalf - *(a)* the normal weekly hours of any worker shall not exceed forty-five hours. *(b)* the normal daily hours of work of any worker in an industrial or agricultural undertaking shall not exceed nine hours. *(c)* a worker whose hours of work exceed six hours daily shall be given a break of at least thirty minutes arranged so that the worker does not work continuously for more than five hours. *(d)* hours of work and breaks from work shall be so arranged as not to require the worker's presence at the place of work for more than twelve hours daily. *(e)* a worker shall be given a weekly rest of at least twenty-four continuous hours, which shall, where practicable, include Sundays or other customary rest days; and *(f)* no worker shall be required to work on a gazetted public holiday or on more than six days in one week unless such worker is employed in a service to which the Essential Services

	Act applies or in an occupation in which work on public holidays or customary rest days is expressly provided for in his contract of service. (2) The above limits on hours of work may be exceeded in those processes which by reason of their nature are required to be carried on continuously by a succession of shifts, subject to the condition that the average working hours shall not exceed nine daily and forty-five weekly over a period of three weeks; (3) Workers engaged on shift work shall be given at least twenty-four continuous hours of rest weekly notwithstanding that the incidence of shift rotas may be such that this rest period does not coincide with the normal or customary weekly rest days. (4) In order to ensure continuity of operations an employer may require workers engaged on shift work to remain on duty until relieved by the succeeding shift or until permitted to leave by the supervisor responsible: Provided that such workers shall be paid at overtime rates for any additional hours so worked. (5) The limit on hours of work specified in this section may be exceeded subject to the total hours worked (including hours of overtime) not, without the approval of the Commissioner, exceeding fifty-seven hours in any work weekly or two hundred and twenty-eight hours in any calendar month. (6) The onus of showing the necessity to extend hours of work beyond those provided for in subsections (2) and (5) shall lie on the employer in any particular case and shall be subject to approval by the Commissioner.
	37.-(1) No person shall employ an immigrant or non-indigenous worker unless such worker has obtained from the Commissioner a work permit and the employment relate to the conditions of such work permit. (2) No immigrant or non-indigenous worker whether employed or self-employed shall work in Solomon Islands without a work permit from the Commissioner which shall specify the work which such immigrant or non-indigenous worker may undertake.
	39. Women shall not be employed during the night in any undertaking, except where the night work- *(a)* has to do with raw materials or materials in course of treatment which are subject to rapid deterioration; or … *(c)* is that of a responsible position of management held by a woman who is not ordinarily engaged in manual work; or …

	(h) is not prohibited by an international convention applying to Solomon Islands and is specifically declared by the Minister by order to be work upon which women may so be employed.
	46. No child under the age of twelve years shall be employed in any capacity whatsoever
	47. A person under the age of fifteen shall not be employed or work - *(a)* in any industrial undertaking, or in any branch thereof, except in employment approved by the Minister; or…
	70.-(1) At every place of employment the employer shall provide for all workers such medical attention and treatment with medicines of good quality, first-aid equipment, and appliances for the transportation of sick or injured workers as may be required by the Commissioner or a Health Officer.

3.2 Regional Governance

The Provincial Government Act formalised the division of the SI into provinces with New Georgia Island falling under the governance of the Western Province. Each province has an elected Provincial Assembly representing each of the 'wards' in the provinces. The central government has devolved a number of responsibilities to the provincial government; however, the exact delineation of authority can be unclear. Schedule 5 of the Provincial Government Act lists the provincial legislative matters and listed in Table 2below:

Table 2: Schedule of the Provincial Government Act

Category	Definition
Trade and Industry	Local licensing of professions, trades and businesses, Local marketing.
Cultural and Environment	Local crafts. Historical remains. Protection of wild creatures.
Transport	Coastal and lagoon shipping. Provision, maintenance, and improvement of harbours, roads, and bridges.
Finance	Raising revenue by (a) head tax; (b) property tax; (c) fees for services performed or licences issued by or on behalf of the Provincial Executive (other than services performed, or licences issued by them as agent of another); and (d) such other means as may be approved for the purposes of this paragraph by the Minister by order.
Agriculture and Fishing	Animal husbandry. Management of agricultural land. Grants, loans and subsidies in respect of agricultural production. Protection, improvement and maintenance of fresh-water and reef fisheries.
Land and Land Use	Codification and amendment of existing customary law about land. Registration of customary rights in respect of land including customary fishing rights. Physical planning except within a local planning area (within the meaning of the Town and Country Planning Act or an area to which Part IV of that Act has been applied (development areas).
Local Matters	Fire services and fire protection. Waste disposal and cleansing services. Rest houses, eating at houses and similar places. Public conveniences. Vagrancy. Public nuisances. Cemeteries. Parks and recreation grounds. Markets. Keeping of domestic animals. Building Standards.

Local Government	(1) The constitution, area and general powers and duties of Area Councils and similar bodies, their revenue and expenditure. (2) The making of by-laws by such bodies, that is, laws (a) affecting only the area of responsibility of the body; (b) not having effect until confirmed by the Provincial Executive; and (c) not made for a purpose for which provision is made by, or is or may be made under, any other enactment. (3) To determine by resolution of the Provincial Assembly the salaries and allowances to be paid in respect of area councillors.
Housing	Housing. Regulation of rents.
Rivers and Waters	Control and use of river waters. Pollution of water. Provision of water supplies. (Other than urban water supply in areas, prescribed by the Minister under the Solomon Islands Water Authority Act).
Liquor	Liquor licensing
Corporate or Statutory bodies	Establishment of corporate or statutory bodies for the providing of provincial services including economic activity.

3.3 Consents and Permitting

Based on a review of the legislative requirements, a summary of national consents and permits that may be required is listed in Table 3 below.

Table 3 Permitting Requirements for the MUA ATC Works

Consents Required	Agency Responsible for Applying	Ministry
Development Consent	Contractor/MID	MECDM
License to discharge waste, emit noise, odour or electromagnetic radiation	Contractor/MID	MECDM
License to store fuel and oil	Contractor	MMERE
General waste disposal permit	Contractor	Noro Town Council/ Western Provincial Government (WPG)
Hazardous waste disposal permit	Contractor	Honiara City Council (HCC)
Exemption for offshore insurance	Contractor/MID	MoFT
Work Permit for expatriate employees	Contractor/MID	Ministry of Commerce, Industries, Labour and Immigration (MCILI)
Residency permits for expatriate employees	Contractor/MID	MCILI
Biosecurity import clearance	Contractor/MID	Ministry of Agriculture and Livestock (MAL)
Aggregate extraction permit (BMP)	Contractor/MID	MMERE

Grant of any ancillary easement or access over registered land (if required)	Contractor/ MID	Noro Town Council / WPG

3.4 COVID-19 Global Pandemic

3.4.1 Covid-19 Global Pandemic – Solomon Islands Emergency Powers (Covid-19) Regulation 2020

On 25 March 2020, Solomon Islands declared a State of Public Emergency under s.16 of the Solomon Islands Constitution in response to COVID-19 world pandemic. On 27 March 2020, the SOE was extended to four months. Measures imposed under the SOE focused on controlling people's movement, closing borders, restricting movement of vessels and aircraft, allowing special funds to implement public safety measures, and to temporarily close public places. Some economic sectors, like informal food and betel nut markets in Honiara, were banned completely, whilst other sectors were subject to more limited restrictions. In July, despite no cases of coronavirus yet being reported in Solomon Islands, the Governor General issued another state of emergency proclamation, which was endorsed by the National Parliament.

On 27 March 2020, the Prime Minister issued the Emergency Powers (Covid-19) Regulations 2020 which listed a range of orders which were purportedly made to protect the country from the pandemic and to prevent the spread of virus if there were cases.

The Emergency Powers (COVID-19) Regulations was put in place to make orders to protect the country from the pandemic and to prevent the spread of virus. Emergency Powers (Covid-19) Regulations (No. 2) 2020 was issued in May 2020 with extended powers to impose major restrictions on freedom of media and in July 2020, Emergency Powers (Covid-19) Regulations (No. 3) was issued for extension of SOE until 25 November 2020.

The regulation has 5 parts to it:

- Part 1 contains important definition and spells out the application of the regulation.
- Part 2 defines and lists the Prime Ministers Powers during the Covid-19 emergency period which is still currently active.
- Part 3 defines the appointments of the authorizing officers by the PM for the effective implementation of this regulation. It also specifies the functions and powers of the authorizing officers.
- Part 4 outlines the penalties in breach of the regulation.
- Part 5 contains miscellaneous maters. Here it identifies the Ministry of Health and Medical Services (MHMS) as the official authority for disseminating information related to covid-19 Emergency Powers (Covid-19) Regulations 2020 to the public on behalf of the government.

On 24 November 2020, Emergency Powers (Covid-19) Regulations (No. 4) was issued for extension of SOE until 24 March 2021.

3.4.2 Covid-19 World Pandemic – World Bank Guidelines

A guidance for World Bank Projects for Covid-19 states that to prioritize and look after the well-being of their employees and to monitor and follow local and national health authority guidance. All SIRAP works will consider the Covid-19 world pandemic protection measures and will follow the WBG guidance note

on Covid-19[6] in conjunction with national health authority guidelines for all parties involved during the project phase. The Guideline provides information on COVID-19 symptoms, use of face coverings, COVID-19 testing, social distancing etc. The WBG guideline should be utilized in conjunction with the national health guidelines on COVID-19.

3.5 World Bank Environmental and Social Framework

World Bank Environmental and Social Safeguards Specialist have screened the SIRAP2 project for risks and impacts using the Environmental and Social Standards (ESS) within the Environmental and Social Framework (ESF). The project has been deemed to have an environmental and social risk rating of 'Substantial' meaning that the project s large to medium scale and some risks have a medium probability of resulting in longer term impacts requiring significant time and investment to mitigate or remediate.

The Environmental and Social Risk Screening (ESRS) completed by the WB team identifies the relevant ESS that apply to the SIRAP2 activities. These are:

Table 4: Relevant ESS to SIRAP

Standard	Relevance from ESRS
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	The project will present a number of environmental and social risks and/or impacts. To manage those risks, the project will assess and manage the risks and impacts associated with the project in a manner that is proportionate to the significance of the potential risks and impacts. Site specific ESMPs will be prepared for the project site to cover all infrastructure investments (including ancillary infrastructure) Each ESMP will apply the national regulations, the WB ESF ESS and/or the WB Environmental, Health and Safety Guidelines (ESHG)
ESS 2: Labour and Working Conditions	ESS 2 is considered relevant. Workers involved in the project will include direct and contracted workers. Direct workers will include employees and consultants of the Project Management Unit. Contracted workers will be engaged through key consulting firms or construction contractors. The preparation of a Labour Management Procedure (LMP) will be included in the Environmental and Social Commitment Plan (ESCP) and will be required to be prepared during implementation but prior to contract bid document release. The LMP will include appropriate terms and conditions of employment, non-discrimination and equal opportunity, workers organizations, restrictions on child and forced Labour, and OHS in design, construction and operational phases.
ESS 3: Resource Efficiency and Pollution Prevention	ESS 3 is considered relevant. The infrastructure investments on the outer islands may result in design, construction and operation impacts. Inadequate designs could result in the inefficient consumption of resources such as construction materials or energy, completion of activities such as dredging in significant risk areas, increased risk of hydrocarbon spills during construction and operations and poorly managed run-off, greywater and sewage. Risks will be considered in the preparation of the site specific ESMPs and TORs of infrastructure designs

[6] http://pubdocs.worldbank.org/en/324831581700447537/COVID-19-Guidance-for-Contractors-CO-Final.pdf

ESS 4: Community Health and Safety	ESS4 is relevant. The potential E&S risks will need to be managed, both during the construction and operational phase. The Solomon Islands has a high background rate of GBV. The increase in the labor influx for the project has been considered under SIRAP, and the risks that come with it have been identified and described in the Environmental and Social Management Framework (ESMF) for SIRAP. Measures to help reduce or eliminate instances transmission of HIV/AIDS, SEA/SH induced by the project will be in place and the responsibility will fall on the contractors to ensure that these measures are implemented, for example all workers will be required to sign 'Codes of Conduct' describing their responsibilities. Infection Prevention and Control measures in the form of a training, awareness will be implemented to provide knowledge on transmission of disease but also measures to prevent COVID transmission in light of the current pandemic.
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This standard is considered relevant as there will be land required for several project components. Discussions between MCA and the Ministry of Lands is taking place address the parcels of land and a process of land acquisition by the government for the project but the transaction is not yet complete and official. For this reason any activity related to land has a substantial risk for the project, including reputational risk. For this matter, a resettlement plan (RP) will be prepared to capture any land impact under the two components 1 and 2. It is also anticipated that the design for the terminal in Munda will require some land acquisition. In this case, it is important for the project to prepare a resettlement plan. Elements to be considered in the RP will require the project to identify the selected land to be acquired, for example in Munda, ongoing discussion with the landowners have taken place under the current SIRAP project. The RP will include the scope and scale of land acquisition, alternative measures considered to avoid or minimize displacement and why those were rejected.
ESS 6: Biodiversity Conservation and Sustainable Management of Natural Resources	ESS6 is considered relevant. During a preliminary screening using the integrated biodiversity assessment tool (iBAT), it is found that some small sections of the minor road upgrades activities at Noro will be located within a key biodiversity area (KBA), namely the Roviana-Vonavona. The KBA is the home of Cheilinus undulatus (Humphead Wrasse fish) which is classified as Endangered (IUCN Red List), and Melonycteris fardoulisi (black-bellied fruit bat) classified as NT or Near Threatened. Further screening will be conducted as part of site specific ESMP for roads at Noro. This standard is also relevant to the areas adjacent to the airports and construction facilities (workers accommodation and laydown area) that may need land clearing, and potential haulage routes. The project will conduct a screening on environmentally sensitive receptors along these areas. Biodiversity risks will be screened using direct observations, iBAT, the Bird Life International Data Zone tool, and the World Database of Key Biodiversity Areas.
ESS 7: Indigenous Peoples	ESS7 is considered relevant as the project beneficiaries are largely considered to be Indigenous Peoples (IPs) of the Solomon Islands. the project will follow a careful process of targeting and selection to ensure equity of access and to address social risk, including cultural sensitivity. Where there are vulnerable groups, measures will be considered in the SEP to include consultations with the target groups. Under SIRAP, meaningful and broad community consultations took place which involved all community members including the women, youth, elderly and vulnerable groups. On this basis and given that the social effect is core to the project design, key elements of an Indigenous Peoples Plan, such as informed consultations, stakeholder

	participation and social assessment, will be incorporated into project design and included into the ESMP and SEP.
ESS 8: Cultural Heritage	The ESS8 on cultural heritage may be relevant depending on existing sensitive receptors along the ROW of the two road improvement sections, and excavation works to be conducted on the airports. The site specific ESMPs will determine the baseline condition of proposed project locations and further assess any potential risks and impacts on and restriction of access to cultural heritage (tangible and intangible). The assessment will be informed through engagement with communities, including women and girls, to identify cultural and spiritual places of value and significance of them.
ESS 10: Stakeholder Engagement and Information Disclosure	The project recognizes the need for effective and inclusive engagement with all of the relevant stakeholders and the population at large. A Stakeholder Engagement Plan (SEP) will be prepared for engaging with stakeholders on the E&S risks of the project and will be disclosed on the MCA and MID official website. The SEP will identify and analyze key stakeholders (i.e. affected parties, other interested parties and disadvantaged and vulnerable groups) and describe the process and modalities for sharing information on the project activities, incorporating stakeholder feedback into the Project and reporting and disclosure of project documents.

3.5.1.1 Accompanying ESF Instruments

The following instruments are also being produced for all SIRAP2 project sites and should be implemented in conjunction with this ESMP.

LABOUR MANAGEMENT PROCEDURE (LMP): The LMP includes terms and conditions of employment, nondiscrimination and equal opportunity (which includes a safe work environment free from violence and sexual harassment), workers' organizations, restrictions on child and forced labor, and OHS in design, construction, and operational phases.

The SI Labor Act states that the minimum age of workers is 12 but for this project under the WB ESF (ESS 2) the min age is 14. Therefore, for workers between the ages of 14 and 18 the employer would be required to assess risk and ensure that no one under the age of 18- is employed in hazardous labor, labor that interferes with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development The employer will conduct regular monitoring of the health, working conditions, hours of work and the other requirement as per the project's LMP and this ESMP.

STAKEHOLDER ENGAGEMENT PLAN (SEP): The SEP[7] has been prepared by PST on behalf of the client. It outlines a structured approach for community outreach and two-way engagement with stakeholders, in appropriate languages, and adopting measures to include vulnerable and disadvantaged groups (poor, disabled, elderly, isolated communities), and is based upon meaningful consultation and disclosure of appropriate information.

PRELIMINARY RESETTLEMENT PLAN (PRP): PRP has been developed by PST on behalf of the client to manage any potential risks relating to the acquisition of land for SRIAP2.

[7] https://documents1.worldbank.org/curated/en/099030103242211962/pdf/P1765480225372000bdd309acc67833a30.pdf

3.5.1.2 Environmental, Health and Safety Guidelines

There are also WB Environmental, Health and Safety Guidelines (EHSG) which apply to these works and have been used to inform the mitigation and management measures in this ESIA.

GENERAL EHSG[8]: these guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP).

AIRPORT EHSG[9]: to be read in conjunction with the General EHSG, these guidelines present specific design considerations for airports.

[8] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

[9] https://documents.worldbank.org/en/publication/documents-reports/documentdetail/665381496052174463/environmental-health-and-safety-guidelines-for-airports

4 Natural and Social Environment

This baseline of existing conditions has been carried out based on the most recent site visit to Munda (May 2020), field observations and a number of secondary sources.

4.1 Physical Environment

The following sections provide baseline information on the physical environment.

4.1.1 Location and Geography

The Solomon Islands is the Pacific's largest archipelagic nation, extending some 1,500 km from east to west and consisting of nearly 1,000 islands, the largest of which include Guadalcanal, Malaita, and New Georgia (in Western Province). The country is bordered by Papua New Guinea to the west, Nauru to the north, Tuvalu and Fiji to the east, and Vanuatu to the south.

Munda airport is located on New Georgia Island which is the largest island in the Western Province of the Solomon Islands with an area of 2.037km^2 (Figure 10). The island is approximately 85km long and 41km wide and forms part of the boundary of the New Georgia Sound. New Georgia is a volcanic island, surrounded in some places by coral reef deposits which are partly elevated to form raised barrier reef enclosing some reef on the north, and partly drowned to form a submerged barrier towards the south. The highest point is Mount Masse with an elevation of 860m.

Figure 10: Geographic location of New Georgia Island and Munda Airport

MUA (Figure 11) is located on the western side of New Georgia, towards the northern end. It is located within the settlement of Munda which is the main settlement on the island and is approximately 18km from the town of Noro, which is the closest cargo wharf. The airport has low lying topography and just above sea level. It is separated from the coastline by a road at the western runway end and along a section on the southern side of the runway.

Figure 11: Location of Munda Airport within the New Georgia group

4.1.2 Climate

Western Province has a climate that is largely controlled by the seasonal movement of the equatorial trough. The temperature and humidity in the Solomon Islands is relatively high and uniform with the former ranging from 22°C to 31°C throughout the year. The most variable of the climatic elements across the provinces is rainfall which can be abundant each month and is variable based on the different topographic features of the islands. The average rainfall is mostly within the range of 3000mm to 5000mm with most of the monthly rainfall amounts in excess of 200mm.

From about January to March, the equatorial trough is usually found close to, or south of the Solomon Islands, and this is a period of west to north-westerly monsoonal winds. The heaviest rainfall at most places also occurs currently. From May to October, the trough moves to the Northern Hemisphere so the Solomon Islands comes under the influence of the south-westerly trade winds which can bring heavy rainfall, especially to the western sides of the islands. The transition months between these dominant weather patterns usually bring more frequent periods of calmer winds.

Thunderstorms are relatively common across the Solomon Islands, especially over the larger and more mountainous islands, building up inland on many afternoons and, if winds are favourable, drifting towards coastal areas. Over the ocean, storms are more likely to occur in the night or early morning. Peak thunderstorm period is between December and March.

A number of tropical low pressure systems occur each year over the Solomon Islands at times when the equatorial trough is in the vicinity, but few of these develop into tropical cyclones. The average frequency of cyclone occurrence is between one to two per year, although these tend to develop southwards and tend to be early in their life cycle meaning they are relatively small but can, nevertheless, cause serious damage to infrastructure, crops and water supply.

4.1.3 Water Resources

Water resources in the Solomon Islands range from sizable rivers to small streams from high mountainous and dense rainforests to rainwater harvesting and thing freshwater lens of underground aquifer of the small low-lying atolls and islets[10]. On the larger islands surface water in the form of streams, springs or rivers is the main drinking water. Some communities on the higher volcanic islands also use ground water for domestic purpose.

Drinking and household use in both rural villages and in urban centres account for the largest water withdrawal in the country. There is limited agricultural water demand because most crops are rainfed. The industrial sector withdraws water for fish processing cannery, palm oil factory, mining operations and some small manufacturing industries.

On the larger islands surface water in the form of streams, springs or rivers is the main drinking water. Some communities on the higher volcanic islands also use ground water for domestic purpose. The Solomon Island Water Authority (SIWA) maintain and manage a reticulated water system in the town of Noro, close to Munda, with a single supply source, treatment centre and reservoir. The water is pumped from the nearby Ziata River at a small section of about 3m wide and a meter deep. This river is located between Noro and Munda and drains westward into the lagoon. This is the only water source that in the dry season is insufficient to provide 24-hour supply. Water treatment is by rapid gravity sand filter. There is no storage in operation for the distribution system, the only storage being at the SolTuna factory for their commercial operations.[11] Munda itself, is not linked to this system but does still fall under the SIWA area of operations for the purposes of the SWIA Act. [12]

SIWA now threading under Solomon Water (SW) is planning to extend its water main from Noro up to the Lambete area where the international airport is located. This plan was disclosed to SIRAP in a public utility meeting held in November 2019 at Central Project Implementation Unit (CPIU) which was attended by MID, SIRAP PST, SMEC, SP and SW. This project was to be implemented in mid-2020, however, due to COVID-19 world pandemic, the works will be delayed till 2021. The SIWA 30-year plan estimates that 70% of existing houses in Noro are connected to the reticulated water system or have direct access via communal standpipes.

4.1.3.1 Aquifers and Groundwater Bores

There are several groundwater bores within 250m of the airport, as illustrated in Figure 12. There is shallow borehole constructed by China Harbour Engineering Corporation (CHEC) at the Contractor Laydown Area No 2 which is still operational. The other borehole closest to Contractor Laydown Area No 2 is the Hospital Bore on the other side of the airfield, approximately 400m from CHEC's asphalt plant site. The two active bores that are located on the northern side of the airport include the one that feeds the Helena Goldie Hospital and one that feeds the Kokegolo school, staff houses and nearby residences belonging to the united church mission. The two airport bores on the northeastern side of the airport are currently not in use. The Director for Aviation said that there are still plans to rehabilitate those bores in the future. However, China Civil Engineering Construction Corporation Ltd (CCECC) has constructed a borehole at the Contractor Laydown Area No.1 which is still operational. There is also a well, only about

[10] IWCM diagnostic report

[11] SIWA Solomon Islands Urban Water Supply and Sanitation Sector Project Environmental Assessment and Review Framework, March 2019

[12] SWIA 30 year plan

10m in depth that was dug just beside the domestic terminal on the western side within the airport fence. The Aviation Manager in Munda stated that this water well in the past was used for day-to-day airport kitchen and sanitation facilities requirements. This well has been without water for some time now. The airport facilities in Munda are currently relying on rain harvested water for their operational uses.

Figure 12: Water supply boreholes in Munda (source from Solomon Water)

According to the SIWA 30-year plan, Munda is currently supplied by a water supply system owned by the provincial centre. For this settlement, the supply is sourced from 2 bore holes linked to a reservoir and 2km of pipes. There is no water treatment in this system which serves approximately 1700 people. The majority of assets, including this water system, in the provincial system are past their design life and in poor condition, requiring replacement.

4.1.4 Land Resources and Soils

Soil fertility ranges widely between and within the islands, ranging from quite infertile and mildly toxic soils to highly fertile soils in limited areas derived from volcanic ash and alluvial deposits. Most upland soils have good structures, but either lack one or more major nutrients or have a strong nutrient imbalance. New Georgia Island is characterised by organic, young and slightly to strong weathered and leached soils with low base status.[13]

4.1.5 Land Use Around MUA

The area surrounding MUA is predominantly residential and urban with some small-scale agriculture is also in the vicinity; in addition, schools, hospitals and coastline bound the MUA fence line. Figure 13 maps the uses of the land in the immediate vicinity of MUA. The settlement of Munda surrounds the airport

[13] State of Environment 2008

and is divided into villages. The village of Lower Kekehe is located to immediately south of MUA and adjacent to the apron area. It consists of a mixture of residential houses and coconut plantation. Across the runway from Lower Kekehe is Upper Kekehe which is a small outpost of the village but is where the villagers of Lower and Upper Kekehe have their garden farms. The main area of Munda, called Lambete, around the apron area of MUA is a mix of hospitality, administration, and retail properties. Immediately to the west is a hospital and vegetable market and on the northwest corner is the United Church headquarters, Kokegolo Primary School and Kokegolo Secondary School. An area of land 60m to the east of MUA has been cultivated with forestry trees by a landowner from Dunde Village.

Figure 13: Sensitive receptors surrounding MUA

Half of the MUA airfield is owned by the SIG, while the other half was previously owned by the United Church but has been acquired by SIG.

4.2 Biological Environment

4.2.1 Coastal and Marine Environment

For a 300m long section on the southern runway edge and an 85m long section at western end (RWY07), the airfield is separated from the coastline by one road. Both of these sections of coastline are altered with the southern edge being reinforced by geobags (Figure 14) and the RWY07 end having been recently cleared of all vegetation for OLS reasons under the MFAT MUA works (Figure 15). In addition to this, coastline is developed with residential and administrative buildings and infrastructure. The marine habitat in the immediate vicinity is shallow and used as an access point for small local fishing skiffs. Fringing the airfield on the southern and western sides are reef complexes.

Figure 14: Coastal reinforcements along southern side of runway

Figure 15: Vegetation clearance western end of MUA runway

A rapid marine assessment exercise conducted by The Nature Conservancy (TNC) conducted a comprehensive baseline survey of coral reefs in the Solomon Island and concluded that overall health was good. It has been highlighted that some of the SI most beautiful and largest coral reefs occur in the Western Province, specifically the Ghizo – Vonavona – Rovina lagoon system on New Georgia Island which encompasses MUA (Figure 16). A major outcome of this assessment was the identification of the SI's as having the second highest level of coral diversity in the world.[14]

[14] SOE 2008

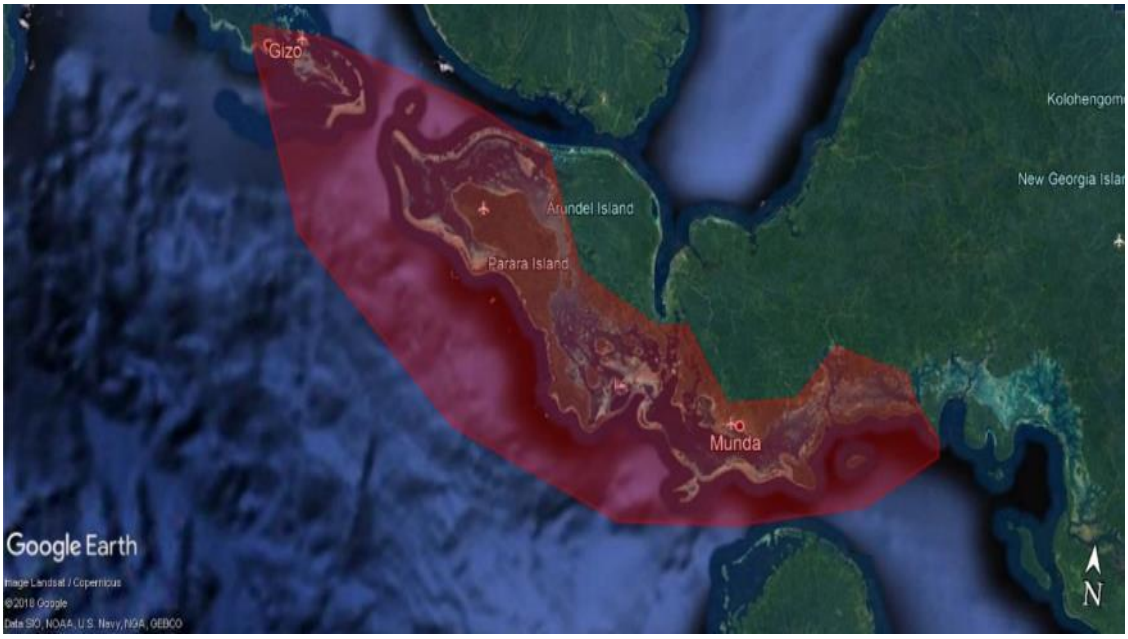


Figure 16: Western Province are denoting location of significant coral reefs

4.2.2 Terrestrial Biodiversity

The MUA site is heavily modified to meet airport spatial requirements, with most of the vegetation cleared to make way for infrastructure and grassed areas. Certain areas consist of ornamental plants and trees and dense secondary vegetation is present along most of the northern and western boundaries. This vegetation consists largely of coconuts, forestry species and common trees; shrubs and weeds characterize disturbed lands. The plants growing in and around the project area still provide shelter for many bird species, as well as other underground terrestrial life.

4.2.3 Marine Protected Areas

The Kindu Marine Protected Area (MPA) is located 1km off the RWY07 end of MUA (Figure 17). The Kindu MPA is managed by a Resource Management Committee (RMC) which are constituted by different village groups including chiefs and elders, church authorities, and women's representatives. The MPA forms part of a larger overarching management goal to establish a network of MPAs on Gizo representing the different habitat types in the Roviana and Vonavona region.

Compared to other MPAs on New Georgia Island is considered to be less effectively managed as they are contested and have less effective control over marine resource areas as well as numerous religious and socio-economic factions and divisions. A 2010 study[15] on fish and coral community responses inside and outside three MPAs within the Roviana Lagoon system where sediment pressure from upland logging is substantial. The study included Kindu MPA. Both coral health and water quality in the Kindu MPA is considered to be low and decreasing (between 2005 and 2010). In addition to this, little evidence was found during the study that MPAs decrease impacts or improve conditions and instead some potential decline in fish abundance was observed. The study also documented modest to high levels of poaching during the 5-year study period.

[15] 2010 Halpern, B.S. et al. Marine Protected Areas and resilience to sedimentation in the Solomon Islands

In the Roviana Lagoon context, management is poor and indirect stressors play a dominant role in determining ecosystem conditions. It can therefore be concluded that MPAs may provide little management benefit in this situation.

Figure 17: Approximate boundary of Kindu MPA

4.2.4 Rare or Endangered Species

The Solomon Islands is one of the most biologically diverse countries in the world, linked to this is a high number of critically endangered, endangered, vulnerable, and endemic (to the country and provincial level) species. The State of the Environment Report details many of these species, however for the scope of these works this report only looks at species identified in the SOE report for the Western Province and only considered the immediate environment surrounding the project site.

For the Western Province, the 2008 International Union for Conservation of Nature (IUCN) Redlist of endangered species lists 2 bird species (*Gallinula sylvestris* and *Pseudobulweria becki*) as critically endangered, along with 4 threatened bird species and 10 endemics at the provincial level.

The Dugong (*Dugong dugon*) is listed as vulnerable to extinction by the IUCN and is found in the Western Province. It is known to inhabit the southern lagoons of New Georgia Island and is occasionally spotted on boat rides between Munda and Ghizo.[16]

4.2.5 Invasive Species

Giant African Snails (GAS), *Lissachatina fulica*, previously known as *Achtinidia fulica*, arrived in the Solomon Islands on earthmoving or logging equipment that landed without biosecurity clearance and was first reported at Ranadi, Honiara in 2006[17].

[16] Dugong conservation website

[17] http://www.biosecurity.gov.sb/News-Resources/giant-african-snail

To date, GAS has only been identified in two provincial areas: eradication appears to have been achieved at Noro while the response is in its early stages at Makira. However, due to limited surveillance and awareness in provincial areas, GAS may be distributed more widely than currently understood.[18]

Giant African snail (GAS) was intercepted in 2009 at the wharf area where containers with building materials for Gizo hospital coming from Lae in PNG were stored. Upon interception of the snail, an immediate eradication programme was carried out by the quarantine staff in collaboration with Noro wharf management and communities. Blitzem baits were placed at the infested sites and collecting the snails which were destroyed by burning and dipping in seawater. The whole wharf area was sprayed with seawater using the local fire truck. The last record of finding the snail was 29 June 2010, after which there has been no record of finding dead or alive specimens.[19]

A legislative framework supported by donors has been put in place – including the National Biodiversity Strategy Action Plan (2009), the Agriculture Policy (2010–2015), and the National Biosafety Framework (2012), which all recommended the development of pest eradication plans, and the drafting of the new Biosecurity Act 2013 (enacted in March 2015). However, the new framework has yet to result in any actual 'on-ground' actions to control GAS or other invasive species. Eradication plans are incomplete and unfunded, and resources allocated just do not match the scale of the threat.[20]

4.3 Socio-Economic Conditions

4.3.1 Population and Demographics

The last census for the Solomon Islands was undertaken in 2019 and data summary showed that the population of Western Province was 94, 106 (48,933-male and 45,173-female) with an average annual population growth rate from 2009 to 2019 being 2%. The population density is 12.5people/km2 which is lower than the national average of 23.7people/km2 and the total number of households recorded was 17531 and the average household size is 5.1 people per household. With an urban population growth rate of 4% the urban population of the province is 14,608 which makes up 15.5% of the total provincial population. Noro is one of the four urban centers in Western Province and forms nearly half of the provincial urban population of 7204 (male – 3646 and female – 3646) people with an annual growth rate of 7.6%. The total number of households is 1446 with an average household size 5 persons per household.

Like other provinces, Western Province a young age structure with 37% of the population being less than 15 years of age, 32.5% between the ages of 15 and 30 years old, 31% between the ages of 30 and 59 years old and 6.5% are 60 years and above. The median age for the province is 21.7 years. For Noro 32% of the population are less than 15 years old, 33% between the ages of 15 and 30 years, 34% between 30 and 59 years of age and 2% are over 60 years old. [21]

[18] http://phama.com.au/resources/technical-reports/report-on-giant-african-snail-in-solomon-islands/

[19] Ministry of Agriculture and Livestock Solomon Islands Rural Development Program, Pest Management Plan Consultancy Report (December 2010).

[20] https://devpolicy.org/giant-african-snails-devastating-gardens-livelihoods-solomon-islands-20170822/

[21] SIG, 2019 Population and Housing Census Report National Report, September 2023

4.3.2 Education and Health

Education is not compulsory in the Solomon Islands. In 2019, with respect to population in the Western Province aged 5-15 years, 77% were enrolled in school from which76% are males and 78.2% of females. For those aged between 15 and 19 years of age 60.9% are enrolled in school and 58.2% are males and 63.9% are females. 5.9% of the population aged group 12 years and older has not completed school. Enrolment rates in the Western Province were higher than other provinces. Based on the 2019 census data on the highest level of education completed, 56.1% of the population 12 years and older responded that they had completed primary school, 28.5% had completed secondary school, 6.2% had completed tertiary education and 1.8% had completed vocational and professional qualifications.

The Ministry of Health and Medical Services is the key health provider in the Solomon Islands. Health services are concentrated in urban centers with a hierarchy of facilities available ranging from nurse aide posts and rural clinics to the National Referral Hospital. Of the nine provinces in the Solomon Islands, eight have a public hospital. The SI have approximately 22 doctors per 100,000 of the population, but also has a strong base of nurse and midwives at 205 per 100,000. The SI do not have specific data on causes of death but has identified communicable diseases including malaria and tuberculosis as important issues. Increasing prevalence of obesity due to lifestyle, diabetes, hypertension and tobacco and alcohol use has increased the rate of non-communicable diseases which will soon overtake communicable disease as the leading burden of disease. [22]

In Western Province, there is one faith-based hospital, one provincial hospital, three area health centers, 23 rural health centers, and 31 nurse aide posts. The new Gizo Hospital run by Solomon Islands Government is a 60-bed facility and is the country’ s second referral hospital. The Helena Goldie Hospital in Munda is managed by the United Church.

The province has extended its health services and facilities to most people in the rural areas. About 95% of the population in the province has access to basic health services. The most common health problems in the province are malaria, pneumonia, and diarrhea.

4.3.3 Livelihoods and Economic Activity

Solomon Islands’ per-capita GDP of USD$600 ranks it as a lesser developed nation, and more than 75% of its labour force is engaged in subsistence and fishing. Most manufactured goods and petroleum products must be imported. Until 1998, when world prices for tropical timber fell steeply, timber was Solomon Islands’ main export product and, in recent years, Solomon Islands forests were dangerously overexploited. Other important cash crops and exports include copra and palm oil.

In Western Province, the employment population ratio for males is 41.9% and for females is 23.7% and it was very low for the population 12-19 years. The EPR was the highest for people aged 25-59 and gradually decreases from then onwards. By occupation, the labour force is employed in agriculture (75%), service industry (20%) and industry (5%).

4.3.4 Land Tenure and Rights

Most land (86%) in Solomon Islands is still held under customary tenure, where every member of landholding entity, such as tribal, clan or family is vested with the rights to use and access it. Non-owners usually have limited rights such as right of use, easement or right of way. There is no system which allows

[22] https://www.pacificmedicalsa.org/single-post/2017/01/23/Healthcare-Overview-Solomon-Islands

for customary land to be surveyed and registered, it is often very difficult for outsiders to identify land boundaries and to identify who 'owns' the customary land.

The Commissioner of Lands has the power to administer public lands and allocate interests to others. Once land is registered, the estate title owner has indefeasibility, except for overriding public interests or when the High Court issues an order to set aside the registration because of fraud or mistake. Under the Land and Titles Act 2014, the Commissioner of Lands discretionary power can only be exercised subject to directions of the Land Board. The land in which the ATCT will be constructed is an alienated land, whereby the MCA holds the land title.

4.3.5 Community Infrastructure and Services

4.3.5.1 Waste and Rubbish Management

In Western Province it was reported that 49.1% of households dispose waste or rubbish in their backyard, 8% of households use government or formal waste collection services while 42.9% of households dispose rubbish by way of burning, burying, dumping at sea, river or streams and other means[23].

Noro Council operates a landfill in Noro. There are no hazardous waste disposal facilities on the island. There are no formally permitted landfills on the island, however the Honiara City Council operates the permitted Ranadi Landfill in Honiara. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. Prior approval for the utilization of Ranadi Landfill will be undertaken by MCA. MCA will seek approval from Honiara City Council for the use of Ranadi Landfill for SIRAP's project use. The approval documents will be made available by MCA to the Supervision Engineer and the Contractors.

Solid waste includes:

- General waste (i.e. office type waste, household waste (from any workers camps), lightweight packaging materials).
- Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled).
- Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste).
- Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled).
- Hazardous waste (i.e. bitumen, waste oil etc.).

In terms of improved sanitation, Western Province is one of the provinces with the highest number of households, with improved sanitary facilities. It was reported in the 2019 Census Report that 2904 households have flush to septic toilet systems[24]. In Munda, residential and commercial properties are served by septic tanks only.

[23] Ref at Footnote 14

[24] Ref at Footnote 14

4.3.5.2 Water Resources

Water resources in the Solomon Islands range from sizable rivers to small streams from high mountainous and dense rainforests to rainwater harvesting and thing freshwater lens of underground aquifer of the small low-lying atolls and islets[25].

Drinking and household use in both rural villages and in urban centres account for the largest water withdrawal in the country. There is limited agricultural water demand because most crops are rainfed. The industrial sector withdraws water for fish processing cannery, palm oil factory, mining operations and some small manufacturing industries.

On the larger islands surface water in the form of streams, springs or rivers is the main drinking water. Some communities on the higher volcanic islands also use ground water for domestic purpose. The Solomon Island Water Authority (SIWA) maintain and manage a reticulated water system in the town of Noro, close to Munda, with a single supply source, treatment centre and reservoir. The water is pumped from the nearby Ziata stream (water source) to a reservoir tank with chlorination system and a pumping station that supplies water to the rest of the Noro town. The water supply system is connected to both domestic and commercial customers (factories, hotels and institutions). However, areas owned by SolTuna do not receive the portable water. The highest water consumers in Noro are the commercial customers which overall consumption of 72% although they only form 12% of the total water supply customers at Noro.

4.3.5.3 Energy / Electricity Supply

In Western Province 2265 households access electricity provided by Solomon Power a state-owned enterprise which provides electricity at Honiara and eight provincial centers including Noro and Munda. The electricity supply in Solomon Islands is characterized by low in-service coverage area and high cost. This is due to its geography and high dependency on imported fossil fuel. The low service coverage is mostly from the informal settlements area.

4.3.5.4 Information and Communication Technology

Access to affordable, good quality broadband internet-based services, has so far remained out of the reach for a significant proportion of the population with only 131566 households having access. The limited capacity and high cost of international bandwidth is caused by a total dependence on satellite connectivity, which is also the principal constraint to higher broadband penetration is an issue. Introduction of new telecommunications services, and new market entrants is a way forward. Landline and cellular or mobile phone services networks provided by Our Telekom are available in Noro and Munda.

4.4 Projected Climate Change and Impacts

This section is informed by the Pacific-Australia Climate Change Science and Adaptation Planning Program (PACCSAPP) country report for the Solomon Islands.

Annual and seasonal mean temperatures at Munda have increased since 1962 at a rate of 0.14°C per decade. There have also been increases in the number of warm nights and decreases in the number of cool nights. These temperature increases are consistent with the pattern of global warming. For all carbon

[25] IWCM diagnostic report

emission scenarios it is projected that temperature will increase in the future in the SI. By 2030 it is projected that the temperature will increase by 0.4°C to 1.0°C depending on the emission scenario.

There are no clear trends in rainfall over the Solomon Islands since the mid-1950s. Over this period there has been substantial variation in rainfall from year to year. Average annual and seasonal rainfall is projected to increase over the course of the 21st century. However, there is some uncertainty in the rainfall projections and not all models show consistent results. Wet and dry years will still occur in response to natural variability with drought frequency expected to decrease slightly by the end of the century. Projections show extreme rainfall days are likely to occur more often and be more intense.

In the Solomon Islands region projections tend to show a decrease in the frequency of tropical cyclones by the late 21st century but a likely increase in the intensity of those storms.

Satellite date indicates that the sea level has risen near the SI by about 8mm per year since 1993. This is larger than the global average of 2.8-3.6mm per year. Sea level is expected to continue to rise and by 2030 is project to rise between 8-18cm under all emission scenarios (**Error! Reference source not found.**5) which shows values representing 90% of the range of the model results and are relative to the period 1986 to 2005. This sea level rise combined with natural year-to-year changes will increase the impact of storm surges and coastal flooding (Figure 18).

Table 5: Sea-level rise projections for the Solomon Islands

	2030 (cm)	2050 (cm)	2070 (cm)	2090 (cm)
Very low emissions scenario	8–18	14–31	19–45	24–60
Low emissions scenario	7–17	14–31	21–48	29–67
Medium emissions scenario	7–17	14–30	21–47	30–69
Very high emissions scenario	8–18	16–35	28–58	40–89

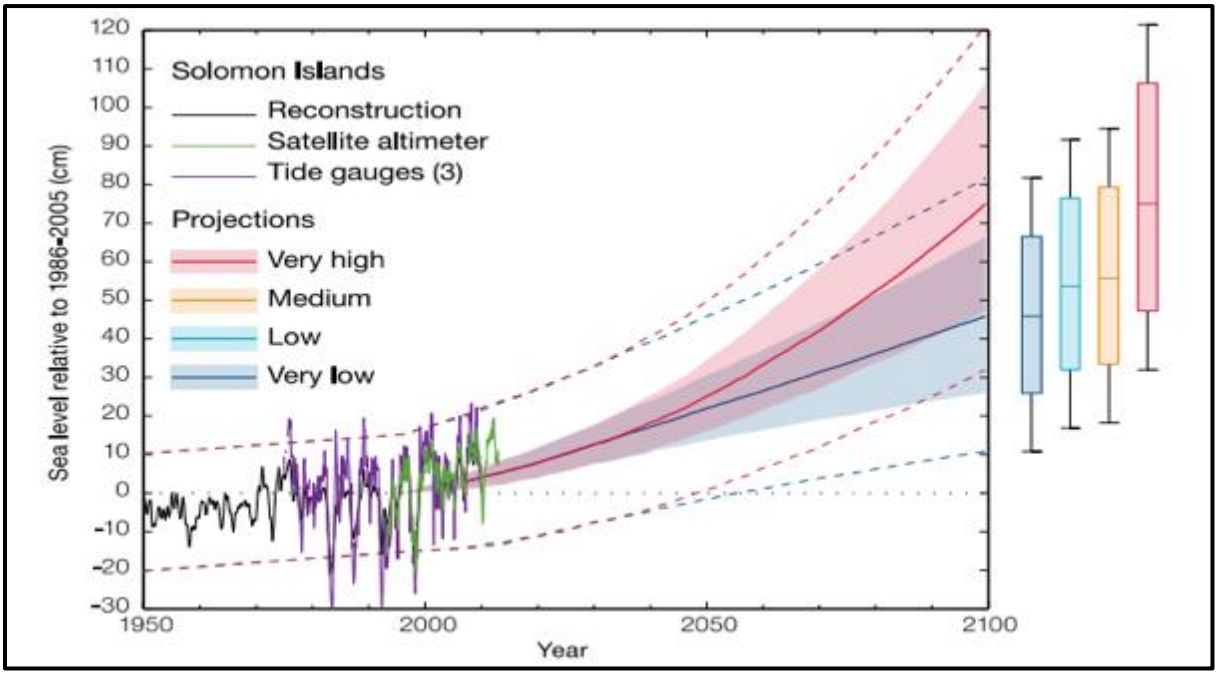


Figure 18: Observed and projected relative sea-level change near the Solomon Islands

The projected design life of the proposed works at Munda is 20 years. However, it is most likely that the climate predictions for 2030 are applicable for SIRAP2 and should therefore be considered within the designs.

5 Consultation and Stakeholder Engagement

Stakeholder engagement will be ongoing for the upgrading of the Munda Airport and will be implemented in accordance with the SIRAP Stakeholder Engagement Plan. Confirmed areas of investments are described in Section 2 of this ESMP.

Consultations have been carried out for the proposed SIRAP2 scope and are summarised here. Details of consultations in 2020 are included in Appendix H.

In May and June 2020 meetings were held to conduct the initial consultation for the second phase of SIRAP (SIRAP2). It is a requirement under the World Bank new ESF proposed projects. The trip was also utilized to give an update on SIRAP activities to the key stakeholders. A field (site visit) was also conducted to the proposed activities sites namely the car park area and the Air Traffic Control Tower.

The proposed activities at the Munda airport under SIRAP2 will include the following:

i) Munda Air Control Tower (ACT)

The team consist of MCA Director Aviation (Mr Trevor Veo) and SIRAP PST National Safeguards. It is vital that communities are pre-informed on the proposed activities that will be undertaken and see if there are potential key impacts on the local communities and people of such a development. Also, to identify if there are sensitive receptors that should be disadvantaged by the proposed activities.

The meeting with the key stakeholders for MUA car park and ATC were held from 25th to 27th May 2020 and in June 10th and 19th 2020. The two main activities under SIRAP2 was the car park area (which was already completed) and the construction of the air control tower being the current scope.

During the meeting it was expressed by the participants that such development will change Munda. They are looking forward to the implementation (construction) of the proposed plans under SIRAP2. In addition, the air control tower and car park are very important facilities for Munda international airport, for safety, convenience, and operation of the airport.

5.1 Disclosure

Disclosure does not equate to the consultation (and vice versa) as disclosure is about transparency and accountability through the release of information about the project. The draft overarching Munda ESMP has been made available on the WB external website and in hard copy at the PST office in the ACE Complex, Kukum, Honiara..

The updated ESMP needs to be reviewed and approved by the World Bank for disclosure both in-country and via the World Bank's external website and MCA website. The disclosure of the ESMP will be in a PDF format less than 10Mb in size so that it can be easily downloaded and emailed using Solomon Islands standard internet connections.

5.2 Sensitive Receptors

The settlement of Munda surrounds the airport and is divided into villages, the area surrounding MUA is predominantly residential and urban with some small-scale agriculture in the vicinity, with schools, hospitals and coastline bound MUA fence line.

Munda has homes, schools and the hospital located very close to the roads and airport runway. Homes, schools (including pre-schools), and hospitals are categorised as sensitive receptors where people can be more susceptible to the adverse effects of exposure, like to traffic (safety), noise, dust and vibrations. Sensitive receptors do not usually include places of business or public open space.

The key sensitive receptors that have been identified for the ongoing and planned activities is presented in 6 below:

Table 6 List of Sensitive Receptors

Location	Name
East of Airport	Dunde Primary and ECE
South East of Airport	Lambete Business District and Community, RSIPF Head Quarter, Munda Wharf, Munda Market, Accommodations, Dunde Village
North East of Airport	Police Housing Airport Bore
North of Airport	Noro Town/Port/Noro Tuna Cannery

Specific consultation will be undertaken with these communities before and during construction activities to ensure that impacts are minimised, and community safety is ensured. This is particularly important for the transport of materials and equipment. Mitigation measures may include construction works or transport during specific hours, which do not impact school hours or specific traffic (includes pedestrian) safety management like flag controls and route diversions.

6 Environmental and Social Impacts

6.1 Overview of Impacts

The following potential environmental and social impacts have been identified in relation to the proposed activities for the Munda ATCT works. All relevant works will be within the existing boundary of the Munda Airport.

Only risks with a likely moderate to significant impact are discussed in this section. All impacts, including minor ones, are covered in the mitigation planning sections.

The proposed works will be improving on existing infrastructure it is unlikely to cause any major negative environmental or social impacts. While there will be some short term localized negative impacts to the surrounding communities during construction, overall, the social outcomes of the SIRAP MUA works are expected to be positive by improving safety, accessibility, and mobility of island communities. It is not anticipated that any land acquisition is required thus no physical or involuntary resettlement will be necessary.

6.2 Labour and Working Condition

6.2.1 Occupational Health and Safety

During construction and operation health and safety are to be managed through a Site Specific OHS Plan (to be developed by the contractors using the codes of practice attached to this ESMP in Appendix E) and application of International Environmental, Health and Safety (EHS) Standards (WB/IFC EHS Guidelines)[26]. The Contractor's health and safety documentation should incorporate all aspects of the project, including the airport site and transport routes. This also include hazards or risks involved in building construction activities such as working at heights which include fall resulting from failure of lifting or supporting equipment, working with partially built structures and the improper use of PPE, lack of PPE and proper training are common causes of fatal or permanent disabling injury at construction sites. The contractor shall comply and complete the WB Code of Conduct Forms is included in Appendix E.

During past consultations, the community raised concerns regarding the spread of sexually transmitted diseases (particularly HIV) with incoming contractors and workers related to the project. A number of mitigation measures have been identified, including awareness training for foreign workers and employing local laborer.

An Influx Management Plan would also be required since there will be potentially an influx of skilled worker who may originate from overseas and other parts of the Solomon’s to work at the airport. The focus of this plan is to ensure that non-local workers are inducted on the culture of Munda and to manage inappropriate contacts between the non-locals and the residents of Munda that may result in GBV, sexual abuse, and other miss conduct.

[26] IFC Environmental, Health and Safety (EHS) Guidelines: General EHS Guidelines: Occupational Health and Safety

6.2.2 Working Conditions and Management of Workers Relationship.

Project of this nature is also prone to mishandling and mismanagement of workers conditions and relationship workers relationships. This action will certainly have a repercussion to the implementation of project and is a breach of international labor performance standards. The difference in level of workers and communication difficulties due to different working culture and languages can potentially lead to misunderstanding of workers regarding their work conditions and rights and mistreatment of workers employers.

In this case, the contractor will have to adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of this Performance Standard [27] and national law.

The workers will be provided with documented information that is clear and understandable, regarding their rights under national labor and employment law and any applicable collective agreements, including their rights related to hours of work, wages, overtime, compensation, and benefits upon beginning the working relationship and when any material changes occur (see footnote 28).

6.3 Pollution Prevention and Resource Efficiency

6.3.1 Solid Waste Generation

Excavation for foundation footing and drainage for the ATCT will lead to the generation of excess soil. Other types of solid waste such as general waste, non-recyclable inorganic waste, organic biodegradable waste, and construction waste will be generated from other project activities. Impacts associated with solid waste can arise from on-site waste storage, transportation of waste and off-site disposal of waste.

On-site storage of waste materials prior to disposal has the potential to cause FOD generation on the airfield if not correctly stored in an appropriate location. Impacts associated with the storage and disposal of organic biodegradable waste include leachate from decomposing materials contaminating the surrounding soils and aquifers.

Transportation of solid waste in trucks without the correct equipment such as coverings or functioning tail gates can lead to waste spills on the haulage route. Spilled waste is a safety hazard to vehicle and pedestrian traffic as well as an environmental pollutant.

6.3.2 Water Resources

Freshwater will be required for workers and some construction activities. The impact on the current Munda provincial bore hole water supply and infrastructure could be significant if not properly controlled through good resource planning. The source of water supply for the SIRAP MUA works has yet to be confirmed, however it is likely that the project will utilize both the airports reticulated water supply from the provincial system and water trucks from the SIWA water supply system in Noro. MCA also advised that rainwater tanks are currently being utilized for washrooms and kitchen needs. The water source for

[27] https://documents1.worldbank.org/curated/en/724591491306870570/pdf/113830-WP-ENGLISH-GN2-Labour-and-Working-Conditions-2012-PUBLIC.pdf

the Noro system is renewable and well maintained, however the provincial system in Munda is rundown and in need of repair and might not be suitable for high water demand uses.

In term of construction impacts on the bore hole water supply, while poor management of stormwater and improper storage and handling of hydrocarbons on site may impact on groundwater quality (from spills, etc.). in the immediate vicinity of the plant, the nearest active bore is approximately 400m away from the site, and therefore unlikely to be impacted from these temporary works.

6.3.3 Hazardous Substances and Materials

The use and storage of hazardous substances during construction can impact on physical soil and water resources if they accidentally spill or leak into the environment and if hazardous materials are not properly disposed of. There are several project activities which could generate soil and/or water pollution from hazardous substances or materials.

Bitumen, fuel and lubricants will be needed during construction activities. If not properly stored or handled, this could result in run off into the local soil or apron drainage systems which feed directly into the rivers and coastal environment.

Wastewater and slurry from concrete production will have a high pH level making it alkaline and also contains chromium. Highly alkaline water can result in the death of marine organisms should it enter the marine environment. There are also impacts associated with concrete wastewater leaching into the ground water and causing contamination.

Should an emergency event occur there is also potential for a discharge of hazardous substances to the environment or the use of fire retardants during firefighting.

6.3.4 Erosion and Sediment Control

Sediment has the potential to be generated during any vegetation clearance and excavations. As the apron drainage feeds directly into the coastal environment there is the potential to create shore term sedimentation in the nearshore environment of the lagoon.

The site identified for the ATCT is already cleared with few grasses that was regularly maintained by the Munda airport grounds management team. Any impacts on vegetative cover will be short-term and minimal. There is only a thin topsoil layer in most areas and runoff is easily percolated through to the underlying groundwater table. Where topsoil is required to be cleared this will be set aside for use in restoration of disturbed areas.

Other places of disturbance will be the area surrounding the apron (primarily on the northwest side of the apron). Excavation will likely be required for the building foundations and details of these excavations have yet to be defined as these components are at the design stage.

6.3.5 Wastewater Discharges

Uncontrolled wastewater (e.g. sewage, grey water, wash water, water containing fire retardants used during emergency activities) discharges have the potential to contaminate soil, water and spread disease. Impacts may include sedimentation and an increase in nutrients impacting water quality and aquatic life in the adjacent lagoon and coral reef habitats, and contamination due to an accidental release of

hazardous substances, refuse or other waste materials into the marine ecosystem. Wash water from equipment can be contaminated with hydrocarbons (e.g. oil and fuel) which have a detrimental effect on aquatic life, water quality and soil quality. There are also human health impacts regarding hydrocarbon exposure which vary in severity depending on type and length of exposure.

The significance of the impacts depends on the scale of the release, duration of earthworks, local worksite topography, soil type, rainfall levels, adequacy of sewage treatment facilities, and the sensitivity of the receiving water environment. The ATCT site is located within the Munda Airport vicinity whereby the runway is runs along the coastline and is exposed to the beach in two areas; therefore any release could be significant. The ATCT site at proximity to two drainage systems. One is airport terminal building and the apron drainage system drainage system on the southeastern direction, and the other one is the main runway drainage system in the northern direction. Both drainage systems were connected to the an existing outlet which discharges to the coast near Kekehe village. It is vital to plan and carefully manage works adjacent to the marine environment. Furthermore, consideration should be given to works completed during the wet season (October to March). While the potential impacts of uncontrolled discharges of wastewater can adversely affect the receiving environment, they can be easily mitigated through planning and implementation of mitigation measures (as outlined throughout Section 7).

6.3.6 Local Quarry and Aggregate Supply

For any locally sourced aggregates, potential adverse impacts from uncontrolled quarrying or mining are high and include all of the above listed impacts, namely:

- Air emissions – machinery and dust.
- Noise and vibration – machinery and blasting (if used).
- Water – consumption, hydrology (changes to site drainage patterns and groundwater), wastewater, and contamination.
- Waste – overburden, by-products and contaminated waste material.
- Land conversion – loss of habitat and agricultural land.
- Dust is a major issue at quarry sites and can travel some distance and affect a large number of people if not properly managed.

Approximately 200m^3 of aggregate will be needed for the Munda ATC Tower Construction and are likely to be sourced from the designated site in the Lungga River in Honiara or sourced from a supplier. Impacts of quarrying are not limited to the location of the quarry but can extend along the delivery route. Noise, dust, and traffic (vehicle and pedestrian) safety are primary concerns for the transport of materials from the quarry site.

If imported aggregates are not properly treated and/or washed before shipping, there is the risk of introducing non-native and potentially invasive plants, animals and disease. The introduction of harmful species to small island nations such as the SI, who have a high level of endemic species can be devastating to the local ecosystems, flora and fauna. It is also possible to import diseases such as foot and mouth disease which would have devastating impacts on local livestock.

6.4 Community Health and Safety

6.4.1 Noise and Vibration

Noise and vibration disturbances are particularly likely during construction related to the transportation of construction materials from the cargo port to the airport and operation of equipment (e.g. blasting and processing of aggregate in quarries). These impacts will be short-term and affect different people at different times. Impacts include noise during the construction of the ATCT and possible effect of vibration caused by operation of heavy machinery, increased traffic in some sections of roads, etc. Noise and vibration are likely to be ongoing issues throughout the construction stage and to a lesser degree the operational phase (e.g. aircraft landing and take-off). As the airport represents existing infrastructure any noise or vibration impacts are likely already being experienced by the local community. Effective communication of working hours will go towards alleviating any impacts during the construction phase.

Additional noise and vibration will also potentially cause disturbance during the operational phase (e.g. aircraft landing and take-off) with increases in international air traffic movements which may results from developing tourism initiatives in the Solomon Islands.

6.4.2 Landside Traffic

Landside traffic impacts will occur in transporting equipment and materials from the port / quarries and for equipment and aggregate delivery. Impacts from project traffic is linked to vehicle and pedestrian safety, public highway condition, and dust generation along the route.

The identified haulage route passes through an industrial area of Noro, past a few scattered residential properties and around the edge of the airfield. There are sensitive receptors along the western side of the airfield in the form of schools, a church and a hospital.

Any traffic impacts will mostly be short-term and through good mitigation and traffic management the impacts should be low. Upon completion of the construction phase of works, traffic and road safety impacts caused by the SIRAP MUA works should cease.

6.4.3 Community Health and Safety

Project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition to the impacts already identified throughout this section, the impacts of an imported work force must be considered.

While it is not anticipated that there will be a need for a worker's camp to be established for the works, it is probable that there will be a need for additional workers to be bought to the project site for the completion of works. It is possible that these workers are likely to be from both overseas and from other areas of the SI and the Contractor must therefore be aware of the potential impacts that this influx of outside labor can have on the local community, and manage these impacts and interactions appropriately which includes adherence to the GBV, CAE and HV codes of conduct outlined in Appendix E.

In terms of the vulnerability of the airport satellite communities to external influences, in the context of Munda, these communities can be considered to be low-risk due to the limited scope of the works, the low number of overseas and regional personnel who are likely to be required, ongoing community

consultation by the CLO and NSS and the easily controlled project site. Having said this, the Munda and Noro communities may still be vulnerable to increased social pressures from any uncontrolled influx of labor. Section 7.11 provides for mitigation measures against these potential impacts.

6.4.4 Human Trafficking

A US Department of State Report[28] released in April 2017 has concluded that within the SI, children and young girls are regularly subjected to sex trafficking and forced labor. The report said local children were forced to do labor or commercial marriages in exchange for money or goods, particularly near foreign logging camps, on foreign and local fishing vessels, and at hotels and entertainment establishments. In a survey conducted by the American Bar Association Rule of Law Initiative, 77% of survey respondents indicated that they knew personally of at least one case of trafficking (forced labor, forced marriage (for money), forced commercial sex or a child who has been paid for sex). Forced commercial marriage and forced commercial sex were the most common forms of trafficking identified. The second highest response rate was from Western Province, with the primary form being forced commercial sex.

In the context of the proposed Munda Airport works, the risk arises due to the use of local hotels by the expatriate work force. It is anticipated that the risk posted during the construction phase of the works is low however, once the full scope of works is known and the likely level of overseas workers is established, this ESMP shall be updated, and the risk of trafficking should be fully assessed.

6.4.5 HIV/AIDS, Gender-Based Violence, and Child Abuse and Exploitation

There are also impacts associated with personnel recruited from outside the local community, such as increased instances of HIV/AIDS. Additionally, the Contractor accepts that gender-based violence might occur as an unintended consequence of economic development. As such, it is the Contractors responsibility for implementing actions to help reduce instances of HIV/AIDS, GBV and Child Abuse and Exploitation (CAE).

All employees (including managers) will be required to attend training prior to commencing work to reinforce the understanding of HIV/AIDS, GBV and CAE. Subsequently, employees must attend a mandatory training course at least once a month for the duration of mobilization.

Managers will be required to attend an additional manager training prior to commencing work on-site to ensure that they are familiar with their roles and responsibilities in ensuring the HIV/AIDS, GBV and CAE standards are met on the project. This training will provide managers with the necessary understanding and technical support needed to begin to develop a plan for addressing HIV/AIDS, GBV and CAE throughout the lifetime of the civil works, including monitoring and reporting.

The Supervision Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting training on GBV. From the provided list, the Contractor shall enter into an agreement with one service provider to undertake the GBV IEC campaign. The cost of the campaign shall be funded by the Contractor. The contractor shall make staff available for a total of at least 0.5 days per month for formal training, including GBV.

[28] US state dept report XX

6.4.5.1 HIV Prevention

Prior to contractor mobilization, the approved service provider shall prepare an action plan based on the 'Road to Good Health Toolkit' (www.theroadtogoodhealth.org) which shall be submitted to the Supervision Engineer for approval.

The action plan will clearly indicate (i) the types and frequency of educational activities to be done; (ii) the target groups (as a minimum to all the Contractor's employees, all Sub-Contractors and Consultants' employees, and all truck drivers and crew making deliveries to Site for construction activities as well as immediate local communities); (iii) whether condoms shall be provided; and (iv) whether STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labor shall be provided.

The IEC campaign shall adopt the 'Road to Good Health' Toolkit methodology (www.theroadtogoodhealth.org) and use readily available information for the Project. No specific new information shall be produced unless instructed by the Client's Consulting Engineer.

The IEC campaign shall be conducted while the Contractor is mobilized in accordance with the approved approach. It shall be addressed to all target groups identified concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to, of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular.

The Contractor shall include in the program to be submitted for the execution of the Works under Sub-Clause 8.3 the IEC campaign for Site staff and labor and their families in respect of STI and STD including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how, and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related subcontracting proposed. The program shall also include the provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for the preparation and implementation of this program shall not exceed the Provisional Sum dedicated for this purpose.

6.4.6 Business Impacts

During the construction phase there is the potential for minor impacts on businesses in the airport vicinity. These impacts would be limited to noise, dust and traffic from construction activities and will be of limited duration. Standard good practice construction management will mitigate these potential impacts to an acceptable level. All potentially affected businesses will be included in the consultation process.

6.5 Biodiversity and Natural Resources

6.5.1 Biosecurity

It is probable that equipment and materials for the ATCT and other works will need to be imported to the SI. If imported consignments are not properly treated and/or washed before shipping, there is the risk of introducing non-native and potentially invasive plants, animals and disease. The introduction of harmful species to small island nations such as the SI, who have a high level of endemic species can be devastating to the local ecosystems, flora, and fauna. It is also possible to import diseases such as foot and mouth disease which would have devastating impacts on local livestock.

Giant African Snails (GAS; *Achtatina fulica*) are causing significant damage to food crops on Honiara and have started to spread to some of the other islands. Sourcing local aggregates from quarry or extraction sites on Honiara which are already infested with this invasive species risks spreading the problem to other parts of Honiara as well as to sites on Munda. Local aggregates should be sourced from 'clean' sites on Honiara which have been approved by the ECD to minimize the risk of this spread.

6.5.2 Coastal and Marine Impacts

A number of activities have the potential to have a negative impact on the receiving marine environment, including uncontrolled discharges (e.g., stormwater, erosion, wastewater, spills). Potential sediment and contaminant laden run-off issues could result from poorly managed land clearance sites and the improper siting of stockpiles in laydown areas. During heavy rainfall events this could wash into the adjacent marine environment and could result in water and habitat contamination, increased water turbidity, and the sedimentation of sensitive ecosystems (e.g., coral reefs). Increased sedimentation resulting in the ongoing decline of coral cover and algal cover within the Kindu MPA (1km from Runway 07) demonstrates the marine environments sensitivity to pollution and sedimentation from land-based activities.

It is expected that the impact of the SIRAP works to the marine environment can be avoided with effective implementation of the measures stipulated in this ESMP. It will be critical for the Supervision Engineer and Contractor to ensure they are adequately resourced with national and international safeguard specialists to monitor safeguard compliance.

6.6 Secondary and Cumulative Impacts

Secondary and cumulative impacts tend to be triggered by impacts to environmental resources that function as integral parts of a larger system over time and space and can initially be 'invisible' to the normal present time impact assessment. Secondary impacts can include land use changes due to improved accessibility which in turn can impact habitats and pressure on existing resources and utilities (e.g. water supply). Secondary and cumulative impacts also often cannot be managed solely by the project executors. Town planning (e.g., restricting development and clearing of land) and conservation are two examples of external influences which can assist in reducing secondary and cumulative impacts.

The airport is existing infrastructure which has existing impacts. In most cases the SIRAP will not be able to remedy these impacts however the designs can lessen and, in some cases, mitigate some of the impacts. There is the risk of an increase in disturbances in the form of noise and air pollution resulting from any increases in flights to and from Munda which may be possible once the airport improvement works have been completed. This will need to be managed through the SIG master planning process.

7 Mitigation Measures

This section contains the detailed mitigation measures that are required for the various phase of the MUA works. Appendix B contains this mitigation information in an environmental and social management plan table and covers all potential impacts that have been identified for the pre-construction, construction and operational phases. The Environmental and Social Management Plan (ESMP) in Appendix B include summaries of the mitigation measures required, the responsible entity and the applicable project phase. It should be read in conjunction with this section.

7.1 Aggregates, Materials and Equipment

Local aggregates: Local aggregates for MUA works will either be sourced directly by the Contractor under a Building Materials Permit (BMP) acquired by MCA from MMERE which is subjected for renewal after one year. Rock chips material can be sourced from Lungga Quarries whereas coronus material for the ATCT can be sourced locally either at Munda or Honiara.

The Contractor is also able to source aggregates through existing licensed contractors in possession of a Building Materials Permit on either New Georgia or Guadalcanal. If using local existing licensed contractors, the Contractor is responsible for reviewing site operations to ensure that the appropriate licenses are in place. The Contractor will also ensure that the aggregates sources are free from the invasive GAS by implementing measures outlined in section 7.2. The Contractor will not open any new quarries or river extraction (both referred to here as quarries) sites for the MUA works. Within parameters of the above stipulations, the Contractor will have a choice as to which aggregate source to use.

The Contractor is also responsible for reviewing any conditions of operation which may have been imposed by the Building Materials License to ensure the operation is legal and that the contractor's work complies with any transport or purchase requirements.

In the case of the Contractor electing to re-open a former quarry site, a more detailed assessment of impacts will be completed by the Contractor in their CESMP along with mitigation measure suitable for the location and activities within the quarry. Consideration and planning will also be implemented on quarry rehabilitation following the completion of the works.

Should the Contractor seek to be granted their own Building Materials License to re-open former permitted quarries for the SIRAP project, the national obligations must be met, and the measures stipulated in this ESMP must also be adhered to. ECD must be satisfied with the management of the quarry and the permitting process must be completed before any activities can take place on the site. The Contractor must detail this in their CESMP. In this situation, the Contractor would also be required to develop a Quarry Management Plan (QuMP) which follows the guidelines and practices detailed in Appendix E of this ESMP and which will be included in the CESMP for clearance by the Supervision Engineer.

For Contractor operated quarries, dust should be managed using the same measures as identified in Appendix B along with use of linear layout for materials handling to reduce the need for loading and unloading and vehicle movements around the site. The QMP should include a provision for quarry dust and noise control; all equipment including crushers, aggregate processors, generators etc. should / if

possible, be located in the quarry pit to minimize noise and dust emissions. When locating operations consideration should be given to prevailing wind conditions. Water is significant resource in quarry activities and where possible closed circuit systems should be implemented for treatment and re-use in site activities and processes (e.g. washing plants). The source for quarries would be declared and approved by the Supervision Engineer. In order to minimise site waste, careful planning and understanding of product quality is required. Overburden by-product should be stockpiled for use in rehabilitation of the quarry site at a later date.

Other mitigation measures that have been identified for the project as a whole (refer to Appendix B) are also applicable to the quarry site if managed by the SIRAP pavement Contractor. For example, chance find of archaeological artefacts or loss of biodiversity, damage to assets and infrastructure, erosion and sediment control measures (e.g. clean water diversion), wastewater treatment, noise and vibration mitigation etc.

Imported Aggregates: For any internationally sourced aggregates, the Contractor is responsible for ensuring that the source quarry is operating under an existing permit and is operating in compliance with that permit under the source country's legislation. International quarries will first be approved by the Supervision Engineer. The contractor will be required to present specific management plans for the sea and land transportation of these materials from the origin to the project site, especially the landing facility. These plans will be approved by the Supervision Engineer

At the tender stage, the Contractor will be required to provide evidence that suitable source locations for aggregates have been identified and that communications have been established for the provision of large quantities of technically compliant aggregates within the timeframe and of the volume required by the Project. At the tender stage, the Contractor will be required to provide evidence that the source location of aggregates is able to fumigate the aggregates to the required standard (see Section 7.2)

For any aggregates which are transshipped though Guadalcanal, the Contractor will be required to work with the SIG Biosecurity team to first establish a secure perimeter around the stockpile site at HIR before transporting to Munda after declared free from GAS. The Biosecurity team will also secure a perimeter in MUA contractor laydown site before the arrival of the aggregates. As with the Ministry of Infrastructure Developments stockpile site in Honiara, the perimeter of the identified stockpile site should be treated with agents designed to prevent Giant African Snail entering the area and infesting the aggregates. Any equipment bought into the stockpile site after decontamination will be thoroughly cleaned and made free from GAS prior to entry. Only aggregates transshipped through this decontaminated stockpile site and arriving to the site from approved GAS free quarries or from overseas will be permitted to be shipped to Munda.

In all instances: The use of closed/covered trucks for transportation of construction materials is a requirement.

Construction materials will be sourced commercially and use of wood from natural forests will not be permitted.

Chance finds of archeological artifacts: It is possible that at any stage of quarrying or during the construction works new items of cultural importance or archaeological artifacts (WW2 artifacts, fossils, coins, articles of value or antiquity, and structures and other remains or fossil items of geological or

archeological interest) can be revealed. In the event of the discovery of an item as defined above, the finding must be registered, and the information shall be handed over to The Museum of Solomon Islands (under the Ministry of Culture and Tourism) who will advise on how they shall monitor the construction works. Works will not be continued until clearance from the concerned authorities have been received.

Unexploded Ordnance: Munda Airfield was the busiest allied airfield during World War 2 and is known to still contain unexploded ordnance (UXO). In the south eastern area of the airfield is an old bunker which is filled with scrap metal and potential UXO. The DFAT works at MUA in 2017 undertook a survey for UXO in some areas of the airfield and removed over 10,000 live pieces of UXO.[29] As part of the SIRAP works, there will be another UXO survey for the ATCT works prior to commencement of works.

There will be an UXO survey and removal prior to the commencement or works, however, it is possible that during any excavation works for building foundations, that there might be a chance find of UXO items. In the event of a discovery, the Contractor must immediately stop work and clear the work site of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA and the Royal Solomon Islands Police Force (RSIPF). It is the responsibility of the police force to report and coordinate the removal of the UXO. No works shall recommence on site until instruction has been received from the RSIPF and MCA.

7.2 Biosecurity

All imported vehicles, equipment and machinery will be inspected by Biosecurity Solomon Islands on arrival. The imported items must be free of soil, any plant material and any other biosecurity risk. The Contractor is advised to arrange for their vehicles and machinery to be thoroughly cleaned of all contamination prior to shipping. Items shipped inside containers must also have the inside of the container thoroughly cleaned of all previous cargo residues, including dunnage. Government or accredited agent certificates of cleanliness can be submitted to Biosecurity Solomon Islands and may reduce the requirement for inspection on arrival.[30]

For imported aggregates and import permit will be required and the conditions of this permit may include the following fumigation requirements as a minimum:

> *Fumigation with methyl bromide at normal atmospheric pressure at a rate of 48g/m3 for 24 hours at 21˚C or above, within 21 days of shipment;*
>
> *OR*
>
> *Fumigation with sulphuryl fluoride (Vikane) at normal atmospheric pressure at a rate of 64 g/m3 for 16 hours at 21˚C or above, within 21 days of shipment.*

Prior to imported items being delivered to site the Supervision Engineer shall confirm that all necessary biosecurity documentation and clearances have been provided.

[29] Personal communications with NZ High Com March 2018

[30] http://www.biosecurity.gov.sb/Importers#1048830-machinery-equipment--transport

7.2.1 Giant African Snail Management

The spread of the GAS is a potential threat associated with the transportation of aggregates, machinery and other building materials from Honiara to Munda. Honiara including Lungga River where the proposed quarry site for Munda Airport works would have already been impacted by GAS. All aggregates, machinery and equipment (imported or local) which has not been subject to containment within a biosecurity-controlled area before transportation to Munda from Honiara, will be thoroughly cleaned before being transported to avoid the spread of the invasive Giant African Snails from Guadalcanal to Munda.

The Ministry of Agriculture and Livestock (MAL) through its Quarantine Division looks after the national Biosecurity. GAS has been an ongoing threat to the national agriculture sector, and MAL has worked tirelessly to try and limit the spreading of it to other parts of Guadalcanal and the rest of the Solomon Islands. MAL is the only entity nationally that can advise on the processes to thoroughly clean items from possible contamination with GAS and other pests. They are also the entity that can certify that a consignment is clear for transportation.

This requires that the aggregates and machines bound for Munda to be stored at an area that has its perimeter baited for GAS. The aggregates and machines will be thoroughly inspected by MAL for a period before certifying for clearance and shipment. Upon landing at either Munda or Noro port, quarantine can again sign off before offloading. This relevant process to follow will come from further liaison with MAL.

GAS management should be undertaken through biosecurity measures and quarantine controls by preventing movement of planting and other possible materials across districts that harbor the snails from infested areas to non- infested areas and maintaining continuous quarantine surveillance at wharves and airports to avoid movement of snails from Honiara to other regions.

Government or accredited agent certificates of cleanliness and GAS free certification should be submitted to Biosecurity Solomon Islands, and inspection and fumigation on arrival should also be undertaken.

It is the Contractors responsibility to implement the measures for GAS for aggregate transportation from Honiara to Munda. Strict quarantine measures need to be in place when bringing aggregates from Honiara. The Supervision Engineer will be involved in all stages of GAS clearances process by monitoring the proper implementation of GAS Management Plan.

A holistic approach using physical, cultural, chemical and natural methods have developed to curtail prolific breeding and further spreading and educating local communities and companies on GAS and encourage them to conduct their own control measures such manual removal and controlled habitat. The physical control measures should be undertaken by the Contractor in consultation with MAL and biosecurity:

- Collection and killing of snails by burning or dipping them in seawater (this can be encouraged by villagers and the general public).
- Physical removal of snails, baiting (using molluscicides such as “Blitzem” metaldehyde baits), and monitoring activities; and
- Clearing rubbish heaps and weeds surrounding gardens, buildings, and other possible areas where snail breeds.

Chemical control involves using Metaldehyde, Methiocarb, or a combination of these chemicals with other molluscicides as bait formulations or foliar sprays. Other methods, like creating frigid temperatures or saturating the snail in ethanol, are also used.

Poor quarantine regulations and the animal's high reproductive capacity are the main reasons for the rapid dispersal of this snail. Preventing its introduction is the most cost-effective option because of the huge risk that GAS poses and its multiple methods of dispersal, strict quarantine and surveillance activities are necessary to control its spread. Creating awareness about the various negative impacts of the snail can help stop the illegal import of GAS for trade and its international spread.[31]

Capacity development in GAS management – staff training workshop needs to be conducted on GAS identification and symptoms of the damage, beneficial organisms, and their uses, pest management intervention, physical and cultural controls.

The contractor must ensure that it develops and implement a GAS Management Plan in collaboration with the Quarantine Division of MAL and have that plan incorporated in the CESMP. The Supervision Engineer will ensure the monitoring and implementation of this plan. The plan will clearly state the roles and responsibilities of GAS prevention, management and monitoring after consultations between Contractor, MAL and the Supervision Engineer.

7.3 Hazardous Substance Use, Storage and Disposal

Hazardous liquids (e.g., fuel and lubricants) must be managed through the use of self-bunded drums and tanks, in accordance with the specification. If—with the permission of the Supervision Engineer—non-bunded vessels are used, the materials must be stored in designated areas within hardstand and bunded areas to prevent runoff to surrounding permeable ground. Bunded areas (secondary containment) must contain the larger of 110% of the largest tank or 25% of the combined volumes in areas with a total storage volume equal or greater than 1,000 L. Bunded areas are to be impervious (water tight), constructed from chemically resistant material, and be sheltered from the rain as rain water allowed to collect within the bund could be contaminated if there is any hazardous substance residue on storage containers or spilt product within the bund.

A spill response plan must be in place and all workers trained in correct implementation of the spill response plan. Spill kits should be available in close proximity to where hazardous substances are used and stored e.g. on the work truck or beside the fuel store. Workers should be trained in the use of spill kits.

Dust suppression measures such as spraying of water must be in place to reduce any impact of airborne particles generated from the construction site that might be harmful human and the environment. The location of the construction lay down area should be such that residential settlements and sensitive receptors are not impacted by noise, dust or runoff.

There is potential that hydrocarbon product or contamination may be encountered during construction work. Depending on the volume of material it may be appropriate to excavate the affected soils and prepare for transport to a facility licensed to accept hazardous waste. Material should be secured in

[31] Asia - Pacific Forest Invasive Species Network, Giant African Snails Pest Fact Sheet

airtight containers for transport (as per Waigani Convention requirements for the trans-boundary movement of hazardous waste material).

7.3.1 UXO

Munda Airfield may still contain unexploded ordinance (UXO). There will be an UXO survey and removal prior to the commencement or works, however, it is possible that during any excavation works culvert extension/upgrade, that there might be a chance find of UXO items.

In the event of a discovery, the Contractor must immediately stop work and clear the work site of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA and the Royal Solomon Islands Police Force (RSIPF). It is the responsibility of the police force to report and coordinate the removal of the UXO. No works shall recommence on site until instruction has been received from the RSIPF and MCA. Refer to Appendix G for SIRAP's management protocol for UXO.

Note: The SI UXO Procedure Policy (Annex G) will be considered in finalising the UXO removal procedures.

7.4 Safety and Traffic Management

The airport is protected by a perimeter security fence. It is anticipated that all planned works, will occur within this fence except for Contractor Laydown Area No 2 which is outside the airport boundary. Security clearance will be required for all airside construction workers. Airside construction works will be managed through the MOWP and MCA will be responsible for ensuring the safe operation of the airport at all times. The MOWP will detail the specific safety and security requirements for the airport operations, including safe operating distances and responsibility of key project roles. If any off-site locations are approved for use then these management requirements, including a secure perimeter fence, shall be implemented for these locations.

As part of the CESMP, the Contractor is responsible for developing and implementing a Traffic Management Plan (TMP) for landside traffic. The transport of materials has the potential to impact communities through noise, dust, and road safety. The Contractors are responsible for developing a site specific TMP to be submitted with the CESMP which will specify how traffic (vehicle and pedestrian) will be managed, including transport times (outside peak hours), maximum speed and loads of trucks, use of flag controls at site entrances (construction laydown area), use of unsealed roads through sensitive communities, and around specific work areas.

each haul route, the TMP will need to include measure to address:

- Layout plans.
- Vehicle traffic.
- Pedestrian traffic.
- Commercial marine traffic.
- Sensitive receptors (management near and consultation with) such as schools, residential dwellings, markets, churches, etc.).
- Management of increased heavy load traffic associated with transportation from the port.

The TMP should follow the guidelines set in the Safe Traffic Controls for Road Works Field Guide (w*ww.works.gov.pg/files/roads-bridges/IF003_PNGFieldGuide.pdf*) and adapted for the MUA works. The TMP will be included as an annex to the CESMP.

The TMP will also include any appropriate measures for minimizing numbers of shipments through consolidation of shipments and accurate calculations of aggregate needs.

7.5 Storm Water and Water Management

7.5.1 Stormwater Management

During construction clean water diversion bunds will be used to direct any runoff from undisturbed areas away from work areas, stockpiles and storage areas. The diversion bunds will direct this clean water to land for soakage. Runoff whether clean or treated should not be allowed to discharge directly to the coast (either via land run off or via the Munda airfield swale drainage channel which discharges directly into the lagoon) as this can cause erosion and potential sedimentation. Soakage pits for stormwater will not be installed directly into a shallow aquifer and will be located under advisement from MCA and Supervision Engineer.

.

During the construction phase of the project, there will certainly be a demand for water to cater to the works requirements including sanitation facilities for the worker's camp (if constructed) and site, the asphalt plant, machines and to mitigate dust. Munda currently does not have a formal water supply system to serve the communities and businesses there. Private residences and businesses are mostly depending on rainwater. The airport in Munda, including the Fire Shelter, is also relying on rainwater for their water needs.

The contractor will need to install rainwater tanks to hold captured rainwater. Additionally, as done by previous airport contractor, water from nearby rivers were collected and brought back in tanker trucks. This water was mainly used for the toilets.

7.5.2 Water Management

Water required for construction activities such as dust suppression and concrete production will need to be managed carefully so as not to impact on the island's freshwater supply or the airport's needs for aircraft rescue and firefighting. Day to day activities can be sourced from the airport supply, but for any significant water needs such as dust suppressing or concrete production, water should be sourced from the Noro SIWA facility via water truck.

At the location of the laydown site and asphalt plant, ground and surface water quality monitoring are required. The Contractor is responsible for ground water monitoring before, mid and end of project. The Contractor is also responsible for quarterly monitoring of surface water. The parameters that should be monitored include pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP NSS.

The Contractors are responsible for securing water access that is adequate and continuously supplied throughout the construction phase.

At all times water efficiency, conservation and reclamation practices will be adopted.

Work practices and mitigation measures for spills will be implemented, including a spill response plan and bunded areas for storage (for all project locations during construction and operation phase) and the specifications call for self-bunded tanks to be used.

The contract shall have spill kits readily accessible, with staff trained in their use.

Should any hazardous waste be produced during the works, it would be required to be exported to a landfill in a country which is approved to accept such waste.

The project will not compromise the water uses or access rights of the communities.

7.6 Construction Lay Down Area

The construction lay down area will be used to store equipment and materials for all components of the project and potentially concrete. As such there are a number of potential hazards associated with the equipment and materials. The construction lay down areas will have a perimeter fence however additional fencing may be required around specific stores (e.g., hazardous substances) to prevent access by unauthorized personal.

The asphalt plant must avoid aircraft operations and the asphalt plant(a) must be at least 150m from the nearest waterways and 300m from the nearest residential settlements.

Areas within both sites must be clearly marked for solid waste collection, machinery maintenance, hazardous substance storage and toilet facilities for workers. Each of these areas must be constructed in such a way to prevent any potential adverse impacts on the surrounding environment; ideally it should be located away from nearby communities.

The laydown sites will include hard stand areas which have protection from wind and rain, bunding (hazardous substances), clean water diversion drains, and collection and treatment of wastewater from site operations (e.g., asphalt and concrete production, machinery maintenance). This includes the containment of the asphalt plant to prevent any hazardous substances entering the local environment from rainwater run off prior to its treatment.

Runoff from hardstand areas used to store machinery will need to be collected and treated (e.g., oil-water separator) to prevent contamination of soil or water bodies. Hazardous substances (e.g., fuel, lubricants, or oil) must be stored in a bunded area. Solid waste and wastewater must be managed in such a way to prevent the spread of vector-borne diseases and contamination of soil and water bodies. However, there is pressure on the landfill, and so all solid waste not able to be re-used either by the project or community must be removed from the island at the completion of the project works.

All occupational health and safety requirements must be in place, and workers trained in necessary procedures (e.g., spill response plan). Personal protective equipment (PPE) needs to be available to workers as required (e.g., high visibility vests, safety boots) and processes in place for obtaining relevant PPE.

Temporary laydown areas for stockpiles of material or equipment may be suitable to reduce the need to transport items on the road. All temporary stockpiles must be kept small (no higher than 2m) and bunded to prevent dust and sediment- laden runoff being generated. If need be, the stockpiles should be wetted or covered to prevent dust. Lay down areas should not be sited near sensitive receptors. Any land required for a temporary laydown area will need to be negotiated with the landowner or leaseholder. Runoff from stockpiles and excavations is prohibited from discharging directly to the marine or coastal environment.

The ground of the sites will likely be compacted by the end of its use and so restoration will require scarification of the soil, application of topsoil and re-vegetation to the same or better standard and, in the case of Construction Laydown Area 2, to the satisfaction of the United Church as the landowner.

The construction lay down areas are not a residential camp. Foreign contract and project staff are expected to utilize existing local accommodation however it may be necessary to establish a residential workers camp. The IFC have minimum standards for workers accommodations which will be required for any SIRAP residential camps. These steps have been included within the codes of practice in Appendix E. Should a worker camp be required then these guidelines must be adhered to and updates made to the ESMP and CESMP as appropriate.

In addition to adhering the standards of accommodation, the Contractor will also be required to develop a Workers Management Plan (WoMP) which will be included in the CESMP as an appendix and cleared by the Supervision Engineer. The WoMP will include cultural protocols (including appropriate clothing and no work on a Sunday), management and restricting of visitors to the camp, visitor curfews, expected behaviors (noise, alcohol, within community areas), gift giving and receiving, disciplinary actions, etc.) The WoMP and the recruitment of overseas labor is discussed in more detail in Section 7.11 and Appendix E.

7.7 Erosion and Sediment Control

Clean water diversion bunds should be constructed around any excavation to prevent ingress of runoff from surrounding areas with particular attention paid to the coastal environment. Any ponding which may occur within an excavated area shall either be allowed to percolate into the subsoil or pumped out to a settling area or used for dust suppression at a later date.

Sediment basins and other sediment controls shall be operated and maintained in a manner that minimizes the risk of environmental harm. The design capacity of the upper settling volume shall be made available within 120 hours of the most recent rainfall event which causes runoff. The sediment storage zone shall be maintained at all times with the accumulated sediment removed in a manner that does not allow the sediment to be conveyed into a watercourse or offsite.

All erosion and sediment controls will be the Contractor's responsibility to maintain an effective working order including reconfiguring drainage lines as required during the construction process to ensure dirty water is directed into sediment controls at all times. Reuse of the water collected in sediment ponds or basins for dust suppression and roadworks is preferred over release into the environment. Where water is being stored for dust suppression, the required design capacity of the basins shall be available.

Sediment basins and other sediment controls shall be operated and maintained in a manner that minimizes the risk of environmental harm. The design capacity of the upper settling volume shall be made available within 120 hours of the most recent rainfall event which causes runoff. The sediment

storage zone shall be maintained at all times with the accumulated sediment removed in a manner that does not allow the sediment to be conveyed into a watercourse or offsite. Where coagulants or flocculants are used to treat stormwater, they must not cause harm to the receiving waters or environment.

Excavations should be kept to a manageable size to reduce the time of exposure. Any stockpiles will need to be on an impermeable geotextile or hardstand and runoff directed to permeable land. Stockpiles of any fine grain materials (e.g., sand and topsoil) must be covered to prevent dust and sediment laden runoff during rain events.

Discharges from any activity at this location is prohibited from discharging directly to the marine and coastal environment. Clean runoff should be diverted inland for percolation to underlying groundwater, and potentially contaminated runoff should be collected and treated. Treatment will be dependent on type of potential contamination (e.g., oil water separator for runoff contaminated with hydrocarbons, or settling pond or tank for sediment laden runoff).

An Erosion and Sediment Control Plan (ESCP) will be prepared for the proposed works, and this will be the Contractor's responsibility for the design, installation, and maintenance of Erosion and Sediment Control for the temporary works of the project. The primary purpose of installing sediment and erosion controls is to not cause environmental harm nor deposit prescribed water contaminants in waterways. In addition, appropriate erosion control can have the benefit of decreasing soil degradation hence improving asset protection and decreasing maintenance costs during and post- construction.

An ESCP will be prepared for all areas prior to use or disturbance including auxiliary areas under the control of the contractor such as stockpile and storage areas, access and haulage tracks, temporary waterway crossing, borrow areas, compound areas and material processing areas. Clearing and grubbing (or the use of the area for stockpiles) for that section shall not start until the ESCP for that section is assessed as suitable by the Engineer.

7.8 Wastewater Management

There are several activities during construction and operation phases of the project which will generate wastewater.

Wastewater from wash down areas is to be collected either in a settlement pond or tank to allow sediment and particulate matter to drop out (or processed through a filtration system) before the water can be reused as wash water, dust suppression or in other processes. A separate wash down area is required for machinery or material with oil or fuel residue as this wash water is required to be treated through a mobile oil water separator. Wash water from concrete production, cutting, washing of equipment used and areas where concrete is produced must be collected and treated to lower the pH (closer to neutral) and to allow settlement of suspended solids. All wash down areas and wastewater treatment areas should be located within the construction lay down areas.

Treated wash water where possible should be reused for dust suppression or within other processes. Direct discharge to the marine or coastal environment or to the areas prone to flooding are strictly prohibited. Discharges of treated wash water are to occur to land only at least 200m from any bore used for potable water at a rate not exceeding 20mm/day or the infiltration rate of the ground (i.e., no ponding

or runoff). Contractors must have sufficient measures to avoid direct discharges when working adjacent to the marine and coastal environment which may include bunding (e.g., sand bags), demarcation of exclusion zones, and limited use of large machinery.

Precautions should be in place to prevent wastewater and hazardous substances or materials entering the environment (e.g., fuel spillage, wastewater containing fire retardant during firefighting), however should an incident occur, the Contractor must have a spill response plan in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (marine, ground, surface water). This spill response plan should be applicable to all SIRAP MUA project works areas (airport, trenching routes, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase.

There is no reticulated sewer network at Munda, septic tanks are utilized. If access to the airport existing facilities is not available, any temporary toilets and disposal or treatment of septic wastewater will need to be in accordance with the ECD, Supervision Engineer and MCA (site location) advice.

7.9 Solid Waste Management

To avoid any potential adverse impacts from the storage of waste or the introduction of waste into the environment, a Solid Waste Management Plan (SWMP) will be developed (see Appendix E) by the Contractor and submitted for clearance annexed to the CESMP. The SWMP shall describe solid waste streams generated by the works and detail the approved disposal methods along with permissions. Prior approval for the utilization of Ranadi Landfill in Honiara will be undertaken by MCA. MCA will seek approval from Honiara City Council for the use of Ranadi Landfill for SIRAP's project use. The approval documents will be made available by MCA to the Supervision Engineer and the Contractors.

At all times, the Contractor is responsible for solid waste generated by the Works in accordance with the *Environmental Health Act and National Waste Management and Pollution Control Strategy 2017-2026*.

The SWMP should adhere to the *Environmental Health Act and National Waste Management and Pollution Control Strategy 2017-2026* and follow the guidelines provided in Appendix E. As a minimum the SWMP will make provisions for the following:

- Describe the solid waste streams generated by the works along with estimated quantities.
- Develop a plan for safe storage and handling of waste stored on the project site as per the stipulations in this ESMP.
- Identify approved service providers for collection and disposal of waste and stipulate conditions of carriage.
- Detail the approved disposal methods along with appropriate permissions.
- Confirm the suitability of Noro Landfill for handling general project waste and septic waste.
- Contractor shall determine whether any quantities of hazardous waste materials generated by the project are suitable to be handled at Honiara's Ranadi Landfill and obtain any permissions necessary.
- Contractor shall determine an approved site for the disposal of organic biodegradable waste in a suitable facility which is equipped to safely handle this type of waste.
- Recyclable waste may be supplied to a local receiver licensed to process such waste.

- Contractor to identify shipping route and licensed disposal facilities for all exported waste.
- Contractor to identify any export permits or conditions for export of waste.
- Identify those persons responsible for implementing and monitoring the SWMP.

Any waste which cannot be safely and correctly disposed of in the SI is to be disposed of OFFSHORE in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location.

The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries.

Disused material may be generated in the form of concrete rubble and surplus materials from excavations. Most of the clean fill material can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource for general use by MCA, MID and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the MCA to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer.

Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defect's liability period shall be removed from the site and the country.

7.10 Occupational Health and Safety

During construction and operation health and safety is to be managed through a Site Specific OHS Plan and application of:

- WB ESS 2 – Labour and Working Conditions Section D (OHS)
- IFC Environmental, Health and Safety Guidelines (EHSG): General Section 2 (OHS)
- Safety at Work Act

Required measures for management of OHS include:

a) Identification of potential hazards to project workers, particularly those that may be life threatening.
b) Provision of preventative and protective measures, including modification, substitution, or elimination of hazardous conditions or substances.
c) Training of project workers and maintenance of training records.
d) Documentation and reporting of occupational accidents, diseases and incidents.
e) Emergency prevention and preparedness and response arrangements to emergency situations.
f) Remedies for adverse impacts such as occupational injuries, deaths, disability, and disease.

To support the development of the OHS Plan, SIRAP2 has a Labour Management Procedure (LMP) which sets out the required OHS measures for this project in compliance with the WB ESS 2(Labour and Working Conditions) and national legislation.

The Contractor will develop an OHS Management Plan for the works at Munda Airport ATCT to establish and maintain a safe working environment, including that workplaces, machinery, equipment and processes under their control are safe and without risk to health, including by use of appropriate measures relating to chemical, physical and biological substances and agents.

The Contractor will proactively ensure that all workers are trained in what the OHS risks are and how to manage them. The OHS Management Plan will include how the Contractor will train the workers on OHS requirements.

The Contractor shall ensure that all workers on the site have appropriate PPE of an appropriate standard including: (i) impact resistant safety eyewear; (ii) safety footwear with steel toe, sole and heel; (iii) high visibility clothing; (iv) long sleeves and long pants suitable for operating environment; (v) safety helmet with provision of sun protection as necessary; (vi) gloves (carried and worn when manual handling); and,(vii) hearing protection when working in close proximity to noisy equipment and in all underground environments. For site visitors, the above equipment will be supplied as appropriate based on assessed risks and depending on number of visitors and where they will be on site.

Since this will involve working at heights, fall hazards exist therefore the contractor shall have a fall protection plan in place which depending on the nature of the fall hazard, include: training and use of personal fall arrest systems, as well as fall rescue procedures to deal with workers whose fall has been successfully stopped, the tie in point of the fall arresting system, use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as securing, marking, and labeling covers for openings in floors, roofs, or walking surfaces, workers wearing appropriate PPE (e.g., hard hats, safety boots). The contractor shall also provide other safety equipment which include barriers, scaffolds, elevated work platforms and safety nets. Also, the contractor will have work procedures in place on how to install, use, and maintain the devices correctly including undertaking daily inspections of work area, training, considering daily weather conditions and install clear, easy-to-understand instructions provided for all equipment, and warning signs or labels shall be used where appropriate.

The LMP contains the requirement for a Workers GRM. The Contractor will implement this GRM to ensure that a workers GRM is in place, easily accessible and well-advertised to enable the workers to report situations they believe are not safe or healthy and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.

The Contractor will provide workers with facilities including access to canteen or catering, bathrooms (and shower blocks for any workers camps) and appropriate rest areas.

For any workers accommodation a policy will be put in place and implemented on the management quality of accommodation to protect and promote the health, safety, and well-being of the project workers, and to provide access to or provision of services that accommodate their physical, social and cultural needs.

A system for regular review of the OHS performance and the working environment will be put in place by the Contractor.

The Contractors OHS Management Plan should incorporate all aspects of the project including the airport site, quarries, and transport routes.

The Contractor shall appoint a certified Safety Officer at the Site, with qualifications acceptable to the Supervision Engineer, responsible for maintaining safety and protection against accidents. This person shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

Civil works shall not commence until the Supervision Engineer has approved the OHS Management Plan, the Safety Officer is mobilized and on site, and staff have undergone induction training.

The following are the contractual requirements for OHS as stipulated in the bidding documents:

Health and Safety: Funding for Occupational Health and Safety (OHS) training and activities is provided in the bill-of-quantity as a provisional sum. The Contractor's costs shall be financed from this on proof of record (e.g. time sheets, material invoices etc.) for the following:

- Recruitment of provider for delivery of HIV/AIDS education training.
- Recruitment of provider for delivery of gender-based violence (GBV), human trafficking and child abuse and exploitation (CAE) training.
- Expenses related to HIV/AIDS, GBV, human trafficking and CAE training.
- Provision of Safety Officer when acting in the role of Safety Officer
- Personal Protective Equipment (PPE) for all workers on the site, and visitors as appropriate
- Safety signage, safety literature, HIV/AIDS literature, condoms, voluntary counselling, and testing, GBV literature, CAE, literature etc.
- Alcohol testing of staff to enforce a zero-alcohol tolerance policy.
- Labor costs for attending: (i) dedicated safety training such as working at heights, confined space training, first aid training etc.; (ii) HIV/AIDS education training; (iii) gender-based violence (GBV) training; and, (iv) CAE training. The contractor shall make staff available for initial training of 1.5 days, and a total of at least 0.5 days per month for other such formal trainings.

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that first aid facilities and sick bays are always available at the Site, including having a site vehicle available at all times that can be used to transport Contractor's and Employer's Personnel to medical facilities. The Contractor shall ensure that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall send, to the Supervision Engineer, details of any accident as soon as practicable after its occurrence.

Within 5 working days of the end of the calendar month the Contractor will be required to report to the Supervision Engineer on their performance with the following OHS indicators:

- Number of fatal injuries (resulting is loss of life of someone associated with the project or the public)
- Number of notifiable injuries (an incident which requires notification of a statutory authority under health and safety legislation or the contractor's health and safety management system)

- Number of lost time injuries (an injury or illness certified by a medical practitioner that results in absence of work for at least one scheduled day or shift, following the day or shift when the accident occurred)
- Number of medical treatment injuries (the management and care of a patient to effect medical treatment or combat disease and disorder excluding: (i) visits solely for the purposes of observation or counseling; (ii) diagnostic procedures (e.g., x-rays, blood tests); or, (iii) first aid treatments as described below)
- Number of first aid injuries (minor treatments administered by a nurse or a trained first aid attendant)
- Number of recordable strikes of services (contact with an above ground or below ground service resulting in damage or potential damage to the service)
- Lost Time Injury Frequency Rate (the number of allowed lost time injury and illness claims per 100 full-time equivalent workers for the injury year specified)
- Total Recorded Frequency Rate (the number of recordable injuries [recordable/lost time/fatal] per 100 full-time equivalent workers for the injury year specified)

The monthly reports shall also include:

- Number of alcohol tests
- Proportion of positive alcohol tests
- Number of site health and safety audits conducted by contractor.
- Number of safety briefings
- Number of near misses
- Number of traffic management inspections
- Number of sub-contractor reviews
- Number of stop work actions
- Number of positive reinforcements
- For each fatality, injury or near miss incident, the Contractor shall provide a corrective action report within the monthly report detailing steps taken to ensure risks of a repeat incident are minimized.

7.10.1 Covid-19

A guidance for World Bank Projects for Covid-19 states that to prioritize and look after the well-being of their employees and to monitor and follow local and national health authority guidance. All SIRAP works will consider the Covid-19 global pandemic protection measures and will follow the WBG guidance note on Covid-19[32] in conjunction with national health authority guidelines for all parties involved during the project phase. The Guideline provides information on COVID-19 symptoms, use of face coverings, COVID-19 testing, social distancing etc. The WBG guideline should be utilized in conjunction with the national health guidelines on COVID-19.

[32] http://pubdocs.worldbank.org/en/324831581700447537/COVID-19-Guidance-for-Contractors-CO-Final.pdf

7.11 Community Health and Safety

7.11.1 Code of Conduct

In accordance with the World Bank's Standard Procurement Documents (SPDs), Contractors shall submit a satisfactory code of conduct to address the responsibilities of the individual, the management, and the company towards the environmental, social, health and safety (ESHS) requirements of the Project, the prevention of GBV and the adherence to OHS requirements of the Project. The Code of Conduct will contain obligations on all Contractor's Personnel (including sub-contractors and day workers) that contain acceptable measures to address the social impacts of the project. The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code.
- had the code explained to them.
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor's Personnel, Employer's Personnel and affected persons.

The Code of Conduct shall be based on the SIRAP Code of Conduct, which is included as Appendix F.

7.11.2 Labour Influx

In addition to the Codes of Conduct that the Contractor will prepare for GBV/Human Trafficking/Sexual Abuse and Exploitation (SAE), the Contractor will also prepare a Code of Conduct to describe the expected behaviour of their project workers in relation to the local communities and their social sensitivities.

A Labour Influx Management Plan would also be required since there will be potentially an influx of skilled worker who may originate from overseas and other parts of the Solomon's to work at the airport. The focus of this plan is to ensure that non-local workers are inducted on the culture of Munda and to manage inappropriate contacts between the non-locals and the residents of Munda that may result in GBV, sexual abuse, and other misconduct. A Labor Influx Management Plan addresses specific activities that will be undertaken to minimize the impact on the local community, including elements such as worker codes of conduct, training programs on HIV/AIDS, etc.[33]

The Contractor is required to maximize the number of local workers from the Munda community. Preference should be given to a local recruitment process, only relying on workers from other islands or from overseas for vacancies which cannot be filled locally. As part of the CESMP, the Contractor will be required to submit a list of roles along with required qualifications or experience and the planned recruitment strategy for that role (i.e., local or regional/overseas). The Contractor will be required to provide justification for any roles not filled locally.

For recruitment of SI nationals which cannot be fulfilled by the local community, it is preferred that it is undertaken through a formal recruitment process which ensures that only people who are already employed are travelling to the project site. Employment of casual labor through an ad hoc process at the

[33] http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-labor- influx.pdf

project site may encourage potential workers from across SI to migrate to the project site for the possibility of work and this should be avoided. This opportunistic influx would have the potential to create a negative burden on the local communities in terms of their available resources and increases in anti-social or insensitive behavior.

Any project staff who are recruited from overseas are subject to visa approval. As part of the visa application process, all workers are required to submit a medical report, an element of which is a HIV test. All oversea workers must complete this test and submit their medical report to the immigration department before appropriate visas can be issued. As part of the visa application process all overseas workers will also be required to provide a police background check from their home country. It is also contractual requirement for all overseas SIRAP project works to provide MCA PST with police background clearances prior to arrival in country, regardless of the visa application process.

In addition to these requirements, the Contractor is to ensure that all overseas project staff undergo a cultural familiarization session as part of their induction training. The purpose of this induction will be to introduce the project staff to the cultural sensitivities of the local communities and the expected behavior of the staff in their interactions with these communities. The MCA PST shall provide to the Contractor the approved service providers which shall include recognized NGOs and others for conducting this training.

As per the SI Labour Act, article 46 states that no child under the age of twelve years shall be employed in any capacity whatsoever and article 47 states that a person under the age of fifteen shall not be employed or work in nay industrial undertaking, or in any branch thereof. As the Solomon Islands is a member of the International Labour Organization which states that the minimum age for hazardous work is 18 and given that construction work with heavy machinery can be classed as hazardous work, the Contractor shall ensure that no children under the age of 18 are employed to work in a construction or physically demanding role, in labor that interferes with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development The employer will conduct regular monitoring of the health, working conditions, hours of work and the other requirement as per the project's LMP and this ESMP.

7.11.3 HIV/AIDS, Gender Based Violence, Human Trafficking and Sexual Abuse Exploitation

All employees (including managers) will be required to attend training prior to commencing work to reinforce the understanding of HIV/AIDS, GBV, human trafficking and SAE. Subsequently, employees must attend a mandatory training course at least once a month for the duration of mobilization.

Managers will be required to attend an additional manager training prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in ensuring the HIV/AIDS, GBV, human trafficking and SAE standards are met on the project. This training will provide managers with the necessary understanding and technical support needed to begin to develop a plan for addressing HIV/AIDS, GBV, human trafficking and SAE throughout the lifetime of the civil works, including monitoring and reporting.

7.11.3.1 HIV-AIDS Prevention.

While mobilized for work, the Contractor shall produce a conduct an HIV-AIDS Information, Education and Consultation Communication (IEC) campaign via an approved service provider approved by the Supervision Engineer and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local

community, to promote early diagnosis and to assist affected individuals. The Contractor shall not discriminate against people found to have HIV-AIDS as part of the campaign.

The Supervision Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and/or recognized local health departments. From the provided list, the Contractor shall enter into agreement with one service provider to undertake the HIV-AIDS IEC campaign. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. The contractor shall make staff available for a total of at least 0.5 days per month for formal trainings including HIV/AIDS.

Prior to contractor mobilization, the approved service provider shall prepare an action plan for the IEC campaign based on the 'Road to Good Health Toolkit' (www.theroadtogoodhealth.org) which shall be submitted to the Supervision Engineer for approval.

The action plan will clearly indicate (i) the types and frequency of education activities to be done; (ii) the target groups (as a minimum to all the Contractor's employees, all Sub-Contractors and Consultants' employees, and all truck drivers and crew making deliveries to Site for construction activities as well as immediate local communities); (iii) whether condoms shall be provided; and (iv) whether STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labor shall be provided.

The IEC campaign shall adopt the 'Road to Good Health' Toolkit methodology (www.theroadtogoodhealth.org) and use readily available information for the Project. No specific new information shall be produced unless instructed by the Supervision Engineer.

The IEC campaign shall be conducted while the Contractor is mobilized in accordance with the approved approach. It shall be addressed to all target groups identified concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to, of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular.

The Contractor shall include in the program to be submitted for the execution of the Works under Sub-Clause 8.3 the IEC campaign for Site staff and labor and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this program shall not exceed the Provisional Sum dedicated for this purpose.

7.11.3.2 Gender Based Violence, Human Trafficking, Sexual Exploitation and Abuse

As required in the bid documents, the Contractor will implement the SIRAP Codes of Conduct and Action Plan to Prevent Gender Based Violence, Human Trafficking, as Well as Sexual Abuse/Exploitation (Appendix F). The Codes of Conduct aim to prevent and/or mitigate the risks of GBV, Human Trafficking, and SEA within the context of SIRAP. These Codes of Conduct are to be adopted by the civil works contractors, as well as supervision consultants.

The Supervision Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting training on GBV. From the provided list, the Contractor shall enter into agreement with one service provider to undertake the GBV IEC campaign. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. The contractor shall make staff available for a total of at least 0.5 days per month for formal trainings including GBV.

As part of the WoMP, the Contractor will be required to submit a list of roles along with required qualifications or experience and the planned recruitment strategy for that role (i.e. local or regional/overseas). The Contractor will be required to provide justification for any roles not filled locally. Work permits will only be granted for workers with skills unavailable in the SI. Should international workers be found to be performing jobs that can be done by locals (e.g. driving vehicles), the Supervision Engineer will notify the contractor and the SIG who will cancel the work permits. The contractor will be required to return them home within 48 h of notification by the Supervision Engineer.

The WoMP will also provide detail of how the Contractor will provide for workers camp facilities, workers camp operations and the management of off duty workers. Guidelines for the WoMP are provided in Appendix E and the WoMP will be included in the CESMP as an annex.

7.11.4 General Social Mitigations

Any impacts or concerns from communities close to MUA, or haul routes will be addressed throughout the SIRAP life through the disclosure and public consultation process. Where possible local labour and businesses will be used to provide services and building supplies for the SIRAP works. This includes supply of fuel and hire of machinery and hiring of local security contractors.

8 ESMP Implementation

The executing agency is the MOFT. MCA will serve as the IA for the aviation component, MID for the road component. Each will take taking responsibility for signing contracts, monitoring implementation progress, providing authorization for contract payments under their area. When a contract applies to both ministries, MCA will sign with the approval of MID. MCA will also be responsible for signing contracts for activities benefitting CAASI.

The SIRAP Management Unit Steering Committee, comprised of representatives of different central and line agency members,[34], should be formed to provide overall oversight of Project implementation and of the Project and PST, and to makes Project strategic decisions. It will be critical to have someone from Malaita involved. The SIRAP Steering Committee's key role will be to advise the SIG and respective Ministries on issues or concerns affecting project implementation and to propose remedial actions accordingly.

8.1 Roles and Responsibilities

The following are the roles and responsibilities:

- **MCA PST:** The MCA PST reports to the Permanent Secretary of MCA and is responsible for the day-to-day project implementation on behalf of the SIG. The PST will have their main office in MCA but for the roads component there will be a project office based on Malaita. The PST:
    - Acts on behalf of the client and works closely with MCA and all contracted parties to ensure that SIRAP objectives are delivered in a compliant manner consistent with client and MCA requirements.
    - House a deputy Project Manager and a Community Liaison Officer in the Malaita project office.
    - Conducting quarterly safeguard audits with the Supervision Engineer's environmental specialist and other staff
    - Responsible for working with MCA and Supervision Engineer (and contractors where appropriate for CESMP) to implement consultation plans for the SIRAP upgrade works.
    - Monitors and manages of complaints/incidents logged via the GRM mechanism on the SIRAP website.
    - During the construction phase, PST receives reporting from the Supervision Engineer and shares these reports with the MCA and ECD (to comply with permit monitoring requirements).
    - PST is responsible for managing recurring instances of non-compliance by the contractor as they are reported by the Supervision Engineer and all instances of non-compliance by the Supervision Engineer. PST will conduct their own quarterly on-site audit of construction works, to supervise CESMP and ESMP implementation.

[34] The PST Steering Committee is proposed to be comprised of the following Central Agency Members: (i) Secretary to the Prime Minister of the Office of the Prime Minister; (ii) Permanent Secretary (PS) Ministry of Finance and Treasury; (iii) PS Ministry of Infrastructure Development; (iv) PS Ministry of Civil Aviation; (v) PS Ministry of Development Planning and Aid Coordination; (vi) PS Ministry of Provincial Government and Institutional Strengthening; and, (vii) Director of CAASI.

- **Supervision Engineer**: is responsible for the day-to-day oversight of the construction works for the project, including safeguard compliance. The Supervision Engineer is the only party who is contractually able to provide instruction to the Contractor. The Supervision Engineer will work closely with the Contractor on a daily basis to ensure that MUA works are implemented in a compliant manner consistent with the detailed designs provided and the ESMP. They are responsible for:
    - Daily monitoring the Contractors work for compliance with the CESMP and ESMP as per the measures detailed in Appendix B, C and D and providing safeguard monitoring results in their monthly reporting to PST. As part of their CESMP monitoring responsibilities, the Supervision Engineer will ensure that an experienced full time national safeguard specialist and a suitably qualified and experience international safeguard specialist is resourced to provide at least quarterly site inspections to MUA and available for support at other times to respond to incidents, non-compliances, review of CESMP, update of the ESMP and other tasks.
    - Managing the review process of CESMPs for approval. The Supervision Engineer must ensure that all current safeguard instruments have been reviewed internally as well as by PST, Technical and Fiduciary Services Unit (TFSU), WB and final approval from WB has been secured before disclosure.
    - Updating the ESMP as necessary to reflect changes in the designs.
    - Working with PST to provide meaningful input and direction into community consultations on the draft updated versions of the ESMP.
    - Managing instances of noncompliance by the Contractor and reporting all instances to PST. They are also responsible for escalating recurring instances of noncompliance by the Contractor to PST for action.
    - Managing and responding to all direct complaints/incidents received by their representatives as per the GRM process in Section 8.3 and reporting all instances to PST for inclusion into statistical database.

A template Terms of Reference for a Supervision Safeguard Specialist (SSS) is provided in Appendix I and should be used as a basis the procurement of the SSS within the Supervision Engineer bid documents.

- **Contractor:** It is the contractor's responsibility to:
    - Resource their team with an experienced and qualified full time national safeguard specialist and an experienced and qualified international safeguards advisor who is resourced to make regular and ad hoc (as needed) site visits. Appendix I provide the minimum requirements for the international specialist who will form part of the Contractors key personnel in the bid document.
    - Allocate budget for implementing all requirements of the CESMP and employment of appropriate safeguard specialists.
    - Prepare and have cleared by the Supervision Engineer the CESMP in accordance with this ESMP.
    - Carry out the MUA upgrade works in accordance with the CESMP.

- Conduct daily and weekly safeguard inspections of the works to ensure compliance and reporting the results of these inspections to the Supervision Engineer.
- Proactively update the CESMP as construction methodology or other features change.
- Provide meaningful input and direction into community consultations on the draft CESMP.
- Advise the Supervision Engineer of any changes to works or methods that are outside the scope of the ESMP for updating.
- Post all notifications specified in this ESMP at the site entrance.
- Report all environmental and OHS incidents to the Supervision Engineer for any action.

- **MUA Airport Management:** As the site owner and airport operator, the MUA Airport Manager has a role in ensuring stipulated OHS measures are being implemented as they relate to airport operations, such as the location and timing of works, signing off on the MWOP etc. They also have a role in approving uses of areas of their site for particular uses as they may relate or impact on airport operations (e.g. laydown sites). They will be involved in consultations and any publication of information relating to the works. There will also be ongoing airport operational monitoring requirements during the operational phase.

8.2 Contractor's ESMP

The Contractor's ESMP (CESMP) will be the Contractor guiding document for the implementation of this ESMP during works the CESMP will be reviewed and approved based on the requirements of the ESMP and will be their management plan for the practical implementing of these requirements. The CESMP will contain the contractor's methodology and plan for adhering to their safeguard requirements. Additionally, the CESMP will detail how the Contractor plans to resource their team with personnel and financial resources as per the Contract. The Contractor will include sufficient provision in their Bill of Quantities (BOQ) to ensure that the CESMP can be developed, implemented, and monitored by their Safeguard Specialist. As this role will be key personnel within the bid document, the Contractor is obliged to ensure that their BOQ item is sufficient for this person to carry out their duties as required in this ESMP and the contract. Section 5.3.2 provides a guide for the expected content of the CESMP.

The CESMP and associated sub management Plans will be developed, approved, and disclosed before the commencement of civil works. The bid documents will require that the CESMP be developed by the Contractors Safeguard Specialist and after internal review and approval, it will be subject to approval from the Supervision Engineer who will coordinate a review with the PST Safeguard Specialists. Final clearance will be obtained from the World Bank. Once the CESMP has been approved and cleared, it will be disclosed by the Contractor and the PST using the same methods as required for the ESMP disclosure.

The CESMP must use the below listed items to be consistent with, and respond to, the ESMP and bid document, the conditions of permits and approvals from the relevant ministry departments. The document should reflect contemporary good practice; be balanced, objective and concise; and be written in a way that is easily understood by other parties. All commitments must be specific and auditable with measurable outcomes and clear timeframes. The CESMP must cover all activities within the project's area of influence. The area of influence includes the active worksites, laydown areas, construction camps, haul routes, production facilities (concrete, asphalt etc.) and materials sources.

DECLARATION AND DOCUMENT VERSION CONTROL: person accepting responsibility for the environmental management plan – signed declaration; the document version control should be a simple system that ensures that details of all key changes to the document over time are properly recorded.

PROJECT DESCRIPTION: The CESMP should provide a summary of the project as this provides context for the plan. The location of all works should be summarized with a clear definition of the works' area of influence. Basic and relevant information on the environment at these locations should be summarised from the ESMF included as this helps provide the environmental context to which the CESMP applies. A schedule of intended commencement and completion dates should be provided. Projects undertaken in stages should identify each stage in the schedule.

OBJECTIVES: The environmental outcomes of the plan should be defined. These should be tailored to the environmental issues outlined in the CESMP.

ENVIRONMENTAL AND SOCIAL MANAGEMENT ROLES AND RESPONSIBILITIES: The CESMP should define the roles and responsibilities of personnel in charge of the environmental management of the project to reflect the requirements in the ESMP. The roles and responsibilities of each relevant position should be documented, including the responsibilities of subcontractors. The names of the responsible personnel do not need to be included. Identification of the position titles, roles and responsibilities is sufficient. If the roles and responsibilities are expected to change over time the long-term variations should also be documented. **REPORTING:** The description of reporting requirements should include: a list of required reports including where appropriate monitoring, environmental incidents, non-compliance, corrective action and auditing; a description of the standard report content; the schedule or triggers for preparing a report; who the report is provided to; and document control procedures.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS TRAINING: All people involved with the project should receive relevant environmental training to ensure they understand their responsibilities when implementing the CESMP. People to be trained include those at the site/s of all project activities and operations, including contractors, subcontractors and visitors. The training should be tailored to the role of the individual in the project. The CESMP will include a list of the training needed and the plan for undertaking this training. The CESMP will also identify the resources to conduct this training (internal/external).

EMERGENCY CONTACTS AND PROCEDURES: The CESMP should identify the key emergency contacts responsible for managing environmental emergencies associated with the project and their contact details. These personnel should have the power to stop and direct works so that they can manage emergencies effectively. In addition, the plan should establish procedures for managing environmental emergencies and ensure that those procedures are implemented and maintained.

POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS: The potential impacts section of the CESMP should include a tabulated summary of any relevant information previously provided the ESMP, it should also identify the km marker/chainage of the identified (an any additional) sensitive receptors. Impacts from relevant stages of the contractor works should be defined in this section and should reflect the relevant conditions of approval.

MANAGEMENT MEASURES: The CESMP should clearly state how the potential impacts of the works will be specifically managed based on the content of the ESMP and the measures that the contractor will undertake to implement these mitigations. The CESMP will propose management measures on the issues identified and will identify the cost involved and the party responsible for the management measures.

MONITORING PLAN: The CESMP must detail how the CESMP will be monitored and shall include a weekly monitoring checklist. An example monitoring checklist is provided in Appendix C as a guide. The monitoring plan will include: what is to be monitored, how it will be monitored, the parameters (standards) that it will be monitored against, who will monitor, where will be monitored and the cost of the monitoring plan.

AUDIT AND REVIEW: *Environmental auditing:* The environmental management plan should include the schedule or triggers for auditing the implementation and effectiveness of the plan. It should address both internal and external audit requirements including who is responsible for undertaking the audits and reporting the results. *CESMP review:* The CESMP should specify the schedule or triggers for reviews of the plan.

CESMP PREPARATION AND IMPLEMENTATION: The CESMP must ensure that the person taking the action takes full responsibility for the content and commitments contained in the plan. The CESMP must be prepared and implemented by a qualified environmental practitioner (Environmental Representative) with at least 10 years-experience. Field audits of CESMP implementation must be undertaken on at least a monthly basis by the Environmental Representative with associated audit reports certified and submitted to the Engineer.

CESMP COMPLIANCE: Identify the internal procedure that the Contractor will follow when a non-compliance has been identified during the daily monitoring. Procedure will include notification responsibilities, rectification timeframe and reporting obligations. Procedure will also cover the process the Contractor will follow when non-compliances are reported by the Supervision Engineer. Procedure will also identify how the Contractor will action any disciplinary or training requirements following the non-compliance.

CESMP REVIEW AND AMENDMENT: The CESMP must be reviewed, updated, and resubmitted to the Engineer for approval in response to an anticipated change of circumstances before any changes are permitted at the work sites. These circumstances include substantial design changes with environmental or social implications, changes to specific approved plans, new activities not contemplated in the Project ESMP, or additions to the Project's area of influence. No changes will be made to the Project or the project areas until it has either been confirmed by the Supervision Engineer that an update to the CESMP is not needed, or the update has been made and approved by the Supervision Engineer. The CESMP must also be updated where it is deemed that the mitigation measures are not adequate to mitigate the environmental and social risks.

8.2.1 CESMP required Sub Plans

The Contractor is required to produce the following management plans as part of their CESMP. These management plans are referred to throughout the ESMP. In addition to these management plans being a requirement for the CESMP, they will also be required as part of the tendering process to demonstrate that the Contractor has started to consider these environmental and social impacts and has the capacity within their team to plan their safeguard management strategies.

C-ESMP coverage required for MUA works are:

- Traffic Management Plan;
- OHS Management Plan;
- Worker/Contractor Camp Management Plan;
- Noise and Vibration Management Plan (included in OHS);
- Air Quality and Dust Management Plan (included in OHS);
- Worker's Code of Conduct;
- Spill response and evacuation management plan;
- Erosion and Sediment Control Plan;
- Solid Waste Management Plan;
- Method of Work Plan (include night and day works procedures);
- UXO Management Plan (For chance find);
- Spill Prevention and Emergency Response Plan;
- Giant African Snails Management Plan (in collaboration with Biosecurity Division at MAL);
- Worker's Influx Management Plan; and
- Site Decommissioning and Restoration Plan.

Solid Waste Management Plan: The SWMP guidelines in Appendix E provide the governing principles for solid waste management and disposal for the SIRAP MUA Project. It provides the minimum standards for each waste stream and gives the Contractor guidance on how to implement waste separation, storage, and disposal. The guidelines also set the content for the SWMP, and it is a requirement of the Contractor to provide all the required content as a minimum.

Worker Management Plan: The contractors will be required to provide a Worker Management Plan as part of their bids, explicitly detailing how the labour influx impacts will be minimized. This will not only cover the physical elements, but also interactions with locals, impacts on island resources (e.g., water, waste), and potential price inflation effects. These requirements will be addressed more fully in the final ESMP for tender.

Traffic Management Plan: A traffic management plan is required to detail how the safety of the pedestrians and vehicles will be maintained throughout the duration of works. Particular attention will need to be paid to the separation of the public and heavy machinery at all times. The TMP will demonstrate how this will be achieved and will detail how the public will be informed of these measurements. Additionally, the TMP will include management of traffic including international and domestic transport of equipment and machinery.

Spill Control and Response Plan: The Contractor will have a spill response plan in place to account for all potential instances. A Spill Response Plan will be developed to ensure that all fuels and lubricants used during the construction phase in machinery, equipment, generators are contained, collected, treated, and disposed of. The plan will (i) identify areas that are sensitive to spills and releases of hazardous materials; (ii) outline responsibilities for managing spills, releases, and other pollution incidents, including reporting and alerting mechanisms to ensure any spillage is reported promptly to the relevant parties; (iii) Include provision of specialized oil spill response equipment, and; (iv) include regular training schedules and simulated spill incident and response exercise for response personnel in spill alert and reporting procedures, the deployment of spill control equipment, and the emergency care/treatment of people or wildlife impacted by the spill.

Erosion and Sediment Control Plan (ESCP): An ESCP is required to be prepared for all areas prior to use or disturbance including auxiliary areas under the control of the contractor such as stockpile and storage areas, access and haulage tracks, temporary waterway crossing, borrow areas, compound areas, and material processing areas. Clearing and grubbing (or the use of the area for stockpiles) for that section shall not start until the ESCP for that section is assessed as suitable by the Engineer. Each ESCP shall clearly detail the Erosion and Sediment Control Plan, and shall be prepared and, update the area and work that it is valid for. It is acceptable to have a primary 'over-arching' ESCP supplemented by numerous progressive ESCP on a project.

The Contractor shall be responsible for the design, installation, and maintenance of Erosion and Sediment Control for the temporary works of the project with the following principles:

- Erosion and sediment controls are integrated with construction planning.
- Effective and flexible erosion and sediment control plans are developed based on soil, weather.
- Construction conditions and the receiving environment.
- The extent and duration of soil exposure is minimised.
- Water movement through the Site is controlled - in particular, clean water is diverted around the site.
- Soil erosion is minimised.
- Disturbed areas are promptly stabilised.
- Sediment retention on Site is maximised.
- Controls are maintained in proper working order at all times, and
- The Site is monitored, and erosion and sediment control practices adjusted to maintain the required performance standard.

Site Specific OHS Plan: This plan will adhere to the supplementary management process described in Section 7.11.1 and will be written following the guidelines in Appendix E of this ESMP. The OHS Plan will form part of the CESMP but will also be considered a standalone document that will be implemented and monitored by the Contractors OHS key personnel.

Emergency Contingency Plan: This plan will detail the Contractors processes for dealing with emergencies including but not limited to medical, injury, social conflict, extreme rain events, storm events, severe earthquake, or tsunami. The plan will cover measures to protect and manage staff as well as measures to protect and manage the project and environment. Training on this plan will be described along with communication methods (posters, etc.) and the roles and responsibilities of the Contractor team.

UXO Management Plan: Regarding unexploded ordnance (UXO) management, there is a chance that UXO, which is a historical remnant of WWII, may be found within the project area. A UXO Management Plan (UMP) shall be included as part of the stand-alone CESMP for the Project, the aim of which is to reduce the risk of interaction between workers/communities and UXO and identify the procedures to follow in the event of a "chance" find.

Influx Management Plan (IMP): Construction projects, especially those comprising large civil works, require labour force and associated goods and services that cannot always be fully supplied locally. A partial component of the labour force may need to be brought in from outside the project area. In many cases, this influx is compounded by an influx of other people ("followers") who follow the incoming workforce with the aim of selling them goods and services, or in pursuit of job or business opportunities.

The purpose of the IMP is to set out the objectives in relation to the management of project-induced in-migration and its impacts and to successfully implement measures to manage the in-migration and avoid, prevent, and mitigate the direct and indirect adverse impacts associated with project-induced in-migration. All stakeholders have a role to play in managing in-migration.

Air Quality Management and Dust Control Plan: The purpose of the air quality management and dust control plan (AQMDCP) is to minimize air quality issues including odour from construction activities; impacts of dust generated due to the construction works; impacts of dust generated during transport of materials and other traffic; and, complaints from the community concerning dust generated from construction activities.

The AQMDCP will cover:

- National laws and regulations and international best practice requirements.
- Air quality baseline and existing environment.
- Location and type of sensitive receptors.
- Criteria and performance standards.
- Management, mitigation, and control measures; and
- Water spraying schedule if required.

Site Decommissioning and Restoration Plan: The Contractor is required to provide a Site Decommissioning and Restoration Plan as part of the CESMP to indicate the timeframes of decommissioning, the process of removing all project equipment and materials, the likely sites which will need restoration and the methods of planned restoration to the 'same or better' standard as before works commenced, considering all requirements of this ESMP. The plan will also clearly describe the roles and responsibilities.

8.2.2 CESMP Preparation

CESMP must ensure that the person taking the action takes full responsibility for the content and commitments contained in the plan. The CESMP must be prepared and implemented by a qualified environmental practitioner with at least 10 years of experience. Field audits of CESMP implementation must be undertaken on at least a monthly basis by the Environmental Representative with associated audit reports certified and submitted to the Engineer.

CESMP Compliance: Identify the internal procedure that the Contractor will follow when a non-compliance has been identified during the daily monitoring. The procedure will include notification responsibilities, rectification timeframe, and reporting obligations. The procedure will also cover the process the Contractor will follow when non-compliances are reported by the Supervision Engineer. The procedure will also identify how the Contractor will action any disciplinary or training requirements following the non-compliance.

CESMP Review and Amendment: The CESMP must be reviewed, updated, and resubmitted to the Engineer for approval in response to an anticipated change of circumstances before any changes are permitted at the work sites. These circumstances include substantial design changes with environmental or social implications, changes to specifically approved plans, new activities not contemplated in the Project ESMP, or additions to the Project's area of influence. No changes will be made to the Project or the project areas until it has either been confirmed by the Supervision Engineer that an update to the CESMP is not needed, or the update has been made and approved by the Supervision Engineer. The CESMP must also be updated

where it is deemed that the mitigation measures are not adequate to mitigate the environmental and social risks.

CESMP Management Sub-Plans: The Contractor must provide all sub-plans required in the ESMP as annexes to the CESMP.

8.3 Institutional Capacity

8.3.1 Project Support Team

The SIG has delegated the delivery and management of SIRAP to the MCA PST which has been resourced with personnel specifically tasked to manage project implementation. As such, the PST carries much of the institutional capacity required by the SIG to implement the project and to monitor the works for compliance. The MCA PST will be resourced with an experienced National Safeguards Specialist who will be responsible for monitoring for compliance with the ESMP, World Bank ESF and Solomon Island legislation. A dedicated Community Liaison Officer (CLO) will be based on the island of Malaita to provide ongoing communication, problem resolution, and project coordination with village communities and tribal chiefs.

8.3.2 Environment and Conservation Department

Review process: the ECD have the technical capacity within their department to review and assess PER submissions for DC, however they are understaffed, and this can delay the review process for submissions. It is advised that prior to the submission of the SIRAP PERs, the SIRAP PST liaise with the ECD to arrange an external reviewer for the review process, funded by the proponent.

Monitoring: Consultations with the ECD have revealed that although the ECD has monitoring responsibilities for development consents they issue, they often lack the financial resources to monitor projects off Guadalcanal. The SIRAP National Safeguard Advisor should liaise with ECD to ensure that the monitoring requirement are integrated with the MCA monitoring to support compliance with the development consents.

Capacity Building: The ADB have undertaken an assessment of the ECD capacity and have developed a list of recommended capacity building needs. The SIRAP PST Safeguards Advisor in consultation with the TFSU Safeguards Specialists and the Director of ECD will identify any of the recommended capacity building actions that SIRAP can address throughout the implementation of the project.

8.3.3 Civil Works

Other parties to this ESMP who have implementation or monitoring responsibilities (Supervision Engineer, Contractor) are required to be resourced with suitably experienced and qualified safeguards specialists.

It is the responsibility of the Contractor and Supervision Engineer to ensure that they allocate budget lines to have the necessary tools and equipment for the mitigation and monitoring measures as stipulated in this ESMP.

A budget is being developed for the proposed training and capacity development activities relating to the prevention of HIV, GBV, Human Trafficking and CAE and will be included in updated versions of this ESMP prior to tender.

8.3.4 Training

The SIRAP PST shall undertake training for key stakeholders and project team members to ensure effective implementation and technical understanding of the ESMP requirements. Key stakeholders will include MCA staff on Munda, Munda Communities Women's group, SIRAP NSS, DEPC representatives on Munda.

Areas recommended for training include the following:

- World Bank's ESF and ESS, in particular, those relevant to the Project.
- Project responsibilities to GBV prevention and training.
- Roles and responsibilities of different key agencies in safeguards implementation.
- How to effectively integrate the ESMP into project management, implementation, monitoring, and reporting.
- Management of the GRM.
- How to facilitate meaningful community consultations.
- Monitoring for ESMP compliance; and
- Safeguard reporting requirements.

SIRAP PST will supply updates and status of training activities in their regular reports.

8.4 Grievance Redress Mechanism

During these proposed works, it is possible that people may have concerns or grievances with the project's performance which may include any aspect of the implementation or an activity or a component of the project. Issues may occur during construction and again during operation. Any concerns will need to be addressed quickly and transparently, and without retribution to the affected person (AP) or group of people involved.

Complaints can be made through different channels, such as the traditional local practices (e.g., village chiefs), online, phone, in-person, the local GBV/Human Trafficking/CAE Service Provider, the manager(s), or the Police. Complaints should be able to be made in different ways such as online, via telephone or mail, or in person. Anonymity should be ensured if the complainant so desires it, especially about GBV/Human Trafficking/CAE.

This GRM has been developed to satisfy both SI legislative and WB GRM requirements as well as being developed in line with the Country Safeguard Systems. If there were a need to use the GRM then the following process is to be used.

Complaints: Minor concerns or complaints that are given verbally to the Contractor or Supervision Engineer on site, the process would commence with an attempt to sort out the problem directly at the subproject level between the Contractor and the concerned individual or community.

Most complaints arise during construction are expected to be minor complaints concerning dust or noise that should be able to be resolved quite easily. All complaints arriving at the Contractors Site Office are to be forwarded to the Contractors community liaison personnel and entered into the complaints register that is maintained by the Contractor and kept at the site. Details recorded will include date, name, contact address and reason for the complaint. A duplicate copy is given to the AP for their record at the time of registering the complaint. The register will show when the issue is to be dealt with and who has been directed to deal with the complaint, the date that the AP was informed of the decision and how the

decision was conveyed to the AP. The register is then signed off the person who is responsible for the decision and dated.

If immediate resolution is achieved and the complainant is satisfied, the matter will be recorded in the site diary and reported in the regular monthly report submitted and considered closed.

Grievances: If the issue cannot be resolved at the complaint level then it will be considered to be a grievance and will be addressed by being referred by the Contractor or Supervision Engineer toward the National Safeguards Advisor within the SIRAP PST. The NSA will log it into the 'Grievance and Complaints Logging System' (GCLS) database for tracking and reporting on resolution. In accordance with the World Bank's 'Citizen Engagement' commitments under IDA 17, key indicators from the GRM are published online at the SIRAP project website.

All complaints must be acknowledged within 24hrs. The following procedure is followed to address complaints:

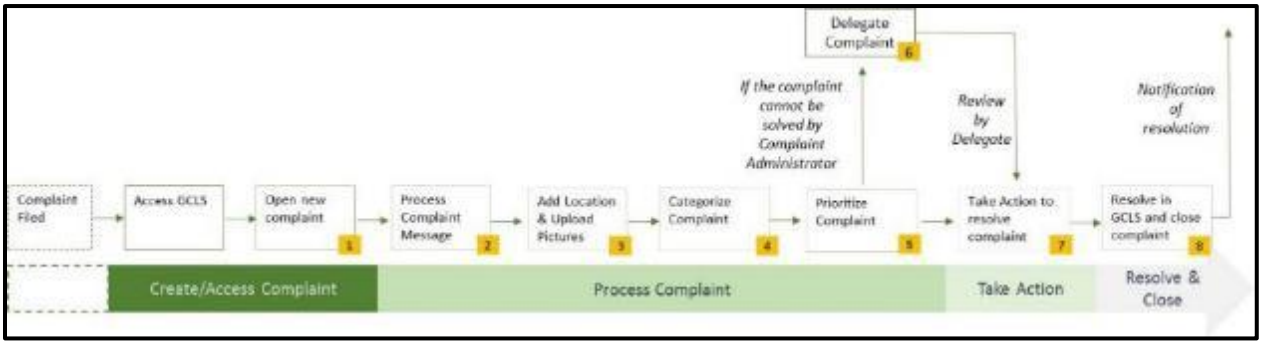


Figure 19: Grievance redress mechanism

If it is impossible to resolve the complaint, or the complainant is not satisfied with the resolution, the case may be first escalated to Permanent Secretary (PS) of MCA who will appoint a third party arbitrator to form part of a GRM committee. If the AP is dissatisfied with the recommendation of the GRM Committee and subsequent determination from the PS of the MCA, the AP may appeal to court. This will be at the AP's cost but if the court shows that the PS has been negligent in making their determination the AP will be able to seek costs.

GCT: The SIRAP Code of Conduct and Action Plan for the Prevention of GBV, Human Trafficking and CAE detail the specific GRM processes and responsibilities. The project shall establish a 'GBV Compliance Team' (GCT). The GCT will include, as appropriate to the project, at least four representatives as follows: the SIRAP PST National Safeguards Specialist, an appropriate Contractors representative, the Supervision Engineer and, a representative from the GBV/Human Trafficking/CAE service provider.

WB Level Resolution: In addition to the above project level GRM, communities and individuals who believe that they are adversely affected by a WB supported project may submit complaints to the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns.

Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns

have been brought directly to the WB's attention, and WB Management has been given an opportunity to respond.

For information on how to submit complaints to the World Bank's corporate GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

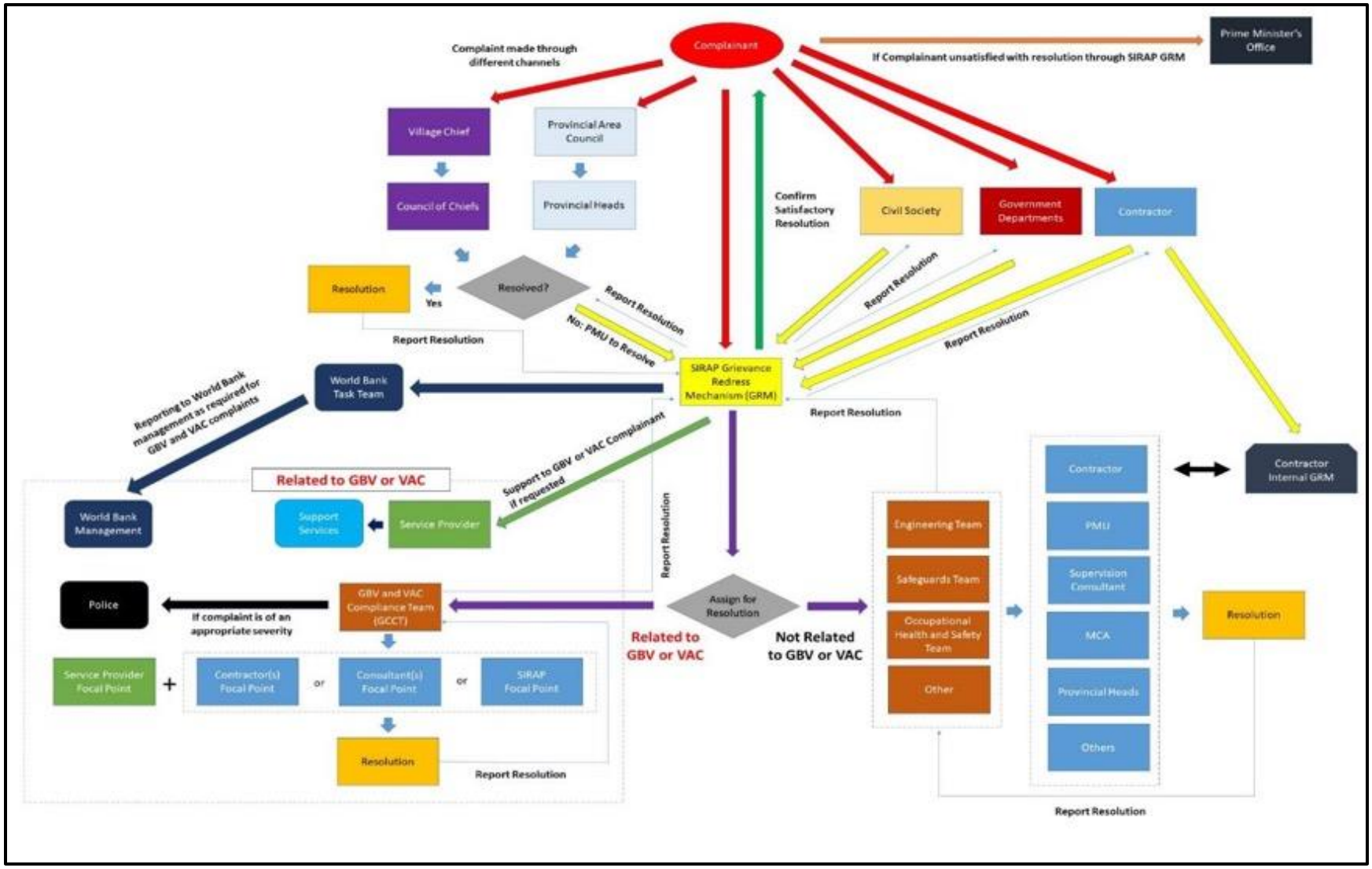


Figure 20: Flow chart for grievance management under SIRAP

9 Compliance and Monitoring Plan

9.1 Monitoring Plan

The ESMP identifies the environmental and social monitoring requirements to ensure that all the mitigation measures identified in this ESMP are implemented effectively. Environmental and social monitoring methodology (refer Appendix C) for this project includes:

- Audit of detailed designs.
- Audit and approval of site environmental planning documents.
- Consultations with communities and other stakeholders as required.
- Routine site inspection of construction works to confirm or otherwise the implementation and effectiveness of required environmental mitigation measures (refer to inspection checklist in Appendix D).

Non-compliance to environmental mitigation measures identified in the ESMP will be advised to the Contractor(s) in writing by the Supervision Engineer in the first instance. The non-compliance notification will identify the problem, including the actions the Contractor needs to take and a time frame for implementing the corrective action. Recurring instances of non-compliance will be referred to SIRAP PST for follow up action.

9.2 Monitoring Plan Reporting

Throughout the construction period, the Supervision Engineer will include results of their weekly ESMP monitoring, along with the details of any incidents report by the Contractor, in a monthly report for submission to the SIRAP PST who is responsible for submitting these monthly progress reports to the World Bank. The format of the monthly report shall be agreed with all agencies but is recommended to include the following aspects:

- Description and results of environmental monitoring activities undertaken during the month.
- Status of implementation of relevant environmental mitigation measures pertaining to the works.
- Key environmental problems encountered, and actions taken to rectify problems.
- Summary of non-compliance notifications issued to the Contractor during the month, actions taken, and non-compliances closed out.
- Summary of complaints received, actions taken, and complaints closed out.
- Key environmental and social issues to be addressed in the coming month.
- Training records.
- Health and Safety Indicators.
- Summary of consultation / stakeholder engagement undertaken.
- Copies of environmental inspection reports.
- Summary of reported incidents, actions taken and recommendations for follow up; and

- Before project implementation photos, midway of project implementation photos, and completion photos of works.

A day-to-day contract diary is to be maintained pertaining to administration of the contract, request forms and orders given to the Contractors, and any other information which may at a later date be of assistance in resolving queries which may arise concerning execution of works. This day-to-day contract diary is to include any environmental events that may arise in the course of the day, including incidents and response, complaints and inspections completed.

There are monitoring requirements associated with this ESMP that are applicable once SIRAP has concluded, and normal airport operations have resumed. At this stage, there is no vehicle for continuing with safeguard monitoring during operations and it is recommended that this be incorporated into existing or new SIRAP processes. This ESMP should be updated to reflect the SIRAP environmental and social monitoring and reporting processes before the completion of the project.

SIRAP PST are responsible for quarterly progress reports to the WB. This quarterly progress report will include a section on safeguard compliance and issues. This section will cover (as a minimum):

- The overall compliance with implementation of the ESMP.
- Any environmental issues arising as a result of project works and how these issues will be remedied or mitigated.
- OHS performance.
- Community consultation updates.
- Public notification and communications.
- Schedule for completion of project works; and
- Summary of any complaints received, actions taken, and complaints closed out.

10 Contingency Planning

The SIRAP2 Project Manager is the contact person for emergency situations that may arise during the implementation of the SIRAP works at Munda. The SIRAP PM will be available 24 hours a day, seven days a week, and has delegated authority to stop or direct works. In the event of an environmental emergency, the procedures outlined below are recommended for SIRAP to consider for implementation.

As part of their CESMP, the Contractors are required to prepare a Contingency Plan encompassing tsunami, earthquake, cyclone, and storm events. The purpose of the plan is to ensure all staff are fully aware of their responsibilities in respect to human safety and environmental risk reduction. Procedures should clearly delineate the roles and responsibilities of staff; define the functions to be performed by them, the process to be followed in the performance of these functions including tools and equipment to be kept in readiness, and an emergency medical plan. All the Contractor's staff should undergo training/induction to the plan.

While it is preferable to undertake construction works outside of the wet season, it is probable that storm and heavy rain events will occur while works are underway.

The Contractors are responsible for monitoring weather forecasts, inspecting all erosion and sediment control measures and undertaking any remedial works required prior to the forecast rain or storm event.

In general, the Contractors will:

- Inspect daily weather patterns to anticipate periods of risk and be prepared to undertake remedial works on erosion and sediment control measures to suit the climatic conditions.
- Monitor the effectiveness of such measures after storms and incorporate improvements where possible in accordance with best management practice.
- Ensure appropriate resources are available to deal with the installation of additional controls as and when needed.
- Inform Supervision Engineer if there are any concerns associated with the measures in place.

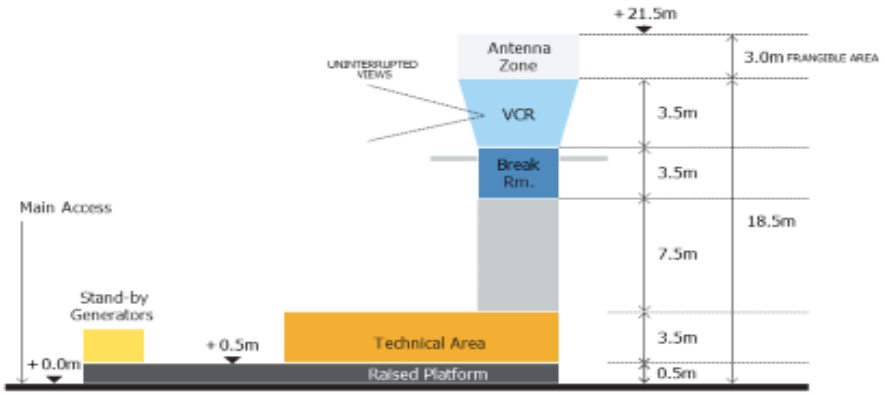
Appendix A: Munda ATCT Location


CONCEPT DESIGN
ATCT (Air Traffic Control Tower)
Site Plan - Munda ATCT
Key Plan
± 15 m
± 30 m
ATCT (Air Traffic Control Tower)
Perimeter Fence
N
0
5m
10m
20m
IO Design | SIRAP2 - Solomon Island ATC and Aviation Complex
Airport Runway

PROJECT BRIEF

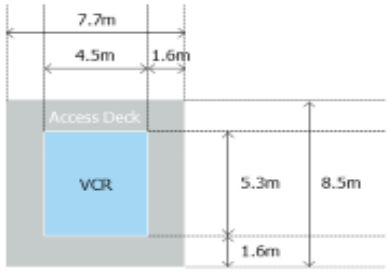
Brief & Scale - Air Traffic Control Tower

Honiara



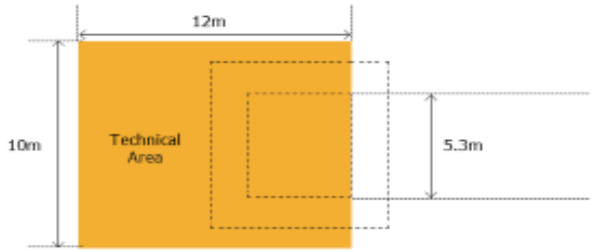
AIR TRAFFIC CONTROL TOWER STACKING DIAGRAM

Allowable Building Height: 18.5m



TYPICAL FLOOR SIZING
(Per Tuvalu predecent)

VCR Floor Area: 23.85 sqm
Access Deck Width: 1.6m



TECHNICAL FLOOR SIZING
(Per Tuvalu predecent)

Technical Area Floor Area: 120 sqm

IO Design | SIRAP2 - Solomon Island ATCT Honiara Airport

Appendix B: Mitigation Tables

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
DETAILED DESIGN/ PRE-CONSTRUCTION MOBILISATION STAGE					
Road traffic safety	Road safety audit conducted before the design process commences to inform designers, and then of the design prior to tendering. The bid documents will require a Traffic Management Plan (TMP) to be developed by Contractor. For each haul route, the TMP will need to include measure to address: Layout plans; Vehicle traffic; Pedestrian traffic; Commercial marine traffic; Sensitive receptors (management near and consultation with) such as schools, residential dwellings, markets, churches, etc.); Management of increased heavy load traffic associated with transportation from the port. The TMP should follow the guidelines set in the Safe Traffic Controls for Road Works Field Guide (w*ww.works.gov.pg/files/roads-bridges/IF003_PNGFieldGuide.pdf*) and adapted for the MUA works. The TMP will be included as an annex to the CESMP. This TMP shall detail both airside and landside traffic routes proposed and airfield access points. It shall provide estimates of Traffic Frequency, during the project, and provide mitigation strategies for noise, dust and take into account airside operational procedures. The TMP shall include the name, address, and telephone number of the person responsible for the safekeeping of the works, or any change thereto, shall also be notified. TMP shall include details of key routes, site entry and exit layout, use of signage and flag operators (including night-time safety), and personnel protective equipment to be worn by workers (e.g. high visibility vests). The TMP should consider that the transport of material or equipment may likely impact normal pedestrian and vehicle traffic or pose an increased safety hazard, consideration should be given to moving these items during off peak times. The TMP will also detail specific safety and traffic management measures required around sensitive receptors. These measures should be developed in consultation with individual	From port to airport (delivery of equipment/ materials) To and from the construction lay down area All haulage routes and along with project affected areas	Minimal (requirement of bidding documents)	Contractor	SIRAP2 PST MID

[35] Costs are estimates only and will be calculated during the detailed engineering design.

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	landowners and property managers (e.g. school principals, hospital management, and church leaders) as required. Mitigation measures may include restricted construction times (e.g. time of day and or scheduling for school holidays) outside schools or the hospital, reduced speeds and use of cones or barriers to guide traffic and pedestrians through the worksite. As there is only one road with few feeders and alternative routes, staging and methodology will need to consider access to property along the road. These details will need to be clearly detailed in the TMP. The Method of Works Plan (MoWP) will detail the specific safety and security requirements for the airport operations, including safe operating distances and responsibility of key project roles.				
Health and Safety	The Contractor shall: • Prepare OHS Management Plan as part of CESMP; • Conduct Induction training for Contractor personnel; • Sign Code of Conduct (if instructed) for Contractor, Managers and other personnel; and • Implement relevant pre-construction measures prescribed in the OHS Plan. The OHS Management Plan shall comply with all requirements of Section 7.11 of this ESMP and with the SIRAP Labour Management Procedure. The Contractor provide a report to the Engineer monthly outlining compliance, achievements and training including a number of lost time incidents; the number of near-miss reports; first aid training; completed HIV/AIDS and GBV training; and OHSS training courses completed by staff. OHS Plan will include Covid-19 infection prevention measures as well as procedures for responding to instances of infection within the workforce. These will be in line with the latest guidance from WHO and SIG regulations.	All locations	Minimal (requirement of bidding documents and standard construction practices)	Contractor	SIRAP2 PST
Approvals	• Prepare and submit the Development Consent Application with relevant supporting documentation (EIA, ESMP, Consultation Report); • Prepare and submit Application for material sources (including quarry, gravel pits, sand sources etc.) – Quarry Development and Operations, Gravel Extraction, Earthworks;	All locations	Minimal	Design Consultants (all contracts)	SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Prepare and submit Contractor ESMP.				
Gender Based Violence (GBV) and Violence Against Children (VAC)	• Establish a GBV and VAC Compliance Team. Refer to Appendix F for guidance; • Prepare GBV and VAC Plans and seek Bank approval prior to project mobilization. Refer to Appendix F; • Sign Codes of Conduct (if instructed) for Contractor, Managers and other personnel. Refer to Appendix F for draft Codes of Conduct	All locations	Minimal	Design Consultants (all contracts) Contractor	SIRAP2 PST
Consultations	• Develop a consultation and communication plan which implements the Contractor responsibilities in the SRIAP 2 Stakeholder Engagement Plan • Implement required pre-construction consultation in accordance with the approved CESMP Consultation and Communication Plan.	All locations	Minimal	Design Consultants (all contracts) Contractor	SIRAP2 PST
Loss of Access to Assets and Land	• Rights to extract aggregates from quarries will be established following negotiations with the resource owner and permit conditions. • The contractor is not allowed to use any other route access apart from the existing main route while transporting the materials for construction. • During construction, the contractor will only be doing works within the designated construction site (within the fenced off area). • If the contractor needs more land for temporary access apart from the proposed areas identified in this ESMP, the contractor will negotiate and sign agreement with the rightful owner.	Munda	Minimal	Contractor SIRAP PST NSS	SIRAP2 PST
Laydown and Stockpile Sites	• Short term rental of land for lay down or stockpile sites will follow the process in Section 7.7; • Sites must be located at least 300m from nearest residences and 150m from waterways; • Sites must not be located inside any declared Conservation Areas; • All sites must be securely fenced to prevent unauthorised access. Additional fencing may be required around specific stores (e.g. hazardous substances) to prevent access by unauthorised personnel; • Secure, well-constructed areas within the compound must be clearly marked for solid waste collection, machinery maintenance, hazardous substance storage and toilet facilities for workers; • The laydown site(s) will include hardstand areas which have protection from wind and (where appropriate) rain, bunding (hazardous substances), clean water diversion drains, and allow for	Munda	Part of the Contract Costs	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	complete containment, collection and treatment of wastewater from asphalt and concrete production and machinery maintenance; and • The ground of the construction laydown area will likely be compacted by the end of its use, and so restoration will require scarification of the soil, application of topsoil and re-vegetation.				
Management of Workers	• The contractor will be required to produce a Workers Management Plan (WoMP), and Influx Labour Management Plan for the Munda Airport works to describe recruitment strategy, worker accommodations, accommodation facilities and management of off duty workers. Workers Management Plan will follow the requirements of this ESMP, the SIRAP2 LMP and the IFC Workers Accommodation Standards and Guidelines. Workers Management Plan will be required as part of the bid submission and will be further developed and included as an Annex in the CESMP for clearance by the Supervision Engineer. • The WoMP will include cultural protocols (including appropriate clothing and no work on a Sunday or Saturday for LDS Church members), management and restricting of visitors to the camp, visitor curfews, expected behaviours (noise, alcohol, within community areas), gift giving and receiving, disciplinary actions, etc.) • SIRAP has a Code of Conduct and Action Plan for the Prevention of GBV, HT and SEA (Appendix F). All Project workers will be required to undertake GBV and SAE prevention training under this action plan and sign the associated Code of Conduct prior to commencement of works. The SIRAP PST will provide the Contractor with details of approved service providers who are able to undertake this training. From the provided list, the Contractor shall enter into an agreement with one service provider to undertake the GBV IEC campaign. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. The contractor shall make staff available for a total of at least 0.5 days per month for formal training, including GBV. • All workers are required to undertake training on the prevention of HIV/AIDS in addition to the GBV related training. The SIRAP PST will provide the Contractor with details of approved service providers who are able to undertake this training. The cost of the campaign	Munda	Post standard contract costs	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. • The Contractor is required to maximise the number of local workers from the Munda communities. The Western Provincial Government will endeavour to provide a list of local workers and skills for the contractor, prior to mobilizing. Preference should be given to a local recruitment process, only relying on workers from other islands or from overseas for vacancies which cannot be filled locally. • As part of the WoMP, the Contractor will be required to submit a list of roles along with required qualifications or experience and the planned recruitment strategy for that role (i.e. local or regional/overseas). The Contractor will be required to provide justification for any roles not filled locally. Work permits will only be granted for workers with skills unavailable in the SI. Should international workers be found to be performing jobs that can be done by locals (e.g. driving vehicles), the Supervision Engineer will notify the contractor and the SIG who will cancel the work permits. The contractor will be required to return them home within 48h of notification by the Supervision Engineer. • For recruitment of SI nationals which cannot be fulfilled by the local community, it is preferred that it is undertaken through a formal recruitment process which ensures that only people who are already employed are travelling to the project site. Ad hoc employment of casual labour is not permitted. • Any project staff who are recruited from overseas are subject to visa approval. As part of the visa application process, all workers are required to submit a medical report, an element of which is a HIV test. All overseas workers must complete this test and submit their medical report to the immigration department before appropriate visas can be issued. As part of the visa application process, all overseas workers will also be required to provide a police background check from their home country. It is also a contractual requirement for all overseas SIRAP project works to provide SIRAP PST with police background clearances prior to arrival in- country, regardless of the visa application process. • In addition to the Codes of Conduct for GBV/Human Trafficking/SAE, the Contractor will also prepare a Code of Conduct to describe the expected behaviours of their project worker in relation to the local communities and their social sensitivities.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	• The Contractor will provide workers with a grievance redress mechanism as per the requirements in the LMP				
Aviation traffic safety	Each investment within an operational airport is to have a Methods of Works Plan (MOWP) which is to be included in all bid and contract documents. The Contractors are to develop a Safety Management Plan as an addendum to the MOWP. The MOWP will include details of site works scheduling around known flight timetables and procedures for emergency response for all workers.	Operational airports	Minimal (requirement of bidding documents and standard construction practices)	Design Consultants (all contracts)	SIRAP2 PST
Soil erosion	All erosion and sediment controls will be Contractor's responsibility to maintain in effective working order, including reconfiguring drainage lines as required during the construction process to ensure dirty water is directed into sediment controls at all times. Reuse of the water collected in sediment ponds or basins for dust suppression and roadworks is preferred over release into the environment. Where water is being stored for dust suppression, the required design capacity of the basins shall be available. Sediment basins and other sediment controls shall be operated and maintained in a manner that minimises the risk of environmental harm. The design capacity of the upper settling volume shall be made available within 120 hours of the most recent rainfall event which causes runoff. The sediment storage zone shall be maintained at all times with the accumulated sediment removed in a manner that does not allow the sediment to be conveyed into a watercourse or offsite. Where coagulants or flocculants are used to treat stormwater, they must not cause harm to the receiving waters or environment. Before the natural surface is disturbed on a section of the works, the Contractor shall submit an Erosion and Sediment Control Plan (ESCP). Excavations should be kept to a manageable size to reduce the time of exposure. Any stockpiles will need to be on an impermeable geotextile or hardstand and runoff directed to permeable land. Stockpiles of any fine grain materials (e.g. sand and topsoil) must be covered to prevent dust and sediment laden runoff during rain events. Discharges from any activity at this location are prohibited from discharging directly to the marine and coastal environment. Clean runoff should be diverted inland for percolation to underlying groundwater, and	All locations	Minimal (part of standard design practices)	Design Consultants Contractor	SIRAP2 PST SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	potentially contaminated runoff should be collected and treated. Treatment will be dependent on the type of potential contamination (e.g. oil water separator for runoff contaminated with hydrocarbons or settling pond or tank for sediment laden runoff). The works shall: • Minimize erosion and design erosion protection measures according to international good practice standards, including incorporation of effective drainage systems (soakage pits) and consideration of surface flow paths. • Develop Contingency Plan for works to allow for anticipated construction start date during the wet season. Contingency Plan must detail soil erosion prevention measures in event of storm or heavy rain event.				
Dust / Odours / Air Pollution	Establish baseline air quality near construction sites and identified sensitive receptors. Identify and locate waste disposal sites, stockpile sites and equipment (at least 300m away from any residential settlements, water bodies, streams or rivers, to minimize impacts on the environment and nearby population. The CESMP should include a provision for quarry dust control; all equipment including crushers, aggregate processors, generators etc. should / if possible, be located in the quarry pit to minimize dust emissions. Ensure all equipment is serviced and issued with warrant of fitness (as required). Any machinery deemed to be polluting the air must be replaced (or fixed) on instruction by the Supervision Engineer and/or the ECD. During transportation, the trucks need to have covers to minimize dust and dust suppression techniques will be implemented, such as applying water to minimize dust from vehicles movements. Within the asphalt plant, the dust/odors can be minimized through using water sprinklers in the crusher plant.	All components	Minimal (part of standard design practices)	Contractor	Supervision Engineer / SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
Water and soil pollution	Soakage pits should not be installed directly into a shallow aquifer. Oil water separators should be included to treat runoff from the apron and maintenance hangers. Minimize risk to groundwater and surrounding soil by developing a spill response plan and provide training to all contract workers on how to implement the spill response plan. Precautions should be in place to prevent wastewater and hazardous substances or materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), The spill response plan should include factors associated with both the construction and operational phases and should be available at all SIRAP locations. No stockpiles within 100m of any surface water bodies. Ensure bunded areas and hard stands are allocated at construction lay down area for the storage of fuel, lubricants and other potential substances required for the project. Watertight bunds to be able to contain 110% of volumes being stored or 25% if total volume greater than 1,000 L. All machinery well maintained and in good working order Ensure wash down areas with respective collection and treatment systems are designated within the construction camp (e.g. settling pond or tank and concrete slurry treatment) prior to works commencing. Contractor to undertaken groundwater monitoring prior to any site establishment or construction activities at bores within 100 m of MUA (to be coordinated with SIWA and bore owner) to determine base line conditions. Measure depth to groundwater and analyse samples for concentrations of pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with SWA. Any asphalt plant will be located at least 150m from any body of water.	All components	Minimal (part of standard design and construction practices)	Contractor	SIRAP2 PST Supervision Engineer SIWA

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Sanitation treatment system (e.g. removal of waste to landfill, compost or proprietary treatment system) is approved by the Supervision Engineer prior to implementation. It is Contractors responsibility for relevant Water Permits (River Waters Act) are in place. No run off from laydown sites, construction works or other project activities will enter any waterway. Monitoring of nearby groundwater for parameter including pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP NSS. Contractor to do quarterly monitoring and SE to do before, mid and end of project.				
Water supply	Contractors should include maximum rainwater reclamation and water conservation/ efficiency in all components. The Contractors will need to ensure adequate supply of water for construction and personnel which does not adversely affect local community's water supply.	All components	Minimal (part of standard design practices)	Contractor	Supervision Engineer & SIWA and MCA
Sourcing aggregate material	Ensure locally sourced aggregate is sourced from approved/ permitted quarry sources and are operating in accordance with SIG law and outside of the known Giant African Snail infestation areas. Prior to any quarries being selected for the SIRAP project, public consultation will be completed with any affected parties relating to new or re-opened quarry sites. No brand-new quarries will be established for the SIRAP MUA works. If the Contractor applies for their own Building Materials License to re-open former permitted quarries, they will be required to follow national consenting requirements and to produce a Quarry Management Plan as per the requirements of this ESMP and included as an annex in the CESMP for clearance. The Contractor will apply for their own permit. For any imported aggregates, source location must be currently permitted operating in accordance with the host country legislation and	All components	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer & ECD /MNRE

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	international good practice. Supervision Engineer to approve source quarries. Any stockpile sites located on Guadalcanal for imported and local aggregates will be decontaminated and a biosecurity perimeter will be maintained in conjunction with the SIG Biosecurity department, following the system developed by MID for their road aggregate stockpile site. It will be the Contractors responsibility to monitor for inspections for GAS for aggregate transportation from Honiara to Munda. The aggregate and any other fill type material will need to be completely inert and free of contaminants and Giant African Snails (GAS).				
Giant African Snail	All machinery and equipment transported to Munda from Guadalcanal will undergo quarantine inspection at Noro Quarantine Station (especially for giant African snails) and will be thoroughly cleaned and disinfected to avoid translocation of Giant African Snail into Munda. When the aggregates are cleared out of quarantine (by MAL biosecurity) and transported to MUA, control measures (physical and biological controls) should be put in place for the management of GAS. Creating awareness about the various negative impacts of the snail. Capacity development in GAS management – staff training workshop needs to be conducted on GAS identification. The physical control measures should be undertaken by: • Collection and killing of snails by burning or dipping them in seawater (this can be encouraged by villagers and the general public); • Physical removal of snails, baiting (using molluscicides such as "Blitzem" metaldehyde baits), and monitoring activities; and • Clearing rubbish heaps and weeds surrounding gardens, buildings, and other possible areas where snail breeds. The contractor will be required to present specific management plans for the sea and land transportation of these materials from the origin to the	All components	Minimal (part of standard design and construction practices)	Contractor and MAL – exact roles to be determined in management plan	Supervision Engineer, MAL & ECD /MNRE

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	project site, especially the landing facility. These plans will be approved by the Supervision Engineer. The roles and responsibilities of GAS prevention, management and monitoring will be clearly stated in the plan following consultation between Contractor, MAL and Supervision Engineer.				
Solid waste generation	Solid Waste Management Plan to be completed following requirements of ESMP (based on the content of this ESMF). SWMP will be included as an appendix to the CESMP for clearance by the Supervision Engineer. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. Solid waste includes: • General waste (i.e. office type waste, household waste (from any workers camps), lightweight packaging materials). • Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled). • Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste). • Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled). • Hazardous waste (i.e. asbestos, waste oil etc.) No bulky construction waste will be disposed of on Noro and will instead be exported to a permitted landfill site which can accommodate the project waste. • General waste (including only small quantities of lightweight packaging waste) can be disposed of at the Munda Town Dumpsite, subject to Munda Town Council's approval. In addition to this and with the approval of the Supervision Engineer: • Organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities.	All locations	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer SIRAP2 PST MCA

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Recyclable waste may be supplied to a local receiver licensed to process such waste. The SWMP shall describe solid waste streams generated by the works and detail the approved disposal methods along with permissions. At all times, the Contractor is responsible for solid waste generated by the Works in accordance with *Solomon Islands Waste Management and Pollution Control Strategy 2017–2026*. The Contractor will develop a Solid Waste Management Plan (SWMP) following the guidelines provided in Appendix E of the CESMP. The SWMP is to be submitted as part of the CESMP for clearance by the WB. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. The SWMP should, as a minimum make provisions for the following: • Describe the solid waste streams generated by the works along with estimated quantities. • Develop a plan for safe storage and handling of waste stored on the project site as per the stipulations in this ESMP. • Identify approved service providers for collection and disposal of waste and stipulate conditions of carriage either at Noro or in Honiara. • Detail the approved disposal methods along with appropriate permissions. • Contractor shall determine an ECD approved site for the disposal of organic biodegradable waste in a suitable facility which is equipped to safely handle this type of waste. • Recyclable waste may be supplied to a local receiver licensed to process such waste. • Contractor to identify shipping route and licensed disposal facilities for all exported waste. • Contractor to identify any export permits or conditions for export of waste.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Identify those persons responsible for implementing and monitoring the SWMP. All other waste is to be disposed of OFFSHORE in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location. The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries. Disused material may be generated in the form of surplus aggregates or surplus materials from excavations. For any clean fill material generated, it either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and basecourse material) for general by MCA, MID and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the MCA to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer. These materials shall be removed from the site area and safely disposed of in compliance with any local requirements at the Employer's nominated disposal site(s) and/or disposed of at the Contractor's quarry site(s), before the start of the defects liability period. Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defect's liability period shall be removed from the site and the country.				
Hazardous substances	Where possible fuel shall be obtained from local commercially available sources. Prior arrangement regarding quantity and type will need to be organized by the contractor. All fuel to be stored in self-bunded containers	All locations	Minimal (part of mobilization and construction planning)	Contractors	Supervision Engineer SIRAP PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	In all SIRAP MUA project locations, fuel should only be stored in self-bunded containers within designated areas that are designed to store and facilitate operations associated with it (e.g. re-fueling). Identify a suitable area for hardstand and bunded storage areas. These areas will be at least 150m inland from any Community Conservation Area (CCA) and 100m away from any waterway or the coast. Spill Response Plan to be developed by Contractor. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This spill response plan should be applicable to all SIRAP project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase. Hazardous liquids (e.g. fuel and lubricants) must be managed within hardstand and bunded areas to prevent runoff to surrounding permeable ground. Bunded areas (secondary containment) must contain the larger of 110 percent of the largest tank or 25 percent of the combined volumes in areas with a total storage volume equal to or greater than 1,000 litres. Bunded areas are to be impervious (watertight), constructed from chemically resistant material, and be sheltered from the rain as rainwater allowed to collect within the bund could be contaminated if there is any hazardous substance residue on storage containers or spilt product within the bund. A spill response plan must be in place, and all workers trained in the correct implementation of the spill response plan. Spill kits should be available in close proximity to where hazardous substances are used and stored, e.g. on the work truck or beside the fuel store. Identify suitable area for hardstand and bunded storage areas as per section 7.6. Any empty asphalt or bitumen drums will be removed offshore and either returned to supplier or disposed of in a legally approved facility outside Solomon Islands.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries.				
Importation of equipment and materials	The Contractor is to arrange for their vehicles and machinery to be thoroughly cleaned of all contamination prior to shipping (e.g. soil, rocks, plant material, seeds, etc). Items shipped inside containers must also have the inside of the container thoroughly cleaned of all previous cargo residues, including dunnage. Obtain import permits and quarantine certification prior to export from country of origin. Certificate of fumigation and verification of source (or proof that material is free of contamination) to be submitted to Quarantine Inspectors and approved by the Supervision Engineer prior to delivery to site. All machinery and equipment transported to Munda from Guadalcanal will be thoroughly cleaned and disinfected to avoid translocation of Giant African Snail into Munda. Any imported aggregates being trans-shipped through Honiara will need to be held in a secure site to act as a 'quarantine holding area' which will be identified by the contractor and will be included in the CESMP. Any locally supplied aggregates from Munda/Honiara for this project will need to be sourced from an area which is known to be free of GAS.	All components	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer
Community grievances	Ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public are fully aware of the SIRAP works. Consultation should include all aspects of the project including the airport site, quarries and transport routes. Consultation should include all aspects of the project including the airport site, quarries and transport routes. Consultation shall include raising awareness of the project GRM, how to complain and how complaints will be managed. In all instances, consultations will be designed to ensure free, prior and informed consent of the affected communities with the aim to maintain the broad community support for the project which has been demonstrated to date.	All components	Minimal (part of mobilisation and construction planning)	Contractor Supervision Engineer	SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Advertise, maintain and operate a grievance response mechanism, including publishing statistics on resolutions.				
Local business grievances	Ensure that local businesses and are included in the public consultation and disclosure communication process. Regular communication should be made with affected parties to ensure that they are fully aware of the proposed program of works and how to complain and how complaints will be managed.	MUA locality	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer SIRAP2 PST
CONSTRUCTION STAGE					
Traffic (vehicle and pedestrian) and construction safety	Implement the traffic management plan (TMP) to ensure smooth traffic flow and safety for workers, passing vehicles and pedestrian traffic. Where appropriate, employ flag operators on the road to prevent traffic accidents. The workers shall have relevant safety equipment and training. The TMP should prohibit the use of engine breaking close to and through communities and inhabited areas, it should also regulate the working hours for the haul trucks. Special care must be taken when construction works reach the schools and hospital. Coordination with school and hospital representatives must occur for safe passage of students and parents, and hospital visitors/ patients through a construction area. May include restricted work hours, reduced speeds and detours.	Route from quarries and port to airport and laydown areas	Safety equipment included in construction cost	Contractor	Supervision Engineer
Site Safety	Restrict access to the construction zone through warning signs, temporary gates, fencing or other construction zone demarcation at all entry points, including the pedestrian side gates on the southern and the northern boundaries. Demarcate all excavations of 2.0m depth or greater and side slopes in excess of 2:1 (horizontal to vertical) through construction fence, rope or other means that clearly defines the hazard. Maintain and demarcate a 5.0m setback from the top of the bank using signs, construction flags, or other visual warning to prevent machinery, vehicles and people from accidentally falling into the river channel. Ensure use of PPE and consider providing for on-site storage of workers allocated PPE.	All components	Included as the provisional sum in the bill of quantity	Contractor	Supervision Engineer SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Ensure workers working at heights are provided with fall protection equipment.				
Soil erosion	Implement the approved Sediment and Erosion Control Plan. All erosion and sediment controls will be Contractor's responsibility to maintain in effective working order, including reconfiguring drainage lines as required during the construction process to ensure dirty water is directed into sediment controls at all times. Reuse of the water collected in sediment ponds or basins for dust suppression and roadworks is preferred over release into the environment. Where water is being stored for dust suppression, the required design capacity of the basins shall be available. Sediment basins and other sediment controls shall be operated and maintained in a manner that minimizes the risk of environmental harm. The design capacity of the upper settling volume shall be made available within 120 hours of the most recent rainfall event which causes runoff. The sediment storage zone shall be maintained at all times with the accumulated sediment removed in a manner that does not allow the sediment to be conveyed into a watercourse or offsite. Where coagulants or flocculants are used to treat stormwater, they must not cause harm to the receiving waters or environment. Excavations should be kept to a manageable size to reduce the time of exposure. Any stockpiles will need to be on an impermeable geotextile or hardstand and runoff directed to permeable land. Stockpiles of any fine grain materials (e.g. sand and topsoil) must be covered to prevent dust and sediment laden runoff during rain events. Discharges from any activity at any location are prohibited from discharging directly to the marine and coastal environment. Clean runoff should be diverted inland for percolation to underlying groundwater, and potentially contaminated runoff should be collected and treated. Treatment will be dependent on the type of potential contamination (e.g., oil water separator for runoff contaminated with hydrocarbons or settling pond or tank for sediment laden runoff).	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	The Contractor shall maintain all erosion and sediment controls in effective working order using the ESCP including: • Minimise time and size of ground disturbing activities to workable size at any one time. Ensure sediment traps are in place prior to works commencing. Vegetation to be removed manually, strictly no use of herbicides/ pesticides. • Division bunding or other similar methods to be used for large areas of vegetation clearance and around excavations. • Keep construction vehicles on defined tracks. • Re-vegetate disturbed areas that are not being paved as soon as practicable (loosen ground; apply topsoil; seed or plant as necessary). • No land disturbance should occur directly adjacent or in the receiving marine environment which is located approximately 100 m north of MUA. • All earthworks must be undertaken with the intent to reduce/prevent soil erosion of any exposed surface and be constructed according to a phasing plan which requires re-vegetation before moving on to the next stage. • Minimize the number of stockpiles, area, and time stockpiles are exposed, place all minimum 30 m from areas prone to flooding, and construct a swale (minimum 450 x 450 mm) between stockpiles and adjacent properties to retain sediment in the construction zone. • Slopes greater than 2:1 (stockpiles, excavation pits, temporary cut/fill, and final landscape form) must be fitted with appropriate erosion control measures as soon as possible. • All earthworks to be undertaken during the dry season or when the weather conditions are favorable. • Install silt traps in all temporary and permanent drains where work is occurring in or within 30 meters of such drain. • All run-off from the project shall be collected and diverted to facilities for removal of sediments, i.e., silt ponds. • Runoff from the project area shall not be discharged into adjacent water bodies, including the sea without effective means to prevent sedimentation.				
Natural Disasters Cyclones Earthquakes Landslips	If a cyclone is expected to strike within 24 hours, construction must cease, any loose boulders, construction materials secured or removed from the	All locations	Minimal (part of standard	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	river channel, all stockpiles of loose aggregate or soil, and any potential contaminant must be covered and or removed, and any temporary fencing or safety equipment likely to be in the flooding zone of the river must be removed. Compact and protect all stockpiles and excavation pits throughout the construction period. Stabilize any steep slope (greater than 2:1 horizontal to vertical) with erosion control measures.		construction practice)		
Vegetation Clearance	For any vegetation clearance: • The Contractor will limit any areas to be cleared to the minimum workable area. • Any significant vegetation (crop trees, important shade trees, boundary marker species, etc.) will be identified prior to any clearance, and appropriate compensation or avoidance measures will be secured (consultations facilitated by the National Safeguards Specialists and CLO) prior to the establishment of laydown and storage sites. • 100m buffer zone established around water courses and coastline. • Contractor's machinery operators to understand boundaries and boundaries to be clearly marked. • Cleared vegetative material to be disposed of to the communities for fuel wood. • All topsoil (minimum 150mm depth) must be stripped and stockpiled and re-applied to revegetated areas. • Final grading must re-construct the original landscape shape and grade at edges of the construction zone. • Trees and vegetation stockpiled for decomposition must be in appropriate locations that will not disrupt drainage patterns of the surrounding landscape, and or removed and disposed of at an approved site. • Where logs and firewood are desired by villagers, contractors must remove branches and assist villages in transporting logs to appropriate locations.	Laydown and storage sites Culvert Upgrade/extension areas	Minimal (part of standard construction practice)	Contractor	Supervision Engineer and National Safeguard Specialist
Waste disposal	Implement approved SWMP. No bulky construction waste is to be disposed of on Noro. The Munda Town Dumpsite operated by Munda Town.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	General waste (including only small quantities of lightweight packaging waste) can be disposed of on Noro, subject to approval. In addition to this and with the approval of the EDC, organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities. Recyclable waste may be supplied to a local receiver licensed to process such waste. Ensure all construction waste material is re-used, recycled, returned to supplier, or packed up for transport to approved disposal site or out of country depending on accepted waste streams at each facility (see Section 7.10). Ensure areas for waste collection, recycling and off-site disposal are clearly marked/sign posted. Segregate waste to avoid cross contamination, such as with contaminated material (hazardous substance). Install waste collection facilities at construction lay down area to allow for collection and packing of waste. Strictly no dumping of rubbish. Include awareness training in general environmental training. Disposal of solid wastes into drainage ditches and public areas shall be prohibited. Burning of construction and domestic wastes shall be prohibited. If access to airport facilities is not available, workers must be provided with a sanitary system to prevent fouling of surrounding soils. Sanitary system must be of sufficient size for the number of workers and must take into account the disposal situation at the local landfill. All hazardous waste is to be disposed of offshore in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location. With the approval of the Supervision Engineer, organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities, preferably at Noro landfill or other such suitable facilities which do not lead to FOD generation or allow for leachate to reach soils or groundwater. Disused Material (excavation materials, concrete rubble) can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and basecourse material) for general use by MCA, MID and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the MID to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer. All surplus material from excavations shall be removed from the site area and safely disposed of in compliance with any local requirements at the Employer's nominated disposal site(s) and/or disposed of at the Contractor's quarry site(s), before the start of the defects liability period. Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and the country There is no reticulated sewer network on the island, septic tanks are utilised. The Contractor is responsible for the collection and treatment of the septic waste. Temporary toilets and disposal or treatment of wastewater will need to be in accordance with the ECD and MCA advice (for example construction and training in use of compositing toilet facilities). Rubbish bins will be installed at the pedestrian crossing gates at both ends of the runway to prevent FOD on the runway.				
Water and soil pollution	Treatment and disposal of all Contractor generated sanitation wastewater is in accordance with ECD and approved by Supervision Engineer.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer & ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Hydrocarbons (lubricants / fuel) shall be collected and recycled or disposed of according to SIG regulations (incinerated or removed from country – see section 7.3). All areas intended for the storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations. Spill response kits available at all locations where fuel is stored. Spill response plan training completed for all construction workers. Ensure availability of spill clean-up materials (e.g. absorbent pads, etc.) specially designed for petroleum products and other hazardous substances where such materials are being stored. Precautions should be in place to prevent wastewater and hazardous substances / materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), however should an incident occur, the Contractor must have a spill response plan must be in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This spill response plan should be applicable to all SIRAP project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase. Spillage, if any, will be immediately cleared with utmost caution to leave no traces. Zones for preliminary accumulation of waste should be designated in areas that will cause no damage to the vegetation cover or leach into groundwater or surface water (e.g. within construction lay down area on hard surface). Machinery refueling to be undertaken at least 20m from any watercourse. Heavy machinery shall not be used during a period of heavy rain or when the ground is waterlogged.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Excavations are bunded to prevent ingress of water runoff and clean water diversion (e.g. sand bags, clay bund, or shallow trenches) are used to direct overland flow away from active work and storage areas. Soakage pits should not be installed directly into a shallow aquifer. Regular cleaning of access points to prevent dirt build-up on roads. A separate washdown area is required for machinery or material with oil or fuel residue and treated through an oil water separator. Discharges of treated wash water are to occur to land only, at least 500m from any bore used for potable water at a rate not exceeding 20mm/day or the infiltration rate of the ground (i.e. no ponding or runoff). Control overland drainage to prevent channeling and sediment transport by diverting flows away from exposed areas. Sediment laden runoff from excavations or stockpiles must be directed to a settling area or collected for dust suppression provided the runoff is not contaminated with any chemicals (e.g. fuel). Discharges of treated wash water are to occur to land only, at least 500m from any bore used for potable water at a rate not exceeding 20mm/day or the infiltration rate of the ground (i.e. no ponding or runoff). Concrete production should only take place when there is no rain forecast. Sandbags or diversion drains must be used to divert runoff from concrete cutting or setting areas. Concrete production is to be equipped with settlement tanks/ponds for treatment of slurry and process water. Treatment shall include settling of suspended solids and decreasing the pH of the water. Waste concrete should be allowed to harden before reuse as clean fill. All equipment used in concrete production must be cleaned in designated wash down areas in the construction laydown area, away from surface water, in a bunded impermeable area and shall not be allowed to permeate to ground. Wastewater from concrete cutting, washing equipment or production must be collected and treated (settling and neutralization through pH adjustment).				
Groundwater	Aquifers discovered during excavation must be suitably protected from contamination using erosion control and stormwater management techniques in the National Building Code.	All locations	Minimal (part of standard	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Depth of soil over bedrock must be adequate to eliminate negative impacts on groundwater for road, bridge and slope stabilization construction. Monitoring of nearby groundwater for parameter including pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP NSS. Contractor to do quarterly monitoring and SE to do before, mid and end of project.		construction practice)		
Stormwater Management	Grading plan/phasing plan must show all stormwater management and sedimentation control measures temporary catch drains, and toe drains, retention ponds and silt traps) per phase. Site grading and stormwater management must reduce the potential for run-off to the river. Create temporary catch drains at edges of the construction zone as part of a stormwater management strategy to reduce sedimentation of adjacent lands. Low points that will collect run-off and silt must be sufficiently sized so that sediment is retained in the construction zone. All permanent drainage channels shall be revegetated and protected against scour from surface water runoff and use gravel, rip rap, concrete or another hard surface where water velocity is likely to produce scour. Channel discharge locations and culvert inlets and outlets must be protected from erosion by grassed swales, rip rap, gravel beds or other suitable means. Adopt effective stormwater management techniques to ensure there is no possibility of groundwater or surface water/drain contamination. Stormwater management must comply with the National Building Code Site works.	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
Generation of dust	Use closed/covered trucks for transportation of construction materials. Any vehicle which is overloaded (exceed designed load limit) or is not covered properly shall be refused entry to the construction lay down area or material shall be refused delivery (if not to the construction lay down area). Cover or wet down stockpiles containing fine material (e.g. sand and topsoil) when not actively being used. Wetting of stockpiles is allowed but due to freshwater constraints should be kept to a minimum. All machinery and equipment shall be well maintained and in good working order. All surfaces should be constructed to their final design solution as quickly as practicable. Keep work areas clean with regular sweeping. Only small areas should be cleared of vegetation at any one time and re-vegetation should occur as soon as practicable. Dust masks and personnel protective equipment must be available for workers during dust generating activities (e.g. pavement milling). Manage speed of transportation trucks on unsealed roads, particularly when passing through settlements. All construction areas and access roads will be sprinkled with water, on a regular basis, particularly during dry, windy conditions. Sources of water will be detailed in the CESMP. Ensure watering of access road adjacent to residential areas during dry periods. Water soil stockpiles or otherwise cover them to limit the spread of air-borne dust particles. Minimize heavy machinery usage and idling.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Ensure vehicles and machinery are fitted with appropriate emission control equipment to avoid air pollution and release of toxic substances.				
Noise and vibration disturbances	Establish baseline background noise at construction sites and identified sensitive receptors. Crushing plant to be located away from residences and communities. The plant will be located so that it is screened by natural vegetation and/or landforms to act as a noise barrier. Minimize nuisance from noise, especially closer to residential areas and sensitive receptors, through establishment and communication to affected parties of working hours, including night works and avoid increase of noise and number of work equipment at outside of advertised hours. Advertise working hours at the site entrance. If possible, use noise barriers / screens or mounds to shield sensitive receptors. If there is a likelihood that work at MUA will be undertaken at night, this will require approval by the SIRAP PST and early notice to affected peoples provided and then again at least one week prior to schedule works starting. Work on Sunday is restricted. The contractor is to determine what time Saturday night works are required to end and what time early hour Monday morning works can commence. Working during the day on Sunday is likely to only be approved in emergency situations. For works outside normal hours, approval must be obtained from MCA/ECD and residents within 100 m of MUA must be notified 5 days before works take place. Regularly check and maintain machinery, equipment and vehicle conditions to ensure appropriate use of mufflers, etc. Workers in the vicinity of sources of high noise shall wear necessary protection gear rated for the situation that they are being used in.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer, SIRAP2 PST & ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Signage to outline complaints procedure (GRM) and contact details of recipient of complaints (e.g., phone number, physical address and email). Signage to outline complaints procedure (GRM) and contact details of recipient of complaints (e.g., phone number, physical address, and email). The WB/IFC EHS Guidelines[36] Section 1.7 – Noise Management shall be applied. Noise impacts should not exceed the levels at the closest residential or other sensitive social receptors for one-hour LAeq of 55 dBA between the hours of 0700-2200 or 45 dBA outside of these hours for night works or result in a maximum increase in background noise levels of 3dB at the nearest receptor location off site. The nearest sensitive receptors are expected to change as the work moves along the pavements and will be determined the closest residences to the active works and to the construction camps and/or asphalt plant. The Contractor shall prepare a Noise Management Plan in accordance with WB/IFC EHS Guidelines as a key element of, and Annex to, its CESMP. Project activities must be conducted during normal working days. If activities must be conducted in the evening and/or weekend, the local Community Council of Chiefs must be given at least one week notice of start and completion times. There shall be no working on Sunday. Maintain as much tree cover as possible between the construction zone and residential buildings. Ensure activity in the northern end of the construction zone only occurs during daytime hours. Operators of noisy equipment or other workers in the vicinity of excessively noisy equipment to be provided with ear protection equipment. Any construction equipment deemed too noisy by LTA shall be replaced.				

[36] International Finance Corporation, Environmental Health and Safety Guidelines, General Guidelines: Noise Management

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Noise barriers will be installed as per the Contractors Noise Management Plan.				
Accident risks/Impacts on traffic safety	In compliance with national regulations, the Contractor will implement the Traffic Management Plan and ensure that the construction site is properly secured, and construction-related traffic regulated. This includes but is not limited to: • Signposting, warning signs, barriers and traffic diversions: the site will be clearly visible, and the public warned of all potential hazards. • Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. • Communication to the public through a public consultation and notice boards regarding the scope and schedule of construction as well as certain construction activities causing disruptions and access restrictions. • Avoid closure of the crossing, particularly at high use times. Provide an alternative crossing through the use of temporary structures. • Arrange necessary measures for pedestrian and passer-by safety and all means of transportation safety (e.g. establish protection zones, by-pass these areas during transportation of materials, etc.) • Relevant safety elements such as guardrails, road signs and delineators, pavement markings, barricades and beams, warning lights shall be installed. In some cases, a flag operator or traffic control supervisor could be engaged around the specific work site. • Contractor to report on adherence to speed limits and use of haulage routes in monthly reports. • Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public. • Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during peak hours (e.g. school pick up/drop off times, etc.). • Conduct road safety audit prior to completion of construction to ensure road safety designs properly implemented.	All locations	Safety equipment included in construction cost Minimal (part of standard construction practice)	Contractor	Supervision Engineer
Chance find of objects and loss of archaeological artefacts or sites	Chance Find procedure to be followed as per Section 7.1. In the event of the discovery of an item as defined above, the finding must be registered, and the information shall be handed over to The Museum	All locations	No marginal cost	Contractor	MCA/ Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	of Solomon Islands (under the Ministry of Culture and Tourism) who will advise on how they shall monitor the construction works. Work to stop in specific location of unearthed artefacts or site. Fence the area to limit access and notify SIRAP PST and Supervision Engineer immediately for instruction to proceed. Contractor must immediately stop work and clear the work site of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA and the Royal Solomon Islands Police Force (RSIPF).				
Landscape degradation	The contractor is required to submit a Site Decommissioning and Restoration Plan in the CESMP. The plan will describe all activities with regard to site restoration and landscaping in areas such as borrow pits, quarries, camps, crushing plants, etc. to ensure that the activities are done to an appropriate and acceptable standard. The sites must be restored to at least the same condition and standard that existed prior to commencement of works. The plan will be approved by the Supervision Engineer Construction materials will be sourced commercially, and the use of wood from natural forests will not be permitted. Contractor to include provision for construction lay down area rehabilitation following the completion of the construction phase. Restoration of quarries to be completed in accordance with quarry permit. Restoration of landscape after completion of rehabilitation works; restore the vegetation cover in accordance with the surrounding landscape and any required design (e.g. grass land or shrubs). Use plant species characteristic for the landscape in the course of restoration of the vegetation cover. Should the removal of mature trees be necessary for operational safety, determine whether ESS5 would be triggered and ensure all appropriate measures and permissions are in place before removal of trees.	All locations	Minimal (part of standard construction practice)	Contractor	SIRAP2 PST/ Supervision Engineer / ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Photographs will be taken of any laydown and stockpiling sites prior to the establishment and provided to Supervision Engineer. Photos will be used as a guide during restoration, and post- restoration photographs are required to be submitted to the Supervision Engineer. Land disturbed during construction must be revegetated and graded/constructed as quickly as possible to prevent soil erosion. Any final steep slopes should be finished using bioengineering techniques. Drainage patterns before construction must be restored – if modified, there must be no increase or decrease in drainage patterns that could negatively impact adjacent forested / farmed areas.				
Hazardous substances and safety and pollution	As part of SIRAP, the Contractor will undertake another UXO survey prior to commencement of works for the drainage extension and upgrade works, and Contractor Laydown Area No. 2 and the clearance certificate will be provided by MCA prior to the commencement of on-site works. The UXO clearance certification will be the Contractors responsibility prior to commencing works. In the event of a discovery, the Contractor must immediately stop work and clear the worksite of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA and the Royal Solomon Islands Police Force (RSIPF) by the Contractor. It is the responsibility of the police force to report and coordinate the removal of the UXO. No works shall recommence on-site until instruction has been received from the RSIPF and MCA. Refer to Appendix G for SIRAP's management protocol for UXO. Hazardous substances and materials may be specified and used in construction. It is the Contractor's responsibility to ensure that these are stored in accordance with the ESMP and applicable rules and regulations and that all persons who may come in contact with such hazardous substances and materials are adequately protected from unnecessary exposure. Store and handle hazardous substances self-bunded tanks or drums. With the Supervision Engineer's permission may alternatively be store in bunded, hard stand or designated areas only. Bunded areas to drain to an oil water separator which will need to be constructed or a mobile	All locations	Safety equipment included in construction cost Minimal (part of standard construction practice) Included as a provisional sum in the bill of quantity	Contractor	Supervision Engineer SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	proprietary unit imported specifically for use on the SIRAP. Bunds to contain 110% of total volume required to be stored or 25% of total volume if total volume is over 1,000 L. Provide hazard specific personnel protective equipment to workers directly involved in handling hazardous substances (e.g. chemical or heat resistant clothing, gloves). Complete list, including safety data sheets (SDS) for each hazardous substance stored or used shall be accessible at all times. Signage to be posted in storage areas identifying all chemicals present. Precautions should be in place to prevent wastewater and hazardous substances / materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), however should an incident occur, the Contractors spill response plan must be in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This spill response plan should be applicable to all SIRAP project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase. Spill kits and training of use to be provided to all workers during toolbox meetings. Spill kits to contain PPE for the spill clean-up (e.g. appropriate gloves [nitrile] and overalls), material to contain the spill and absorbent pads, and a heavy duty rubbish bag to collect absorbent pads or material. Waste oil to be collected and removed abroad to an approved facility (for disposal or cleaning) at completion of works. Minimize fuels and chemicals stored on-site and have a spill management plan that ensures the protection of groundwater and the river channel.				
Loss of biodiversity	If during course of construction work, particularly vegetation clearance and excavations any bird, reptile or mammal species is identified as being potentially impacted (e.g. nesting bird in area of proposed vegetation clearance) work is to stop in the specific location of the find and the ECD and SIRAP PST be notified immediately for instruction to proceed.	All locations	No marginal cost	Contractors	Supervision Engineer / SIRAP2 PST / ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	For large trees in the vicinity of the activity (culvert upgrade/extension), mark and cordon off with a fence large tress and protect the root system and avoid any damage to the trees. Adjacent marine environment and any open water drain discharging to the marine environment will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to bunds, silt fences etc. There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas. Ensure the full payment of compensation for lost crops and assets to rightful owners.				
Health and safety	Do not commence works until the Contractors OHS Management Plan has been approved by the Engineer. Implement all provisions within the approved OHS Management Plan Always have safety officer with suitable qualifications available during construction. Ensure all workers have undergone suitable induction training on OHS with regular training over course of project. Prepare site specific safety plans specifying responsibilities and authorities. Health and safety documentation to include all areas of the project (e.g. airport, quarries and transport routes). Ensure all occupational health and safety requirements are in place on construction sites and in work camps. Construction lay down area to be fenced to prevent access by unauthorized personnel. First aid training to be provided as required to site workers with basic first aid services to be provided by Contractor e.g. stretcher, vehicle transport to hospital. Provide education on basic hygiene practices to minimize spread of diseases. Increase workers' HIV/AIDS and sexually transmitted disease (STD) awareness, including information on methods of transmission and protection measures. Prohibit usage of drugs and alcohol on construction sites and undertake regular alcohol testing.	All locations	Included as provisional sum in the bill of quantity	Contractor	Supervision Engineer / SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Install lights and cautionary signs in hazardous areas. Enhance safety and inspection procedures. Ensure use of PPE and consider providing for on-site storage of workers allocated PPE. Worker GRM will be available and will enable worker to report unsafe working practices as described in Section 7.10 of this ESMP and the LMP. All workers are required to undergo the COVID-19 screening before the recruitment process. If a worker has been tested positive or have been in contact with a positive COVID-19 case, the worker will be required to undergo the 14 day quarantine isolation period.				
Damage to assets and infrastructure	Maintain high standard of site supervision and vehicle and plant operation to reduce risks of damage to water, power and telecommunication lines. Prepare procedures for rapid notification to the responsible authority (MCA and service providers). As a result of SIRAP construction activities any damage to assets or infrastructure (including public roads) must be reported to the MCA and MID and rectified at the expense of the Contractors. Provide assistance with reinstatement, in the event of any disruption. Accidental damage to community assets, including crop trees or agricultural, will be compensated (facilitated by CLO) by the Contractor under the national valuation guidelines.	All locations	Dependent on asset/ infrastructure and level of damage	Contractors	Supervision Engineer / SIRAP2 PST
Community grievances	Implement the community stakeholder engagement plan (SEP) from this ESMP. In all instances, consultations will be designed to ensure free, prior and informed consent of the affected communities with the aim to maintain the broad community support for the project which has been demonstrated to date. Maintain a grievance response mechanism at the SIRAP project website. Ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public are fully aware of	All components	Minimal (part of standard construction practice)	SIRAP PST Supervision Engineer Contractor	SIRAP2 PST Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	the SIRAP project program of activities and the GRM process. Consultation should include all aspects of the project including the airport site, quarries and transport routes. (see section 5.3). Signage should be used in public areas around the SIRAP project sites advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised.				
Airport concessionaires / local business grievances	Ensure that local businesses are included in the public consultation and disclosure communication process throughout the construction phase. Regular communication should be made with affected parties to ensure that they are fully aware of the proposed program of works and the GRM. Signage should be used in public areas around the vicinity of MUA advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised.	Airport	Minimal (part of standard construction practice)	Supervision Engineer Contractor	SIRAP2 PST Supervision Engineer
OPERATION STAGE					
Airport waste management	Development of MCA Waste Management Plan recommended to allow for recycling or re-using of as much waste as possible. ECD should be consulted for approval to receive material that cannot be recycled, reused or returned to the supplier. Rubbish bins will be installed at the pedestrian crossing at both ends, and FOD on the runway will be monitored.	All airport compounds	No marginal cost (standard operating procedure)	MCA	ECD
Maintenance of drainage and soakage systems	Drainage systems shall be periodically cleared of sediment and organic matter build up to ensure appropriate flows and soakage. Material to be disposed at approved site (e.g. landfill or used as clean fill) or composted if organic. Stormwater outfalls for Culvert No.2 & 3 (including a downstream outlet at marine discharge point) and Culvert No. 4 will be cleared off with any sediments, organic matter and any rubbish collection to ensure that the designed system is operating appropriately. Drainage systems should also be periodically visually inspected for signs of contamination (e.g. hydrocarbons from airstrip runway) to ensure that the designed system is operating appropriately.	All locations	No marginal cost (standard operating procedure)	MUA	MCA

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[35]	EXECUTING AGENCY	SUPERVISING AGENCY
	Vegetation to be cleared from drainage channels and soakage pits and disposed of. Grass in drainage swales to be maintained at a height slightly higher than the surrounding grass on the shoulders.				
Stormwater Management, Sediment Mitigation	Ensure no ponding or flooding of stormwater along runway and culvert extension through proper grading, ditches, culverts, catchment areas. Ensure grading at edges of construction zone does not result in a significant change in drainage patterns for adjacent lands.	All locations	No marginal cost (standard operating procedure)	MUA Management	MCA
Groundwater	Drainage works must not allow runoff from the road (that may be carrying pollutants) to enter any water bodies/aquifers present within the vicinity of the works.	All locations	No marginal cost (standard operating procedure)	MUA Management	MCA

Appendix C: Monitoring Plan

Compliance: Compliant, Minor Non-Compliance, Significant Non-Compliance Status: **(R)** Resolved Issue, **(O)** Ongoing Issue

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
DETAILED DESIGN/ PRE-CONSTRUCTION PHASE				
CESMP approved	CESMP Documents	Ensure Contractor has produced a CESMP to the appropriate standard and this has been reviewed and cleared by WB and SIRAP PMU	Prior to commencing civil works	Supervision Engineer
Development Consents	CESMP Document	Development Consent and consent conditions are included in the CESMP	Prior to approval of CESMP	Supervision Engineer
Traffic safety	CESMP documents	Ensure TMP established for project.	Prior to commencing civil works	Supervision Engineer
Aviation safety	Design documents	MOWP complete with details of flight schedules and emergency procedures.	Prior to commencing civil works	Supervision Engineer with inputs from MCA
OHS Management Plan	Design documents	Ensure safety plan established for project and complies with Section 7.11 of the ESMP and the SIRAP2 LMP.	Prior to commencing civil works	Supervision Engineer
Soil erosion	CESMP documents	Ensure Contingency Plan is completed and approved. Storm event management and soil erosion prevention measures to be included.	Prior to sign off of final designs	Design Consultant
Solid and hazardous waste	CESMP documents	Approved Solid Waste Management Plan in place. Waste segregation and collection at workers camp and laydown areas are established and well signed. Waste segregation and collection storage arrangements in place and compliant with approved SWMP.	Prior to commencing civil works	Supervision Engineer
Community Health and Safety	CESMP documents	HIV/GBV/Code of Conduct training and acknowledgements have been completed as per contractual requirements. Medical clearance certificates provided for all foreign workers GRM process is available for public inspection. Worker Management Plan contains all elements, has been approved by the Supervision Engineer and the PST.	Prior to commencing civil works	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Soil and Water pollution	CESMP documents	Appropriate spill control and response plan in place. Staffs are trained on spill control and response plan. Overland drainage diverts water flow away from exposed areas. Sediment laden runoff from excavations or stockpiles directed to a settling area. Discharges of treated wash water are to occur to land.	Prior to commencing civil works	Supervision Engineer
Water supply	CESMP documents	Suggested water source and supply network to be included in designs	Prior to commencing civil works	Supervision Engineer
Ground water quality	Laydown sites	Ground water quality monitoring for project baseline at bores within 100m of all project sites. The parameters include pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP NSS.	Prior to establishment of laydown site and asphalt plan	Supervision Engineer
Storm water management	CESMP documents	Proposed storm water management / drainage design (e.g., use of oil-water separator) to consider impacts on hydrology, receiving environments and also contamination risk	Prior to commencing civil works	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Laydown Sites, Crushing Plant and Stockpile Area	CESMP documents	Approved and signed rental agreements have been submitted to the PST (if relevant). Laydown and stockpile sites are at least 100m from any residential settlements or waterways. Laydown areas established on pre-approved sites as per CESMP. Water runoff management systems in place to approved standard as per CESMP. Washdown areas have collection and treatments systems. The sanitation treatment system is in place as per CESMP. No runoff from laydown or stockpile sites are directed to waterways, CCAs or coastline. Bunded secure storage area for the hazardous substance is established as per CESMP. Hardstand areas are at least 150 from any CCA and 100m from any waterway.	Prior to commencing civil works	Supervision Engineer
Importation of equipment and materials	Importation permits	Approval to import material and equipment is given prior to material and equipment leaving country of origin. All imported materials with appropriate biosecurity clearances. No materials being sourced from GAS infected areas in Honiara. Materials and equipment sourced off Honiara are landed off at Noro in the first instance.	Contractor to organize prior to export from country of origin.	Supervision Engineer
Air pollution	At work sites and sensitive receptors	Establish baseline air quality at project sites and close to sensitive receptors	Once to establish baseline	Contractor

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
CONSTRUCTION PHASE				
General	CESMP documents	The contractor is undertaking weekly monitoring and reporting using a monitoring form approved by Supervision Engineer in CESMP. Community consultation is ongoing as per VCRTP ESMP. Supervision Engineer is undertaking weekly monitoring and reporting.	Prior to commencing civil works Weekly	Supervision Engineer SIRAP 2 PST Project Manager
Implementation of SEP and LMP	Construction Contractors Records	As defined in the SEP and LMP	Monthly	Supervision Engineers SIRAP2 PST NSS
Agreement for solid and hazardous waste disposal	Construction Contractor's records	Approved Solid Waste Management Plan effectively implemented Waste collection at laydown area is secure, well signed and clean. Hazardous waste is stored according to SWMP. Good housekeeping around project sites and workers accommodation. All waste is disposed of offshore Contaminants of Concern (COC) documentation in place and reviewed. Permits and/or agreements with local waste disposal providers and licensed recycling operators. Inspection of disposal sites.	Documentation viewed prior to construction works starting. Weekly as applicable to schedule of works.	Supervision Engineer
Community infrastructure, health, and safety	At construction sites	Approved Traffic Management Plan is under effective implementation public signage of complaints procedure. Signs and fences restrict or direct pedestrians and public where appropriate. No damage to public or community infrastructure.	Prior to commencing civil works Weekly	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Dust suppression is effective Noise is within permitted limits Required signage is in place. No works taking place at night or on Sunday within 500m of communities unless a prior agreement has been sought from the community.		
Soil erosion	Areas of exposed soil and earth moving	Inspections at sites to ensure silt fences, diversion drains etc. are constructed as needed. Inspection to ensure replanting and restoration work completed.	Weekly inspection as applicable to schedule of works and after site restoration.	Supervision Engineer
Waste disposal	At construction and quarry sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill, removal from Solomon Islands if required, recycling or returning to supplier. Inspections to ensure waste streams are sorted for re-use, recycling or waste to landfill.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Water and soil pollution	At construction sites	Appropriate spill response plan/kit in place for waste area. No visible spills on soil or uncovered ground. All drainage, water treatment and soakage systems clear and fit for purpose Division bunding around large areas of vegetation clearance. Revegetation occurring once works have finished at sites. Vehicles are working in defined areas. Worker's sanitation facilities in good order and maintained as per design requirements. Heavy machinery not used in times of heavy rain or when the ground is waterlogged. Ensure all storage tanks are self-bunded. Inspection of sites to ensure waste collection in defined area; spill response plan in place and workers trained at all SIRAP MUA locations.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Complete spill kits available where hazardous substances sorted and handled. Any encounters with potentially or confirmed contaminated soil are reported to MCA and ECD. Inspect soakage pits siting directly above any underlying aquifer (if present).		
		Ground water monitoring as per parameters in ESMP. The parameters include pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP NSS.	Once midway through implementation and once prior to demobilisation	Supervision Engineer
Dust	At construction sites, quarries and adjacent sensitive receptors	Site inspections. Regular visual inspections to ensure stockpiles are covered when not in use and trucks transporting material are covered and not overloaded.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Noise	At work sites	Site inspections to ensure workers wearing appropriate PPE when required. Measurement of noise level (one-hour LAeg) at closest social receptors (residences) to active work sites, construction camps and lay down areas not to exceed 45dB between 2200-0700 or 3dBA above background. Public signage detailing complaints procedure and contact people/person on display. Noisy machinery is replaced or fixed as soon as problem arises or on instruction by Supervision Engineer.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Air pollution	At work sites	Site inspections to ensure equipment and machinery operating without excessive emissions. If an issue is reported the contractor is responsible for replacing or fixing the equipment to the satisfaction of Supervision Engineer. Bitumen and asphalt processes plants to be located away from closest communities	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Occupational Health and Safety	At work sites	Workers have access to and are using appropriate, PPE for the task. All workers have undergone appropriate OHS training. Proper briefing of staff before undertaking work activities.	Weekly inspection as applicable to the schedule of works and on receipt of any complaints.	Supervision Engineer
Storage of fuel, oil, etc.	At work sites and construction camp. Contractor's training log.	Regular site inspections to ensure material is stored within bunded area and spill response training for workers completed. Visual inspection of spill kit for completeness and accessibility. Checking that staff are trained on use of spill kits. Substances stored within bund on an impermeable surface Spill kit complete and accessible. Spill training completed. No evidence of spills on the ground. Material Safety Data Sheets (MSDS) available at storage locations.	Weekly as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Vehicle and pedestrian safety	At and near work sites	Regular inspections to check that TMP is implemented correctly (e.g., flags and diversions in place) and workers wearing appropriate PPE.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Construction workers and staff safety (personal protective equipment)	At work sites	Inspections to ensure workers have access to and are wearing (when required) appropriate personnel protective equipment (e.g., for handling hazardous materials). Guidelines in ESMP implemented.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Community / airport concessionaires / local business safety	At work sites	Inspections to ensure signs and fences restricting access are in place and pedestrian diversion routes clearly marked (whether for access to a building or home or a particular route).	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Laydown Areas and Stockpile Sites	CESMP documents	Laydown areas established on pre-approved sites. Laydown areas dust levels managed efficiently. Traffic management plan correctly implemented at laydown site. Water runoff management systems are operating correctly. Dust management effectively implemented. PPE present and correctly used. Refuelling occurring over drip trays in dedicated areas. No stockpiling within 100m of waterways. Bunding is functional at stockpile site.	Prior to commencing civil works Weekly	Supervision Engineer
Extraction of Aggregates	CESMP documents	QMP being effectively implemented. Daily records of extracted volumes available for inspection No gravel being extracted from running water channels Gravel only being extracted from a predetermined area. Machinery only working in defined areas approved in CESMP.	Prior to commencing civil works and daily.	Supervision Engineer
Workers Accommodation (if applicable)	CESMP documents	The camp is clean and tidy. Waste management is as per Solid Waste Management Plan Food supplies are sufficient. Workers Management Plan is effectively implemented First Aid kit is fully stocked.	Prior to commencing civil works and weekly	Supervision Engineer
Community grievances	At all locations	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	MCA/SIRAP 2 PST
Airport concessionaires / local business grievances	At and near MUA work sites	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	At and near MUA work sites

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Materials supply	Quarry and work sites	Evidence that trucks are not overloaded, and loads are covered e.g. complaints register, evidence of debris on the road.	Weekly visual inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
OPERATION (Recommended for Consideration by MCA)				
Drainage system operational	Runway	Inspection and clean out of open channel drainage.	Soakage pit – after storm events to clear blockages and annually to remove sediment. After grass mowing.	MCA
Waste disposal	Airport sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill, removal from Munda as hazardous, recycling or returning to supplier. Inspections to ensure waste streams are sorted for re-use, recycling or waste to landfill.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	MCA
Water and soil pollution	Airport sites	Inspection of sites to ensure waste collection in defined area; spill response plan in place and workers trained at all MUA locations. Complete spill kits available where hazardous substances sorted and handled. Inspection drains on site to ensure no blockages present or maintenance required.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	MCA

Appendix D: CESMP Monitoring Checklist

Munda Airport Weekly CESMP INSPECTION

PROJECT:	Solomon Islands Roads and Aviation Project	**IMPLEMENTING AGENCY:**	MCA
DATE:		**CONTRACTOR:**	
PREPARED BY:		**SUPERVISION CONSULTANT**	
DISTRIBUTION LIST:			

Inspection Participants: (insert names and positions)

CESMP Items (edit as necessary based on approved CESMP)	**Applicable**		**Compliance**	**Issues**	**Status (R)/(O)**	**Action Required/Taken**	**Target/ Actual Date**
	Yes	**No**					
1. Mitigation & Management Measures: Construction Phase							
General: The contractor is undertaking weekly monitoring and reporting using a monitoring form approved by Supervision Engineer in CESMP.							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Solid and Hazardous Waste: - Approved Solid Waste Management Plan effectively implemented - Waste collection at laydown area is secure, well signed and clean - Hazardous waste is stored according to SWMP - Good housekeeping around project sites and workers accommodation - All hazardous waste is disposed of offshore - Contaminants of Concern (COC) documentation in place and reviewed							
Community Infrastructure, health and safety: - Approved Traffic Management Plan is under effective implementation - Public signage of complaints procedure - Signs and fences restrict or direct pedestrians and public where appropriate. - No damage to public or community infrastructure Dust suppression is effective Noise is within permitted limits Required signage is in place							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Waste Accumulation and Disposal Agreements: - Good housekeeping around the work sites - Waste collected in defined area on impermeable ground or containers - Separation of waste into (i) Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled); (ii) Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste; (iii) Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled) and, (iv) Hazardous waste (i.e. asbestos, waste oil etc.) - Hazardous waste stored in safe and appropriate manner. - Waste management plan in place and operating for proper disposal							
Soil and Water Pollution: - Appropriate spill response plan/kit in place for waste area - No visible spills on soil or uncovered ground - Drainage and soakage systems clear and fit for purpose							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Dust and Materials Transport: - Stockpiles covered or kept wet when not in use - Visual inspection of ambient dust conditions on site and at nearby sensitive locations - Truck transports are covered - No evidence of aggregate spills on haulage route							
Noise: - Workers wearing ear protection as required - Noise level maximum of 45dB between 2200-0700 - No complaints received relating to noise							
Air Pollution: - Equipment operating without excessive emissions - Bitumen and asphalt plant emissions move away from nearby communities							
Fuel and Oil Storage: - Substances stored in self-bunded vessels or within bund on impermeable surface - Spill kit complete and accessible - Spill training completed - No evidence of spills on the ground							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
<u>OHS</u> - Workers have access to and are using appropriate, PPE for the task. - All workers have undergone appropriate OHS training. - Proper briefing of staff before undertaking work activities.							
TMP Implementation: - Traffic Management Plan (TMP) under effective implementation							
Community and Local Business Consultation: - Public signage of complaints procedure - Signs and fences restrict or direct pedestrians and public where appropriate.							
Materials Supply: - Quarry establishment and operations in fully compliance with ESMP - All quarries licensed to supply materials - All imported materials with appropriate biosecurity clearances							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Laydown Area: - Laydown areas established on pre-approved sites - Laydown areas dust levels managed efficiently - Traffic management plan correctly implemented at laydown site - Water run off management systems operating correctly - Dust management effectively implemented - PPE present and correctly used - Refuelling occurring over drip trays in dedicated areas - No stockpiling within 100m of waterways Bunding is functional at a stockpile site							
Workers Camp (if applicable): - Camp established in accordance with Code of Practice in ESMP Annex G. - Septic system cleaned and fully operational. - Waste stored in an appropriate location in a clean and tidy manner, segregated by waste type. - Workers living and recreational areas clean and properly equipped. - OHS, HIV/AIDS, GBV, Human Trafficking, CAE and other information available							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Monitoring - Weekly safeguards compliance report completed							

Compliant, Minor Non-Compliance, Significant Non-Compliance Status: (R) Resolved Issues, (O) Ongoing Issues

Notes:

Required Actions:

Environmental Specialist: **Signed:** **Date:**

Photos (attach as appropriate)

Appendix E: Codes of Practice and Guidelines

- Solid Waste Management Plan
- OHS Management Plan
- Worker Camp Management Plan
- Quarry Management Plan
- Noise Management Plan

Other Guidelines

IFC Workers Accommodation Standards and Guidelines[37]

Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labour Influx[38]
World Bank Good Note Practice: Environment & Social Framework for IPF Operations, Road Safety[39]

WB General ESH Guidelines[40]

WB EHS Guidelines for Construction Materials Extraction[41]

WB COVID-19 Guidance [42]

[37] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_workersaccommodation
[38] http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-labor- influx.pdf
[39] http://pubdocs.worldbank.org/en/648681570135612401/Good-Practice-Note-Road-Safety.pdf
[40] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainab_ility-at-ifc/publications/publications_policy_ehs-general
[41] https://www.ifc.org/wps/wcm/connect/dad17995-66be-4280-86da-b438cf9fbefc/Final%2B-%2BConstruction%2BMaterials%2BExtraction.pdf?MOD=AJPERES&CVID=jkC-EN.&id=1323162191491
[42] http://pubdocs.worldbank.org/en/324831581700447537/COVID-19-Guidance-for-Contractors-CO-Final.pdf

Solid Waste Management Plan Guidelines

The key objectives of this solid waste management plan (SWMP) guidelines is to assist the Contractor to develop a SWMP that:

1. Maximise the amount of material which is sent for reuse, recycling or reprocessing
2. Minimise the amount of material sent to the landfill
3. Satisfies the national waste management legislations
4. Satisfies the EHS requirements of the World Bank

When developing, and implementing a SWMP the following key elements should be considered:

1. Waste streams: identify which waste streams are likely to be generated and estimate the approximate amounts of materials

Undertake inventory of materials that can be reused, recycled or recovered from the construction site:

- Specific types of materials: a full list of options is provided in the assessment table below
- Amount of material expected
- Possible contamination by hazardous materials like asbestos or lead: these materials will limit reuse/recycling options and require special disposal.

Waste and/or Recyclable Materials		Destination		
		Reuse and Recycling		Disposal
Possible Materials Generated	Estimated Volume (m3) or Area (m2) or Weight (t)	On-site (How will materials be reused and/or recycled on site)	Off-site (Specify the proposed destination and/or recycling facility)	Specify the disposal site and permit if required.
Timber (specify type)				
Wood waste (e.g. MDF, plywood)				
Cardboard				
Ferrous materials (e.g. iron, steel)				
Nonferrous materials (e.g. copper wiring)				
Concrete				
Roofing tiles				
Ceramic tiles				
Gravel				
Gypsum board (e.g. drywall)				
Plaster				
Plumbing fixtures and fittings				

Carpet and underlay				
Stone				
Asphalt				
Glass				
Sand/fill				
Topsoil				
Green waste				
Asbestos				
Fluorescent light bulbs				
Hazardous materials (e.g. oils, paints, solvents)				
Plastics				
PVC				
Co-mingled recyclables (e.g. paper, cans, glass and plastic bottles, carboard, etc)				
General waste (e.g. food waste, contaminated food packaging, non-recyclable plastics)				
Mixed waste				

2. Services: identify an appropriately equipped waste management contractor who will provide compliant services for disposal of the waste streams generated.

3. On-site: understand how the waste management system (sorting and storage) will work on-site, including bin placement and access.

Determine storage requirements (separate bins or co-mingled), things to consider include:

- Ease of use: ensure that containers are easily accessible by workers and that storage areas are clearly sign posted
- Safety: ensure that the containers and storage can be managed safely, including limiting public access to the site and protecting against FOD
- Hazardous waste materials storage
- Aesthetics: ensure that the site appears orderly and will not raise concern from local residents or businesses – for example screening for dust and litter containment and daily collection of windblown material
- Establish a collection/delivery plan in collaboration with waste contractors for waste and recyclable materials generated on-site.

4. Clearly assign and communicate responsibilities: ensure those involved in the project are aware of their responsibilities in relation to the construction waste management plan.

5. Training: be clear about how the various elements of the WMP will be implemented.

6. Monitor: to ensure the plan is being implemented, monitor on-site as per the ESMP monitoring plan.

OHS MANAGEMENT PLAN GUIDELINES

1. Objective

The objective of this Sub-plan is to provide guidance on the:

- key principles involved in ensuring the health and safety of workers is protected.
- preparation of Health and Safety Sub-plans and associated Job Safety Analyses (JSA); and
- implementation of Health and Safety Sub-plans during project implementation.

The key reference document for this Guideline is the World Bank Group's *Environmental, Health, and Safety (EHS) Guidelines* (April 2007) together with the relevant Industry Sector EHS Guidelines available at www.ifc.org/ehsguidelines.

2. Principles

Employers must take all reasonably practicable steps to protect the health and safety of workers and provide and maintain a safe and healthy working environment. The following key principles are relevant to maintaining worker health and safety:

2.1 Identification and assessment of hazards

Each employer must establish and maintain effective methods for:

- Systematically identifying existing and potential hazards to employees;
- Systematically identifying, at the earliest practicable time, new hazards to employees;
- Regularly assessing the extent to which a hazard poses a risk to employees.

2.2 Management of identified hazards

Each employer must apply prevention and control measures to control hazards which are identified and assessed as posing a threat to the safety, health or welfare of employees, and where practicable, the hazard shall he eliminated. The following preventive and protective measures must be implemented order of priority:

- Eliminating the hazard by removing the activity from the work process;
- Controlling the hazard at its source through engineering controls;
- Minimizing the hazard through design of safe work systems;
- Providing appropriate personal protective equipment (PPE).

The application of prevention and control measures to occupational hazards should be based on comprehensive job safety analyses (JSA). The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

2.3 Training and supervision

Each employer must take all reasonably practicable steps to provide to employees (in appropriate languages) the necessary information, instruction, training and supervision to protect each employee's health and to manage emergencies that might reasonably be expected to arise in the course of work.

Training and supervision extend to the correct use of PPE and providing employees with appropriate incentives to use PPE.

2.4 General duty of employees

Each employee shall:

- take all reasonable care to protect their own and fellow workers health and safety at the workplace and, as appropriate, other persons in the vicinity of the workplace;
- use PPE and other safety equipment supplied as required; and
- not use PPE or other safety equipment for any purpose not directly related to the work for which it is provided.

2.5 Protective clothing and equipment

Each employer shall:

- provide, maintain and make accessible to employees the PPE necessary to avoid injury and damage to their health;
- take all reasonably practicable steps to ensure that employees use that PPE in the circumstances for which it is provided; and
- make provision at the workplace for PPE to be cleaned and securely stored without risk of damage when not required.

The application of prevention and control measures to occupational hazards should be based on comprehensive job safety analyses (JSA). The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

3. Design

Effective management of health and safety issues requires the inclusion of health and safety considerations during design processes in an organized, hierarchical manner that includes the following steps:

- identifying project health and safety hazards and associated risks as early as possible in the project cycle including the incorporation of health and safety considerations into the worksite selection process and construction methodologies;
- involving health and safety professionals who have the experience, competence, and training necessary to assess and manage health and safety risks;
- understanding the likelihood and magnitude of health and safety risks, based on:
    - the nature of the project activities, such as whether the project will involve hazardous materials or processes;
    - The potential consequences to workers if hazards are not adequately managed;
- designing and implementing risk management strategies with the objective of reducing the risk to human health;
- prioritising strategies that eliminate the cause of the hazard at its source by selecting less hazardous materials or processes that avoid the need for health and safety controls;

- when impact avoidance is not feasible, incorporating engineering and management controls to reduce or minimize the possibility and magnitude of undesired consequences;
- preparing workers and nearby communities to respond to accidents, including providing technical resources to effectively and safely control such events;
- Improving health and safety performance through a combination of ongoing monitoring of facility performance and effective accountability.

3.1 Job Safety Analysis

Job safety analysis (JSA) is a process involving the identification of potential health and safety hazards from a particular work activity and designing risk control measures to eliminate the hazards or reduce the risk to an acceptable level. JSAs must be undertaken for discrete project activities such that the risks can be readily identified, and appropriate risk management measures designed.

This Guideline includes a template for a JSA that must be completed and included as an attachment to the Health and Safety Sub-plan.

4. Implementation

4.1 Documentation

A Health and Safety Plan must be prepared and approved prior to any works commencing on site. The H&S Plan must demonstrate the Contractor's understanding of how to manage safety and a commitment to providing a workplace that enables all work activities to be carried out safely. The H&S Plan must detail reasonably practicable measures to eliminate or minimise risks to the health, safety and welfare of workers, contractors, visitors, and anyone else who may be affected by the operations. The H&S Plan must be prepared in accordance with the World Bank's EH&S Guidelines and the relevant country health and safety legislation.

4.2 Training and Awareness

Provisions should be made to provide health and safety orientation training to all new employees to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow employees. Training should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate.

Visitors to worksites must be provided with a site induction prior to entering and must be escorted at all times while on site. This induction must include details of site hazards, provision of necessary PPE and emergency procedures. Visitors are not permitted to access to areas where hazardous conditions or substances may be present, unless appropriately inducted.

4.3 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems.

PPE is considered to be a last resort that is above and beyond the other facility controls and provides the worker with an extra level of personal protection. The table below presents general examples of

occupational hazards and types of PPE available for different purposes. Recommended measures for use of PPE in the workplace include:·

- active use of PPE if alternative technologies, work plans or procedures cannot eliminate, or sufficiently reduce, a hazard or exposure.
- identification and provision of appropriate PPE that offers adequate protection to the worker, co-workers, and occasional visitors, without incurring unnecessary inconvenience to the individual.
- proper maintenance of PPE, including cleaning when dirty and replacement when damaged or worn out. Proper use of PPE should be part of the recurrent training programs for Employees.
- selection of PPE should be based on the hazard and risk ranking described earlier in this section and selected according to criteria on performance and testing established.

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or earmuffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits aprons etc. of appropriate materials.

5. Monitoring

Occupational health and safety monitoring programs should verify the effectiveness of prevention and control strategies. The selected indicators should be representative of the most significant occupational, health, and safety hazards, and the implementation of prevention and control strategies. The occupational health and safety monitoring program should include:

- **Safety inspection, testing and calibration**: This should include regular inspection and testing of all safety features and hazard control measures focusing on engineering and personal protective

features, work procedures, places of work, installations, equipment, and tools used. The inspection should verify that issued PPE continues to provide adequate protection and is being worn as required.

- **Surveillance of the working environment**: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments. Monitoring and analyses should be conducted according to internationally recognized methods and standards.
- **Surveillance of workers health**: When extraordinary protective measures are required (for example, against hazardous compounds), workers should be provided appropriate and relevant health surveillance prior to first exposure, and at regular intervals thereafter.
- **Training**: Training activities for employees and visitors should be adequately monitored and documented (curriculum, duration, and participants). Emergency exercises, including fire drills, should be documented adequately.
- **Accidents and Diseases monitoring**. The employer should establish procedures and systems for reporting and recording:
    - Occupational accidents and diseases
    - Dangerous occurrences and incidents

These systems should enable workers to report immediately to their immediate supervisor any situation they believe presents a serious danger to life or health.

All reported occupational accidents, occupational diseases, dangerous occurrences, and incidents together with near misses should be investigated with the assistance of a person knowledgeable and competent in occupational safety. The investigation should:

- Establish what happened
- Determine the cause of what happened
- Identify measures necessary to prevent a recurrence

Job Safety Analysis (JSA)

Add Organisation Name:

Ref: Version:

Business details			
Business name:			
ABN:		Contact person:	
Address:		Contact position:	
Contact phone number		Contact email address:	
Job Safety Analysis details			
Work activity:		Location:	
Who is involved in the activity:		This job analysis has been authorised by: Name:..... Position: ..... Signature: ..... Date:	
Plant and equipment used:			
Maintenance checks required:			
Tools used:			
Materials used:			
Personal protective equipment:			
Certificates, permits and/approvals required			
Relevant legislation, codes, standard MSDSs etc applicable to this activity			

Risk Assessment

**Use the risk rating table to assess the level of risk for each job step.

		Likelihood				
		1	**2**	**3**	**4**	**5**
Consequence		**Rare** The event may occur in exceptional circumstances	**Unlikely** The event could occur sometimes	**Moderate** The event should occur sometimes	**Likely** The event will probably occur in most circumstances	**Almost Certain** The event is expected to occur in most circumstances
1	**Insignificant** No injuries or health issues	**LOW**	**LOW**	**LOW**	**LOW**	**MODERATE**
2	**Minor** First aid treatment	**LOW**	**LOW**	**MODERATE**	**MODERATE**	**HIGH**
3	**Moderate** Medical treatment, potential LTI	**LOW**	**MODERATE**	**HIGH**	**HIGH**	**CRITICAL**
4	**Major** Permanent disability or disease	**LOW**	**MODERATE**	**HIGH**	**CRITICAL**	**CATASTROPHIC**
5	**Extreme** Death	**MODERATE**	**HIGH**	**CRITICAL**	**CATASTROPHIC**	**CATASTROPHIC**

Risk rating:

Low risk: Acceptable risk and no further action required as long as risk has been minimised as possible. Risk needs to be reviewed periodically.

Moderate risk: Tolerable with further action required to minimise risk. Risk needs to be reviewed periodically.

High risk: Tolerable with further action required to minimise risk. Risk needs to be reviewed continuously.

Critical risk: Unacceptable risk and further action required immediately to minimise risk.

Catastrophic: Unacceptable risk and urgent action required to minimise risk.

Risk Controls

The hierarchy of control can be used as an effective tool to deal with health and safety issues at work. Use the type of control suggested as measures to deal with the hazard. Aim to use control measures from as high on the hierarchy of control list as possible. If that is not possible the next option down the list or a combination of the measures should be implemented. The least effective control measure is the use of personal protective equipment (PPE) and it should be used as a last resort or a support to other control measures. Information and training should be integrated with all levels of control to explain how controls work.

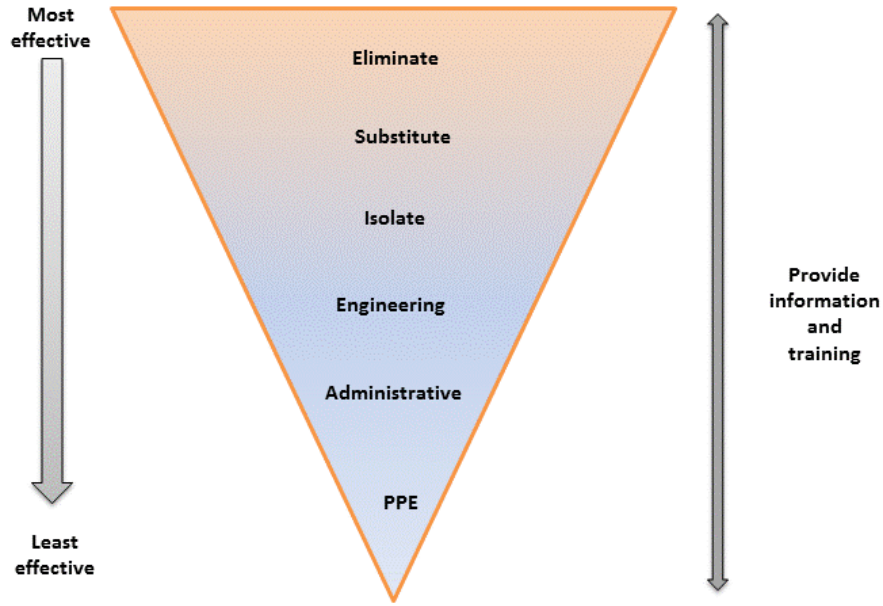
1. **Eliminate** – if it is possible, the hazard should be removed completely. For example, get rid of dangerous machines.

2. **Substitute** – replace something that produces the hazard with something that does not produce a hazard. For example, replacing solvent based paint with water based paint. Risk assessment on the substitution must be conducted to ensure that it will not pose another hazard.

3. **Engineering control** – isolate a person from the hazard by creating physical barrier or making changes to process, equipment or plant to reduce the hazard. For example, install ventilation systems.

4. **Administrative control** – change the way a person works by establishing policies and procedures to minimise the risks. For example, job scheduling to limit exposure and posting hazard signs.

5. Use **personal protective equipment** (PPE) – protect a person from the hazard by wearing PPE. For example, wearing gloves, safety glasses, hard hats and high-visibility clothing. PPE must be correctly fitted, used and maintained to provide protection.



Hierarchy of control

JSA – Action steps

Step No	Job step details	Potential hazards	Risk rating**	How to control risks***	Name of persons responsible for work

Review number: Version:
Review number: Version:

This job safety analysis has been developed through consultation with our employees and has been read, understood and signed by all employees undertaking the works:		
Print Names:	**Signatures:**	**Dates:**

Review No	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**
Initial:								
Date:								

Worker Planning and Management Guidelines

GENERAL

The Workers Camp Management Plan will be compliant with the specific prescriptions of the ESMP.

OBJECTIVES

To provide guidelines on the recruitment of workers and the selection, development, management, maintenance and restoration of workers accommodation camp sites in order to avoid or mitigate against significant adverse environmental and social effects, both transient and permanent.

WORKER RECRUITMENT

The Contractor is required to minimise the number of skilled workers that are recruited from overseas. No unskilled labour will be sourced from overseas. The Contractor will maximise the number of skilled and unskilled workers that are recruited from the Munda community.

The Contractor will be required to provide justification for any skilled workers that the wish to recruit from overseas and explain why this position cannot be filled locally on Munda or Honiara.

WORKERS CAMP FACILITIES

All facilities in the Workers Camp must be complaint with the stipulations of the ESMP and the IFC Workers Accommodations and Standards. The camp shall be provided with the following minimum facilities:

- Canteen, dining hall and dormitories as required shall be constructed of suitable materials to provide a safe healthy environment for the workforce and which facilitate regular cleaning and the provision of ventilation and illumination.
- Ablution block with a minimum of one water closet toilet, one urinal and one shower per 10 personnel engaged either permanently or temporarily on the project. Separate toilet and wash facilities shall be provided for male and female employees.
- A sick bay and first aid station.
- Sewage collection facilities to allow for the treatment of black and grey wastewater discharge from toilets, washrooms, showers, kitchens, laundry and the like. The management of all camp wastewater water shall be as prescribed in the ESMP.
- All camp facilities shall be maintained in a safe clean and or appropriate condition throughout the construction period.
- The contractor shall provide, equip, and maintain adequate first aid stations and erect conspicuous notice boards directing where these are situated and provide all required transport. The contractor shall comply with the government medical or labour requirements at all times and provide, equip and maintain dressing stations where directed and at all times have experienced first aid personnel available throughout the works for attending injuries.
- Throughout the period of the contract the employer, the engineer, or their representatives shall have uninterrupted access to and from the camp for the purpose of carrying out routine inspections of all buildings, facilities or installations of whatever nature to ensure compliance with this specification.

WORKERS CAMP OPERATIONS

- The Contractor will be required to provide calculations of the amount of freshwater needed for the number of workers accommodated at the camp and is to demonstrate how they will provide this

water. No currently existing freshwater resources in Munda will be used for the workers or for worker camp operations.

- The Contractor will be required to provide adequate provisions for the workers for the duration of the project so as not to deplete the available food sources of the community.
- All wastewater, solid waste, freshwater usage, noise levels, handling and storage of hazardous materials shall be as prescribed in the ESMP.

MANAGEMENT OF OFF DUTY WORKERS

- The Contractor will prepare a specific Code of Conduct to describe the expected behaviours of their project worker in relation to the local communities and their social sensitivities.
- The Contractor is to ensure that all overseas project staff undergo a cultural familiarisation session as part of their induction training. The purpose of this induction will be to introduce the project staff to the cultural sensitivities of the local communities and the expected behaviours of the staff in their interactions with these communities. The MICRO PMU shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting this training.
- The Contractor is to stipulate the conditions under which visitors may attend the workers camp. Strict visiting hours should be enforced, and all visitors will be required to sign in and out of the workers camp.
- The Contractor shall ensure that basic social/collective rest spaces are provided equipped with seating within the Workers Camp to help minimise the impact that the workers would have on the leisure and recreational facilities of the nearby communities. Provisions should also be made to provide the workers with an active recreation space within the camp.

WORKERS CAMP MANAGEMENT PLAN

A Workers Camp Management Plan shall be submitted as an annex to the CEMSP. The Workers Camp Management Plan shall describe how this document, the ESMP and the IFC Guidelines shall be implemented in the following:

- Recruitment strategy
- Accommodation
- Canteen and dining areas
- Ablutions
- Water supply
- Wastewater management system
- Proposed power supply
- Full Code of Conduct for Workers
- Recreational/leisure facilities for workers
- Visitors to the Workers Camp
- Interactions with the local communities

QUARRY MANAGEMENT SUB-PLAN GUIDELINE

1. Objective

The objective of this Sub-plan is to prescribe the safety requirements for the development and operation of quarries as well as to define procedures and works that shall be used to mitigate against adverse environmental effects.

2. Planning and Design

2.1 Quarry Sites

During the planning of a development project which will involve earthworks, potential quarry sites shall be identified. The potential sites shall be discussed during public consultations in regard to the project.

2.2 Land Acquisition

The Contractor will make lease arrangements with the titled land owner prior to any quarrying. The lease agreement must be approved by the Supervision Engineer and included in the CESMP. The government issued land lease rates shall be applied and all lease agreements will be entered into knowingly and voluntarily.

The consultant shall define potential quarry sites that may be used for the construction of the project. Such potential sites shall be identified on plans drawn to an appropriate scale and the plans shall be displayed and discussed during public consultations.

2.3 Site Plans

Site plans for quarry development shall be included in drawings issued for tender and the specification shall define the requirements of the contract in relation to quarry development and operation. The following design directives shall apply:

It is desirable that no quarry boundary is located within 500 metres of a public area or town or village nor within 300 metres of any isolated dwelling. The designer shall provide site plans of potential quarry sites in the tender documents. Such plans shall show existing level contours, access road, natural watercourses and other relevant topographical features.

The area defined for quarry operation shall be based on the volume of aggregate to be quarried and hence the extent of quarry operation. It shall also provide the area necessary for stockpiling stripped overburden, the establishment of a crusher and screening plant, the stockpiling of crushed aggregate and the installation of stormwater cut off drains, silt retention ponds and staff amenities.

3. Construction

3.1 Quarry Management Plan

Prior to commencing any physical works on site, a quarry development plan shall be prepared and approved by the Engineer and ECD. The quarry management plan shall have due regard for the following:

- All operations shall comply with the laws of the Solomon Islands.
- Show the extent of overburden stripping and the stockpiling of same for later site restoration.
- Show the details and location of surface water drainage from the quarry site and the silt retention pond that will be constructed to settle silt and soil contaminated water prior to its discharge to a natural water course.

- Show details of catch drains installed to intercept overland flow of surface water to prevent its discharge into the quarry area.
- State safety precautions to be implemented.
- Show facilities such as guardhouse, amenities block and other facilities to be constructed.
- Show location of aggregate stockpiles.
- List plant and equipment to be used in the development and operation of the quarry.
- Show the site of the proposed magazine for the storage of explosives.

On no account shall physical works be commenced for development of the quarry until an agreed Quarry Management Plan has been submitted to the Engineer. Thereafter all quarry operation shall be the entire responsibility of the contractor and shall be carried out in terms of the agreed management plan.

3.2 Safety Provisions

The following provisions shall be made in the operation of any quarry for the safety of all employees or persons on site:

- A daily register is to be maintained identifying all personnel who are engaged in or about the quarry.
- All persons engaged in the operation of the quarry shall be trained and have sufficient knowledge of and experience in the type of operation in which they are engaged.
- All persons engaged in the operation of the quarry shall be adequately supervised.
- Approved lighting shall be provided in inside working places where natural lighting is inadequate to provide safe working conditions.
- All personnel engaged in quarry operations shall wear a protective helmet of approved type at all times when on the quarry site.
- All personnel shall wear protective footwear while engaged in quarry operations.
- All employees engaged in operations on a quarry face at a height greater than 1.5 metres above the level of the quarry floor or bench floor shall be attached at all times to a properly secured safety rope by means of a safety belt.
- All persons whose duty it is to attend to moving machinery in or about any quarry shall wear close fitting and close fastened garments. Their hair shall be cut short or securely fixed and confined close to their head.
- All boilers, compressors, engines, gears, crushing and screening equipment and all moving parts of machinery shall be kept in a safe condition. Every flywheel and exposed moving parts of machinery shall be fitted with safety screens or safety fenced as appropriate.
- All elevated platforms, walkways and ladders shall be provided with adequate hand or safety rails or cages.
- Machinery shall not be cleaned manually while it is in motion nor oiled or greased while in motion.

Should any of the above safety measures be ignored or inoperative at any time then the engineer shall direct that quarry operations cease until all safety measures are provided and are in operating order.

3.3 Provision of First Aid

At every quarry there shall be provided the following first aid equipment:

- A suitably constructed stretcher with a warm, dry blanket.
- A first-aid box equipped to a standard acceptable to the Ministry of Health.

The quarry manager shall at least once every working week personally inspect the first-aid equipment to ensure that it complies with the requirements of this specification. Any supplies used from the first-aid box shall be replaced forthwith.

A person trained in first aid to the injured shall be available at the quarry during all operational periods of whatever nature.

3.4 Health Provisions

At every quarry a sufficient number of toilets and urinals shall be provided for the use of employees and shall be properly maintained and kept in a clean condition.

At every quarry a supply of potable water, sufficient for the needs of the persons employed, shall be provided. If persons are employed in places remote from the source of water supply, suitable clean containers of potable water shall be provided for their use.

Suitable facilities for washing shall be provided and maintained in a clean and tidy condition to the satisfaction of the employer, and those facilities shall be conveniently accessible for the use of persons employed in or about the quarry.

3.5 Quarry Manager

A manager who is experienced in all aspects of quarry operation and in particular safety procedures shall control every quarry. The manager shall be personally responsible for ensuring that all safety facilities are available and that safety procedures are followed.

The contractor shall nominate an experienced quarry manager in the submission of the tender for the works. The quarry manager shall have a recognised current "A" grade quarry manager's surface certificate and a recognised current quarry shot firer's certificate.

In the submission of the quarry manager's credentials with the tender documents, the contractor shall ensure that the credentials include certified true copies of the following documents:

- Grade quarry manager's surface certificate
- Quarry shot firer's certificate
- References from previous clients or employers demonstrating experience in:
    - The design and layout of quarries including the layout of benches, faces, access roads, drainage and crushing plant.
    - The methods of working quarry faces with particular reference to face stability and the safety of persons employed in or about the quarry
    - The safety of the public at large
    - The provision for and application of first aid.

The quarry manager's duties shall include:

- daily, within two hours immediately before the commencement of the first working shift of the day in any part of the quarry, inspect every working place and travelling road, and all adjacent places from which danger might arise, and shall forthwith make a true report of the inspection in a record book kept for the purpose at the quarry. The record book shall be accessible to the engineer and the persons employed in or about the quarry.
- at least once in every 24 hours examine the state of the safety appliances or gear connected with quarrying operations in the quarry and shall record the examination in the record book.
- once in each week carefully examine the buildings, machinery, faces, benches, and all working places used in the quarrying operations, and shall forthwith after every such examination record in writing in the record book his opinion as to their condition and safety and as to any alterations or repairs required to ensure greater safety of the persons employed in the working of the quarry. The manager shall then ensure that any such alterations or repairs are carried out.

3.6 Vegetation

Vegetation shall be stripped from the proposed quarry development area. Before stripping any vegetation, a survey shall be undertaken to determine the presence of any rare plant species. All necessary steps shall be taken to save plants classified as important. Care shall be taken to avoid damage to any vegetation outside the defined quarry area. On no account shall burning of vegetation be permitted.

3.7 Overburden Stripping

Overburden stripped from any proposed quarry area shall be stockpiled clear of the quarry operation to be used for site restoration at the completion of operations. Stockpiles shall be shaped and smoothed to minimise ingress of rainwater.

Surface water runoff from stockpiles shall be intercepted by perimeter drains which shall be discharged to silt retention ponds.

Batters in overburden excavation shall be sloped to ensure they are safe and stable against failure.

The maximum height of any batter in overburden shall be 3 metres. Any higher batter in overburden shall have an intermediate bench at least 3.5 metres in width. Such benches shall be shaped and drained.

3.8 Blasting Operations

Blasting operations shall be conducted in a manner that will not cause danger to life or property.

All explosives shall be stored in purpose built locked magazines on a site within the quarry boundary but remote from blasting operations. Detonators shall be stored in a separate locked magazine but similarly sited.

A blasting operations manual shall be prepared for any quarry and such manual, which shall be maintained by the quarry manager, shall stipulate procedures for at least the following:

- Operation of magazines for the storage of explosives and for the storage of detonators.
- The quantity of explosive that may be removed from a magazine at any one time.
- The procedure for quarry explosive cases.
- Persons allowed to fire shots.
- Explosives to be carried in securely covered containers.
- Tamping of explosives.
- Diameter of drill holes.
- Time when charges are to be fired.
- Detonation delay.
- Firing warnings.
- Blasting shelters.
- Treatment of misfired charges
- Inspection of work site after each detonation by the quarry manager or an approved person appointed in writing by the quarry manager.

A person specially appointed in writing by the quarry manager for the purpose shall be in charge of every magazine and shall have keys to one of the locks. That person shall be responsible for the safe storage of explosives contained therein, for the distribution of explosives therefrom, and for the keeping of accurate records of stocks and issues in a book provided for the purpose. A second person, appointed by the employer shall have keys to the second lock. Both persons shall be present to unlock the magazine and note the removal of stock and ensure both locks are subsequently secured.

- Explosives shall be used in the same order as that in which they were received into the magazine.
- Naked lights shall not be introduced into a magazine or into any working place in a quarry where explosives are temporarily stored.
- Explosives shall not be taken from a magazine in quantities exceeding that required for use during one shift, and any surplus explosives shall be returned to the magazine at the end of that shift.
- No case or carton containing explosives shall be opened in the storage area of any magazine.
- Instruments made solely of wood, brass, or copper shall be used in opening cases or cartons of explosives, and the contractor shall provide and keep suitable instruments for that purpose.
- The preparation of charges and the charging, tamping, and firing of all explosive charges in or about a quarry shall be carried out under the personal supervision of the quarry manager.

3.9 Dust Suppression

Operation of any quarry shall incorporate dust suppression measures. Dust generation during blasting operations shall be minimised. All haul roads shall be regularly dampened by spray bars fitted to water tankers or similar systems in order to minimise dust generation by traffic movements. Crushers, screens and stockpiles shall be dampened by appropriate water sprays to minimise dust generation.

4. Rehabilitation

A realistic Rehabilitation Plan will be developed, and rehabilitation planning shall begin as early as possible in the quarry life cycle in order to be fully effective. Once objectives are set, rehabilitation activities should be defined and performed in order to achieve these goals.

The objectives of a rehabilitation plan should be based upon the specific characteristics of the extraction site and should reflect:

- Legislative requirements
- Health and safety considerations
- Environmental and social characteristics of the quarry and surrounding area
- Biodiversity of area
- Ecosystem services provided within the site's ecological boundaries
- Operating plan for the quarry – technical feasibility of the rehabilitation objectives will be affected by the manner in which the quarry operates
- Status of the quarrying area of existing operating site
- Characteristics of the deposit (geology and hydrology)
- Impacts arising from operation of the site
- Post closure land use plan

Rehabilitation plans should adopt the following structure:

a. Context
b. Objectives
c. Action plans
d. Prioritised actions and schedule
e. Monitoring and evaluation
f. Rehabilitation and post-closure costs
g. Roles and responsibilities
h. Compatibility with biodiversity

5. Consent

5.1 Consent Required

In accordance with the Mines and Minerals Act 1996) and any other relevant legislation, any person who engages in quarry development or operations shall first obtain Building Materials Permit for the proposed activity.

5.2 Application for Consent

Permit applications shall be on an approved form and shall be submitted by to the Commissioner. Applications shall be accompanied by such other documents as ECD may require. The Commissioner must not issue or renew any permit unless a copy of the application has been exhibited for a period of not less than 30 days at the headquarters of the area council of the local government council responsible for the land which is the subject of the application.

5.3 Special Conditions

The Commissioner may, by notice served on the applicant, require further information in respect of the application as the Commissioner considers relevant or necessary. The applicant must comply with the notice.

Appendix F: SIRAP Code of Conduct

CODES OF CONDUCT AND ACTION PLAN FOR IMPLEMENTING ESHS AND OHS STANDARDS, AND PREVENTING GENDER BASED VIOLENCE ON PACIFIC ISLAND COUNTRY TRANSPORT PROJECTS

Background

The purpose of these *Codes of Conduct and Action Plan for Implementing ESHS and OHS Standards, and Preventing Gender Based Violence* is to introduce a set of key definitions, core Codes of Conduct, and guidelines for application on World Bank financed transport projects in Pacific Island Countries (PICs) that:

i. clearly define obligations on all project staff (including sub-contractors and day workers) with regard to implementing the project's environmental, social, health and safety (ESHS) and occupational health and safety (OHS) requirements, and;
ii. help prevent, report and address Gender Based Violence (GBV) within the work site and in its immediate surrounding communities.

The application of these Codes of Conduct will help ensure the project meets its ESHS and OHS objectives, as well as preventing and/or mitigating the risks of GBV on the project and in the local communities.

These Codes of Conduct are to be adopted by all those working on the project—including subcontractors—and are meant to:

i. create awareness of the ESHS and OHS expectations on the project;
ii. create common awareness about GBV and:
    (a) ensure a shared understanding that GBV has no place on the project; and,
    (b) create a clear system for identifying, responding to, and sanctioning GBV incidents.

Ensuring that all project staff understand the values of the project, understanding expectations for all employees, and acknowledging the consequences for violations of these values, will help to create smoother, more respectful and productive project implementation thereby helping ensure that the project's development objectives will be achieved.

Definitions

The following definitions apply:

ESHS and General Project

- **Environmental, Social, Health and Safety (ESHS):** an umbrella term covering issues related to the impact of the project on the environment, communities and workers.
- **Occupational Health and Safety (OHS):** Occupational health and safety is concerned with protecting the safety, health and welfare of people engaged in work or employment, and the surrounding communities. The enjoyment of these standards at the highest levels is a basic human right that should be accessible by each worker.
- **Key Documents:**
    - **Project Environmental and Social Management Plan (ESMP):** The safeguards document prepared prior to project approval by the World Bank identifying the activities to be undertaken, key risks (based on ESIA if available), and their mitigation measures.
    - **Contractors Environmental and Social Management Plan (C-ESMP):** the plan prepared by the contractor outlining how they will implement the works activities in accordance with the project's environmental and social management plan (ESMP). As shown in Figure 2, the C-ESMP also contains a number of management plans, in particular, the OHS Management Plan.
    - **Codes of Conduct:** the Codes of Conduct adopted for the project (or individual companies) covering the commitment of the company, and the responsibilities of managers and individuals with regards to ESHS, OHS and GBV.
- **Key Project Actors:**
    - **Consultant:** is as any firm, company, organization or other institution that has been awarded a contract to provide consulting services to the project, and has hired managers and/or employees to conduct this work.
    - **Contractor:** is any firm, company, organization or other institution that has been awarded a contract to conduct infrastructure development works for the project and has hired managers and/or employees to conduct this work. This also includes sub-contractors hired to undertake activities on behalf of the contractor.
    - **Manager:** is any individual offering labor to the contractor or consultant, on or off the work site, under a formal or informal employment contract and in exchange for a salary, with responsibility to control or direct the activities of a contractor's or consultant's team, unit, division or similar, and to supervise and manage a pre-defined number of employees.
    - **Employee:** is any individual offering labor to the contractor or consultant within country on or off the work site, under a formal or informal employment contract or arrangement, typically, but not necessarily (e.g. including unpaid interns and volunteers), in exchange for a salary, with no responsibility to manage or supervise other employees.
- **Grievance Redress Mechanism (GRM):** is the process established by a project to receive and address complaints related to the project—not just GBV but related to any aspect of the project. The GRM needs to: (i) allow for multiple channels to receive complaints; (ii) be readily accessible, allowing complaints to be made in different ways; and, (iii) have appropriate protocols to handle GBV complaints including empathetic listening and assurance of confidentiality.

- **Work Site:** is the area in which infrastructure development works are being conducted, as part of the project. Consulting assignments are considered to have the areas in which they are active as their work sites.

- **Work Site Surroundings:** is the 'Project Area of Influence' which are any area, urban or rural, directly affected by the project, including all human settlements found in it.

GBV

Key definitions: With reference to the focus areas for in Figure 1, there are a number of key definitions for understanding GBV:

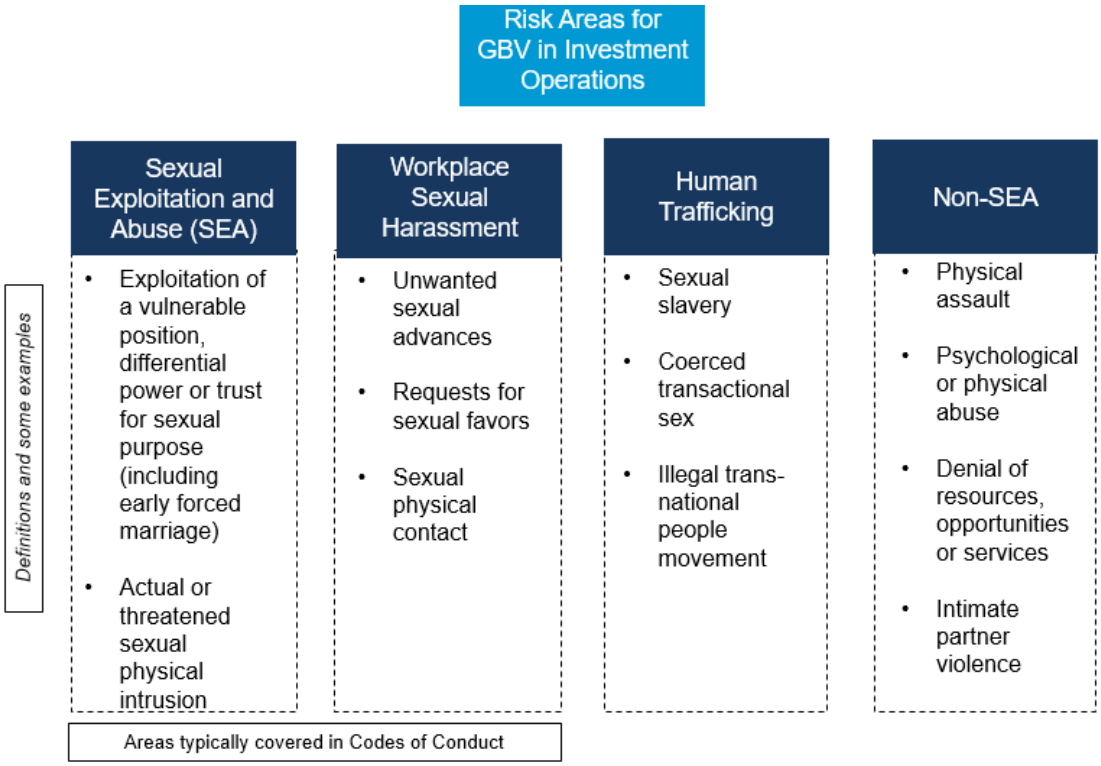


Figure 1: Types of GBV that may be Exacerbated by Investment Operations

Codes of Conduct Focus
These Codes of Conduct specifically focus on the following forms of GBV - Sexual Exploitation and Abuse (SEA) and Sexual Harassment as they represent high risk areas in the context of investment operations.

- **Gender Based Violence (GBV):** is an umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed (that is, gender) differences between male and female individuals. GBV includes acts that inflict physical, mental, or sexual harm or suffering; threats of such acts; and coercion and other deprivations of liberty, whether occurring in public or in private life.
- **Sexual Exploitation and Abuse (SEA):** Sexual exploitation is a facet of GBV that is defined as any actual or attempted 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. In the context of World Bank supported projects, SEA occurs against a beneficiary or member of the community.
    - **Sexual abuse** is further defined as the actual or threatened physical intrusion of a sexual nature whether by force or under unequal or coercive conditions.
    - **Child sexual abuse:** is defined by the age of the survivor. It includes different forms of sexual violence, involves either explicit force or coercion or cases in which the survivor cannot consent because of his or her age. Sexual activity with anyone below the age of 18, except in cases of pre-existing marriage, constitutes child sexual abuse. Mistaken belief regarding the age of the child and/or receipt of consent from the child is not a defense.
- **Sexual harassment:** occurs between personnel and staff on the project, and involves any unwelcome sexual advance or unwanted verbal or physical conduct of a sexual nature. (e.g. looking somebody up and down; kissing; whistling and catcalls; in some instances, giving personal gifts). The distinction between the SEA and sexual harassment is important so that agency policies and staff trainings can include specific instruction on the procedures to report each.
    - **Sexual favors:** is a form of sexual harassment and includes making promises of favorable treatment (e.g. promotion) or threats of unfavorable treatment (e.g. loss of job) dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
- **Child protection (CP):** Is an activity or initiative designed to protect children from any form of harm, particularly arising from child abuse and exploitation.
    - **Child:** is used interchangeably with the term 'minor' and refers to a person under the age of 18. This is in accordance with Article 1 of the United Nations Convention on the Rights of the Child.
    - **Child Abuse and Exploitation (CAE):** the physical, sexual or psychological harm of children including using for profit, labor, sexual gratification, or some other personal or financial advantage. This also includes other activities such as using computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any mediums
    - **Grooming:** are behaviors that make it easier for a perpetrator to procure a child for sexual activity. For example, an offender might build a relationship of trust with the child, and then seek to sexualize that relationship (for example by encouraging romantic feelings or exposing the child to sexual concepts through pornography).
    - **Online Grooming:** is the act of sending an electronic message to a recipient who the sender believes to be a minor, with the intention of developing a relationship of trust that can be abused by procuring the recipient to engage in or submit to sexual activity with another person, including but not necessarily limited to the sender. This includes engaging in online sexual activities, such as messages, videos and photos with sexual content either sent to or procured from a child.

Other definitions: In addressing the issues raised above related to GBV there are a number of considerations which need to be clearly defined:

- **Rape:** non-consensual penetration (however slight) of the vagina, anus or mouth with a penis, other body part, or an object.

- **Consent:** refers to when an adult makes an informed choice to agree freely and voluntarily to do something. 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 CoC is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense. There is **no** consent when agreement is obtained through:

    - The use of threats, force or other forms of coercion, abduction, fraud, manipulation, deception, or misrepresentation,

    - The use of a threat to withhold a benefit to which the person is already entitled, or,

    - A promise made to the person to provide a benefit.

- **Perpetrator:** the person(s) who commit(s) or threaten(s) to commit an act or acts of GBV.

- **Survivor/Survivors:** the person(s) adversely affected by GBV. Women, men and children can be survivors of GBV.

- **GBV Service Provider:** is an independent organization trusted by the local communities with the skills and resources to provide support to survivors of GBV, as well as training to reduce the risks of GBV.

- **Third-Party Monitor (TPM) or Independent Verification Agent (IVA):** an organization commissioned to independently monitor and report on the effectiveness of the implementation of the GBV activities on the project. TPMs are financed independent of the project; IVAs are financed by the project.

- **Investigation and resolution of GBV allegations:**

    - **GBV Allegation Procedure:** is the prescribed procedure to be followed when reporting incidents of GBV.

    - **Accountability Measures:** are the measures put in place to ensure the confidentiality of survivors and to hold contractors, consultants and the client responsible for instituting a fair system of addressing cases of GBV.

    - **Response Protocol:** are the mechanisms set in place to respond to cases of GBV.

    - **GBV Complaints Team (GCT):** a team established by the project to address GBV issues.

Codes of Conduct

This chapter presents three Codes of Conduct for use:

i. **Company Code of Conduct:** Commits the company to addressing EHSH, OHS and GBV issues;
ii. **Manager's Code of Conduct:** Commits managers to implementing the Company Code of Conduct, as well as those signed by individuals; and,
iii. **Individual Code of Conduct:** Code of Conduct for everyone working on the project, including managers.

Company Code of Conduct

Implementing ESHS and OHS Standards

Preventing Gender Based Violence

The company is committed to ensuring that the 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 the environmental, social, health and safety (ESHS) standards, and ensuring appropriate occupational health and safety (OHS) 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, sub-contractors, supplier, associate, or representative of the company.

Therefore, to ensure that all those engaged in the project are aware of this commitment, the company commits to the following core principles and minimum standards of behavior that will apply to all company employees, associates, and representatives, including sub-contractors and suppliers, without exception:

General

1. The company—and therefore all employees, associates, representatives, sub-contractors and suppliers—commits to complying with all relevant national laws, rules and regulations.
2. The company commits to full implementing its 'Contractors Environmental and Social Management Plan' (C-ESMP) as approved by the client.
3. The company commits to treating women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. Acts of GBV are in violation of this commitment.
4. The company shall ensure that interactions with local community members are done with respect and non-discrimination.
5. Demeaning, threatening, harassing, abusive, culturally inappropriate, or sexually provocative language and behavior are prohibited among all company employees, associates, and its representatives, including sub-contractors and suppliers.
6. The company will follow all reasonable work instructions (including regarding environmental and social norms).
7. The company will protect and ensure proper use of property (for example, to prohibit theft, carelessness or waste).

Health and Safety

8. The company will ensure that the project's OHS Management Plan is effectively implemented by company's staff, as well as sub-contractors and suppliers.
9. The company will ensure that all persons on-site wear prescribed and appropriate personal protective equipment, preventing avoidable accidents, and reporting conditions or practices that pose a safety hazard or threaten the environment.
10. The company will:
    i. prohibit the use of alcohol during work activities.
    ii. prohibit the use of narcotics or other substances which can impair faculties at all times.
11. The company will ensure that adequate sanitation facilities are available on site and at any worker accommodations provided to those working on the project.

12. The company will not hire children under the age of 18 for construction work, or allow them on the work site, due to the hazardous nature of construction sites.

Gender Based Violence

13. Acts of GBV constitute gross misconduct and are therefore grounds for sanctions, which may include penalties and/or termination of employment and, if appropriate, referral to the Police for further action.
14. All forms of GBV, are unacceptable, regardless of whether they take place on the work site, the work site surroundings, at worker's camps or within the local community.
15. Sexual harassment of work personnel and staff (e.g. making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature) are acts of GBV and are prohibited.
16. Sexual favors (e.g. making promises of favorable treatment such as promotions, threats of unfavorable treatment such as losing a job, payments in kind or in cash dependent on sexual acts) and any form of humiliating, degrading or exploitative behavior are prohibited.
17. The use of prostitution in any form at any time is strictly prohibited.
18. Sexual contact or activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
19. Unless there is full consent[43] by all parties involved in the sexual act, sexual interactions between the company's employees (at any level) and members of the communities surrounding the workplace are prohibited. This includes relationships involving the withholding/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.
20. In addition to company sanctions, legal prosecution of those who commit acts of GBV will be pursued if appropriate.
21. All employees, including volunteers and sub-contractors are highly encouraged to report suspected or actual acts of GBV by a fellow worker, whether in the same company or not. Reports must be made in accordance with project's GBV Allegation Procedures.
22. Managers are required to report and act to address suspected or actual acts of GBV as they have a responsibility to uphold company commitments and hold their direct reports responsible.

Implementation

To ensure that the above principles are implemented effectively the company commits to:

23. Ensuring that all managers sign the project's 'Manager's Code of Conduct' detailing their responsibilities for implementing the company's commitments and enforcing the responsibilities in the 'Individual Code of Conduct'.
24. Ensuring that all employees sign the project's 'Individual Code of Conduct' confirming their agreement to comply with ESHS and OHS standards, and not to engage in activities resulting in GBV, child endangerment or abuse, or sexual harassment.
25. Displaying the Company and Individual Codes of Conduct prominently and in clear view at workers' camps, offices, and in in public areas of the workspace. Examples of areas include waiting, rest and lobby areas of sites, canteen areas and health clinics.

[43] **Consent:** refers to when an adult makes an informed choice to agree freely and voluntarily to do something. There is **no** consent when agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, manipulation, deception, or misrepresentation; the use of a threat to withhold a benefit to which the person is already entitled, or; a promise made to the person to provide a benefit. 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.

26. Ensuring that posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
27. Ensuring that an appropriate person is nominated as the company's 'Focal Point' for addressing GBV issues, including representing the company on the GBV Complaints Team (GCT) which is comprised of representatives from the client, contractor(s), the supervision consultant, and local GBV Service Provider.
28. Ensuring that an effective GBV Action Plan is developed in consultation with the GCT which includes as a minimum:
    i. **GBV Allegation Procedure** to report GBV issues through the project Grievance Redress Mechanism (Section 4.3 Action Plan);
    ii. **Accountability Measures** to protect confidentiality of all involved (Section 4.4 Action Plan); and,
    iii. **Response Protocol** applicable to GBV survivors and perpetrators (Section 4.7 Action Plan).
29. Ensuring that the company effectively implements the agreed final GBV Action Plan, providing feedback to the GCT for improvements and updates as appropriate.
30. Ensuring that all employees attend an induction training course prior to commencing work on site to ensure they are familiar with the company's commitments to ESHS and OHS standards, and the project's GBV Codes of Conduct.
31. Ensuring that all employees attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the project's ESHS and OHS standards and the GBV Code of Conduct.

I do hereby acknowledge that I have read the foregoing Company Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to support the project's OHS and ESHS standards, and to prevent and respond to GBV. I understand that any action inconsistent with this Company Code of Conduct or failure to act mandated by this Company Code of Conduct may result in disciplinary action.

Company name: _____

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Manager's Code of Conduct

Implementing ESHS and OHS Standards

Preventing Gender Based Violence

The company is committed to ensuring that the 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 the environmental, social, health and safety (ESHS) standards, and ensuring appropriate occupational health and safety (OHS) 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, sub-contractors, 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 Company 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 (C-ESMP), the OHS Management Plan, and developing systems that facilitate the implementation of the GBV Action Plan.

Managers need to maintain a safe workplace, as well as a GBV-free environment at the workplace and in the local community. Their responsibilities to achieve this include but are not limited to:

Implementation

1. To ensure maximum effectiveness of the Company and Individual Codes of Conduct:
    i. Prominently displaying the Company and Individual Codes of Conduct in clear view at workers' camps, offices, and in public areas of the workspace. Examples of areas include waiting, rest and lobby areas of sites, canteen areas and health clinics.
    ii. Ensuring all posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
2. Verbally and in writing explain the Company and Individual Codes of Conduct to all staff.
3. Ensure that:
    i. All direct reports sign the 'Individual Code of Conduct', including acknowledgment that they have read and agree with the Code of Conduct.
    ii. Staff lists and signed copies of the Individual Code of Conduct are provided to the OHS Manager, the GBV Complaints Team (GCT), and the client.
    iii. Participate in training and ensure that staff also participate as outlined below.
    iv. Put in place a mechanism for staff to:
        (a) report concerns on ESHS or OHS compliance; and,
        (b) confidentially report GBV incidents through the Grievance Redress Mechanism (GRM)
    v. Staff are encouraged to report suspected or actual ESHS, OHS, GBV issues, emphasizing the staff's responsibility to the Company and the country hosting their employment, and emphasizing the respect for confidentiality.
4. In compliance with applicable 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 nor 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 ESHS, OHS, 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 ESHS and OHS 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 GCT to create and disseminate internal sensitization initiatives through the awareness-raising strategy under the GBV Action Plan.
7. Ensure that any GBV complaint warranting Police action is reported to the Police, the client and the World Bank immediately.
8. Report and act in accordance with the agreed response protocol any suspected or actual acts of GBV.
9. Ensure that any major ESHS or OHS incidents are reported to the client 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 to:
    i. Ensure that the OHS Management Plan is implemented, with suitable training required for all staff, including sub-contractors and suppliers; and,
    ii. Ensure that staff have a suitable understanding of the C-ESMP and are trained as appropriate to implement the C-ESMP requirements.
12. All managers are required to attend an induction manager training course prior to commencing work on site 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 Action Plan for addressing GBV issues.
13. Managers are required to attend and assist with the project facilitated monthly training courses for all employees. Managers will be required to introduce the trainings 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. OHS and ESHS; and,
    ii. GBV required of all employees.
15. During civil works, ensure that staff attend ongoing OHS and ESHS training, as well as the monthly mandatory refresher training course required of all employees to on GBV.

Response

16. Managers will be required to take appropriate actions to address any ESHS or OHS incidents.

17. Regarding GBV:
    i. Provide input to the GBV Allegation Procedures and Response Protocol developed by the GCT as part of the final cleared GBV Action Plan.
    ii. Once adopted by the Company, managers will uphold the Accountability Measures set forth in the GBV Action Plan 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 maximum timeframe of 14 days from the date on which the decision to sanction was made by the GCT.

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 Company and the GCT. The Company 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, the client and the World Bank immediately

18. Managers failing address ESHS or OHS incidents or failing to report or comply with the GBV provisions may be subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director 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), 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 ESHS, OHS, 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.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Individual Code of Conduct

Implementing ESHS and OHS Standards

Preventing Gender Based Violence

I, _____, acknowledge that adhering to environmental, social, health and safety (ESHS) standards, following the project's occupational health and safety (OHS) requirements, and preventing Gender Based Violence (GBV) is important.

The Company considers that failure to follow ESHS and OHS standards, or to partake in activities constituting GBV—be it on the work site, the work site surroundings, at workers' camps, or the surrounding communities—constitute acts 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 project I will:

- Consent to Police background check.
- Attend and actively partake in training courses related to ESHS, OHS, and GBV as requested by my employer.
- Will wear my personal protective equipment (PPE) at all times when at the work site or engaged in project related activities.
- Take all practical steps to implement the contractor's environmental and social management plan (C-ESMP).
- Implement the OHS Management Plan.
- Adhere to a zero-alcohol policy during work activities, and refrain from the use of narcotics or other substances which can impair faculties at all times.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not sexually exploit or abuse project beneficiaries and members of the surrounding communities.
- Not engage in sexual harassment of work personnel and staff —for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature is prohibited. E.g. looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; in some instances, giving personal gifts.
- Not engage in sexual favors —for instance, making promises of favorable treatment (e.g. promotion), threats of unfavorable 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 behavior.
- Not use prostitution in any form at any time.
- 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.

- Unless there is the full consent[44] 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.
- 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:

- Bring to the attention of my manager the presence of any children on the construction site or engaged in hazardous activities.
- Wherever possible, ensure that another adult is present when working in the proximity of children.
- Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
- 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).
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labor below the minimum age of 14 unless national law specifies a higher age, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labor laws in relation to child labor and World Bank's ESF standards on child labor and minimum age.
- Take appropriate caution when photographing or filming children (See Annex 2 for details).

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
- 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.
- 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.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

[44] **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.

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 behaviors that could be construed as GBV. Any such actions will be a breach 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, OHS, 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: _____

GBV Action Plan

This GBV Action Plan outlines how the project will put in place the necessary protocols and mechanisms to minimize or eliminate GBV on the project, as well as to address any GBV issues that may arise. The following framework needs to be adapted to reflect the specific situation and implementation arrangements for each project.

The GBV Complaints Team

The project shall establish a 'GBV Complaints Team' (GCT). The GCT will include, as appropriate to the project, at least four representatives ('Focal Points') as follows:

a. A safeguards specialist from the client;
b. The occupational health and safety manager from the contractor[45], or someone else tasked with the responsibility for addressing GBV with the time and seniority to devote to the position;
c. The supervision consultant;
d. A representative from a client approved service provider with experience in GBV—the 'GBV Service Provider' (GSP); and optionally,
e. Members representing the local community, government, etc.

It will be the duty of the GCT with support from the management of the contractor(s) and consultant(s) to inform workers about the activities and responsibilities of the GCT. To effectively serve on the GCT, members must undergo training by the GBV Service Provider prior to the commencement of their assignment to ensure that they are sensitized on GBV.

The GCT will be required to:

a. Approve any changes to the **GBV** elements of the **Codes of Conduct** contained in this document, with clearances from the client and the World Bank for any such changes.
b. Prepare the **GBV Action Plan** reflecting the Codes of Conduct which includes:
   i. **GBV Allegation Procedures** (See 4.2)
   ii. **Addressing GBV Complaints** (See 4.3)
   iii. **Accountability Measures** (See 4.4)
   iv. An **Awareness raising Strategy** (See 4.6)
   v. A **Response Protocol** (See 4.7)
c. Obtain approval of the GBV Action Plan by the Contractor's management;
d. Obtain client and World Bank clearances for the GBV Action Plan prior to full mobilization;
e. Receive and monitor resolutions and sanctions regarding complaints received related to GBV associated with the project; and,
f. Ensure that GBV statistics in the GRM are up to date and included in the regular project reports.

The GCT shall hold quarterly update meetings to discuss ways to strengthen resources and GBV support for employees and community members.

[45] Where there are multiple contractors working on the project, each shall nominate a representative as appropriate.

Making Complaints: GBV Allegation Procedures

All staff, volunteers, consultants and sub-contractors are encouraged to report suspected or actual GBV cases. Managers are required to report suspected or actual GBV cases as they have responsibilities to uphold company commitments and they hold their direct reports accountable for complying with the Individual Code of Conduct.

The project will provide information to employees and the community on how to report cases of GBV Code of Conduct breaches through the Grievance Redress Mechanism (GRM). The GCT will follow up on cases of GBV and Code of Conduct breaches reported through the GRM.

Addressing Complaints about GBV

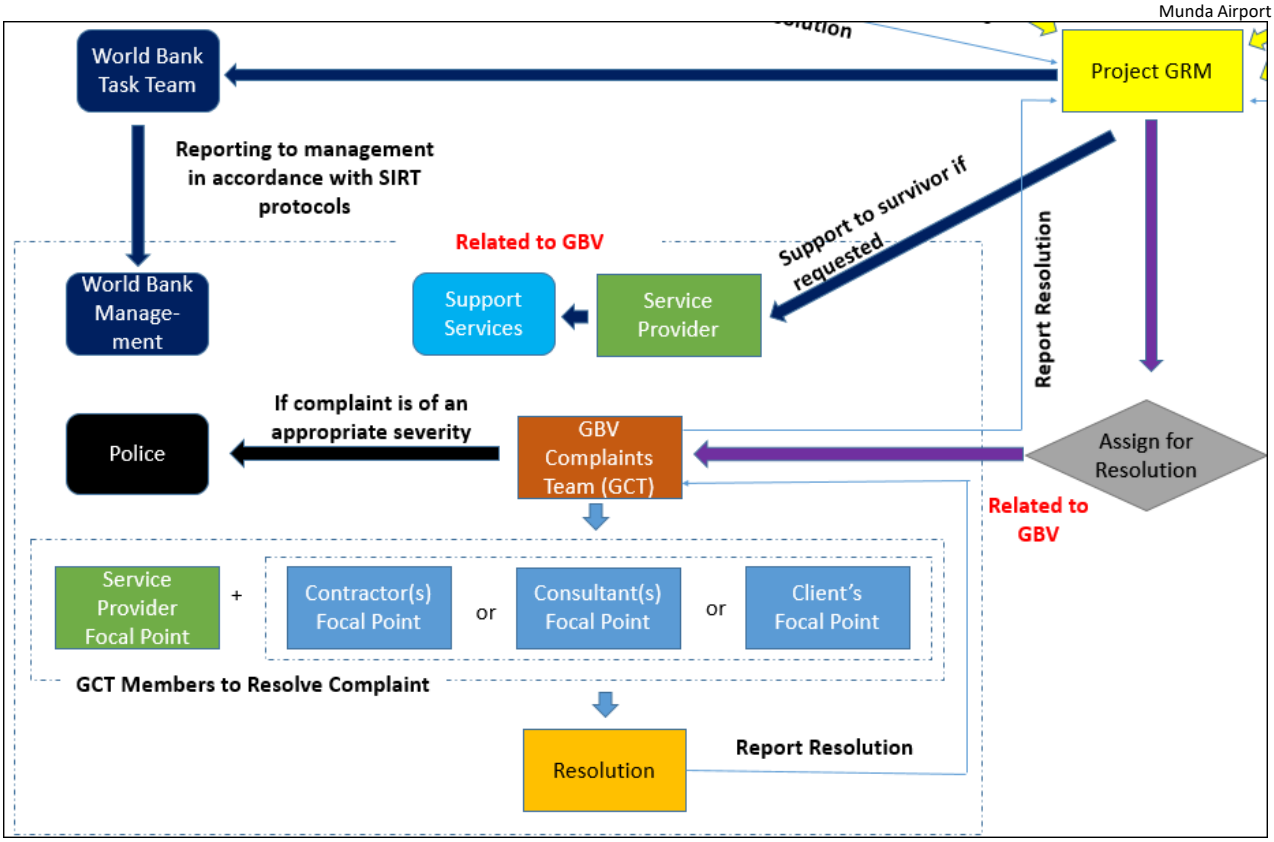
Each project needs to put in place appropriate protocols for addressing GBV complaints. The protocols will vary between projects based on local circumstances, but there are key principles which are required in all projects.

GRM

The project operates a GRM which is managed by a designated GRM operator with the project management unit or, ideally, an entity independent of the project implementation. The GRM must be designed to ensure that:

i. Complaints can be made through different channels, such as the traditional local practices (e.g. village chiefs), online, phone, in-person, the local GBV Service Provider, the manager(s), or the Police.
ii. Complaints should be able to be made in different ways such as online, via telephone or mail, or in person;
iii. Anonymity should be ensured if the complainant so desires it, especially about GBV;

There needs to be a specific workflow for handling GBV complaints. The figure below illustrates the work flow adopted in 2017 for the Vanuatu Aviation Investment Project (VAIP).



If the complaint to the GRM is made by an GBV survivor, or on behalf of a survivor, the complainant will be directly referred to the GBV Service Provider to receive support services (if so desired) while the GCT investigates the complaint in parallel.

The World Bank requires that all complaints regarding GBV must immediately be reported to the World Bank task team by the GRM operator. These complaints may be referred to the World Bank management in accordance with the World Bank's reporting protocols.

The GRM shall only collect two items of data related to GBV—to be inferred from discussions with the complainant:

i. The nature of the GBV; and,
ii. To the best of the knowledge was the perpetrator associated with the project.

Additional information shall be gathered by the GBV Service Provider using their existing survivor support protocols. This information shall be confidential and not part of the GRM process.

The GRM operator will refer complaints related to GBV to the GCT to resolve them. In accordance with the GBV Action Plan, the GCT through the GBV Service Provider and Focal Point(s) will investigate the complaint and ultimately provide the GRM operator with a resolution to the complaint, or the Police if appropriate. The victim's confidentiality should also be kept in mind when reporting any incidences to the Police.

The GRM operator will, upon resolution, advise the complainant of the outcome, unless it was made anonymously.

GBV Service Provider

The GBV Service Provider is a local organization which has the trust of the local community, experience and ability to support survivors of GBV. They will be identified by the client during project preparation, if necessary with the support of the World Bank.

The client, the contractor(s) and consultant(s) must establish a working relationship with the GBV Service Provider, so that GBV cases can safely be referred to them. The GBV Service Provider will also provide support and guidance to the GBV Focal Points as necessary. The GBV Service Provider will have a representative on the GCT and be involved in resolving complaints related to GBV.

The contract for the GBV Service Provider shall include provision for financing costs around providing the necessary support to survivors.

GBV Complaints Team

The GCT is responsible for ensuring that GBV complaints are properly investigated and that appropriate sanctions are applied for any cases where sanctions are considered to be justified. The GCT is comprised of: (i) the GBV Service Provider; and, (ii) 'Focal Points' from the contractor(s), consultant(s) and client; and optionally, (iii) members of the local community, government, etc.

All the Focal Points on the GCT must be trained and empowered to resolve GBV issues. It is essential that all staff of the GRM and GCT understand the guiding principles and ethical requirement of dealing with survivors of GBV. All reports should be kept confidential and referred immediately to the GBV Service Provider represented on the GCT[46].

The GCT shall confirm that all complaints related to GBV have been: (i) referred to the client and the World Bank by the GRM operator; and, (ii) are referred to Police (or other authorities) for investigation if of appropriate severity. In GBV cases warranting Police action; and, (iii) management for further action.

The GCT shall consider all GBV complaints and agree on a plan for resolution. The appropriate Focal Point will be tasked with implementing the plan (i.e. issues with contractor's staff will be for the contractor to resolve; consultant's staff the consultant; and client's staff the client). The Focal Point will advise the GCT on resolution, including referral to the Police if necessary. They will be assisted by the GBV Service Provider as appropriate.

Accountability Measures

All reports of GBV shall be handled in a confidential manner to protect the rights of all involved. The client, contractor and consultant must maintain the confidentiality of employees who notify any acts or threats of violence, and of any employees accused of engaging in any acts or threats of violence (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law). The contractor and consultant must prohibit discrimination or adverse action against an employee because of survivor's disclosure, experience or perceived experience of GBV (see Annex 1 for examples of actions to

[46] Survivors of GBV may need access to Police, justice, health, psychosocial, safe shelter and livelihood services to begin on a path of healing from their experience of violence.

maintain accountability).

To ensure that survivors feel confident to disclose their experience of GBV, they can report cases of GBV through multiple channels such as: (i) online, (ii) phone, (iii) in-person, (iv) the local GBV Service Provider, (v) the manager(s), (vi) village councils; or, (vii) the Police. To ensure confidentiality, only the GBV Service Provider will be privy to information regarding the survivor. The GCT will be the primary point of contact for information and follow up regarding the perpetrator.

Monitoring and Evaluation

The GRM is to notify the client and the World Bank immediately of any complaints related to GBV.

The GCT must monitor the follow up of cases that have been reported and maintain all reported cases in a confidential and secure location. Monitoring must collect the number of cases that have been reported and the share of them that are being managed by Police, NGOs etc.

These statistics shall be reported to the GRM and the Supervision Engineer for inclusion in their reporting.

Awareness-raising Strategy

It is important to create an Awareness-raising Strategy with activities aimed to sensitize employees on GBV on the work site and its related risks, provisions of the GBV Codes of Conduct, and GBV Allegation Procedures, Accountability Measures and Response Protocol. The strategy will be accompanied by a timeline, indicating the various sensitization activities through which the strategy will be implemented and the related (expected) delivery dates. Awareness-raising activities should be linked with trainings provided by the GBV Service Provider.

Response Protocol

The GCT will be responsible for developing a written response[47] protocol to meet the project requirements, in accordance to national laws and protocols. The response protocol must include:

i. Mechanisms to notify and respond to perpetrators in the workplace;
ii. The GRM process to ensure competent and confidential response to disclosures of GBV, and;
iii. A referral pathway to refer survivors to appropriate services (See 4.8 Survivor Support Measures below).

The contractor(s), consultant(s) and client shall encourage notification through the GRM channels from employees and community members about perpetrators in the workplace through awareness raising activities. An employee who discloses a case of sexual harassment in the workplace shall be referred to the GRM for reporting to seek services.

Through the GCT, the companies and client shall oversee the investigation of these grievances, ensuring procedural fairness for the accused, and within the local laws. If an employee has breached the Code of Conduct, the employer will take appropriate action which could include:

i. Undertake disciplinary action up in accordance with sanctions in the GBV Codes of Conduct (see Section 4.9);
ii. Report the perpetrator to the Police as per local legal paradigms; and/or

[47] Develop appropriate protocol for written recording of GBV issues raised in case the notes are subpoenaed. Develop processes for record keeping including activities undertaken by the GCT.

iii. If feasible, provide or facilitate counselling for the perpetrator.

Survivor Support Measures

It is essential to appropriately respond to the survivor's complaint by respecting the survivor's choices to minimize the potential for re-traumatization and further violence against the survivor.

Any survivor will receive care regardless of whether the perpetrator is associated with the project will receive support/ The support will be provided by the GBV Service Provider—including medical and psychosocial support, emergency accommodation, transport fees necessary to receive services, security including Police protection and livelihood support—by facilitating contact and coordination with these services. See Annex 1 for examples of the types of support which could be considered under the project.

The contract with the GBV Service Provider shall explicitly detail the services to be provided, and how the associated costs shall be financed by the project.

If the survivor is an employee of the contractor(s), consultant(s) or client, to ensure the safety of the survivor, and the workplace in general, the client, contractor or consultant, in consultation with the survivor, will assess the risk of ongoing abuse to the survivor and in the workplace. Reasonable adjustments will be made to the survivor's work schedule and work environment as deemed necessary (see Annex 1 for examples of safety measures). The employer will provide adequate leave to survivors seeking services after experiencing violence (see Annex 1 for details).

Sanctions

In accordance with the Code of Conduct, any employee confirmed as a GBV perpetrator shall be considered for disciplinary measures in line with sanctions and practices as agreed in the Individual Code of Conduct. Potential Sanctions to employees who are perpetrators of GBV 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), for a minimum period of 1 month up to a maximum of 6 months.
vi. Termination of employment.
vii. Referral to the Police or other authorities as warranted.

It is important to note that, for each case, disciplinary sanctions are intended to be part of a process that is entirely internal to the employer, is placed under the full control and responsibility of its managers and is conducted in accordance with the applicable national labor legislation.

Such process is expected to be fully independent from any official investigation that competent authorities (e.g. Police) may decide to conduct in relationship to the same case, and in accordance with the applicable national law. Similarly, internal disciplinary measures that the employer's managers may decide to enact are meant to be separate from any charges or sanctions that the official investigation may result into (e.g. monetary fines, detention etc.).

Annex 1 - Potential Procedures for Addressing GBV

Accountability Measures to maintain confidentiality can be achieved through the following actions:

1. Inform all employees that confidentiality of GBV survivors' personal information is of utmost importance.
2. Provide the GCT with training on empathetic and non-judgmental listening.
3. Take disciplinary action, including and up to dismissal, against those who breach survivor's confidentiality (this is unless a breach of confidentiality is necessary to protect the survivor or another person from serious harm, or where required by law).

GBV Allegation Procedures should specify:

1. Who survivors can seek information and assistance from.
2. The process for community members and employees to lodge a complaint through the GRM should there be alleged GBV.
3. The mechanism for how community members and employees can escalate a request for support or notification of violence if the process for reporting is ineffective due to unavailability or non-responsiveness, or if the employee's concern in not resolved.

Financial and Other Supports to survivors can include:

1. No/low interest loans.
2. Salary advances.
3. Direct payment of medical costs.
4. Coverage of legal costs specifically related to the incident
5. Coverage of all medical costs related specifically to the incident.
6. Upfront payments for medical costs to later be recouped from the employee's health insurance.
7. Providing or facilitating access to childcare.
8. Providing security upgrades to the employee's home.
9. Providing safe transportation to access support services or to and from accommodation.

Based on the rights, needs and wishes of the survivor, survivor support measures to ensure the safety of the survivor who is an employee can include[48]:

1. Changing the perpetrator or survivor's span of hours or pattern of hours and/or shift patterns.
2. Redesigning or changing the perpetrator or survivor's duties.
3. Changing the survivor's telephone number or email address to avoid harassing contact.
4. Relocating the survivor or perpetrator to another work site/ alternative premises.
5. Providing safe transportation to and from work for a specified period.
6. Supporting the survivor to apply for an Interim Protection Order or referring them to appropriate support.
7. Taking any other appropriate measures including those available under existing provisions for family friendly and flexible work arrangements.

Leave options for survivors that are employees can include:

1. An employee experiencing sexual harassment should be able to request paid special leave to attend medical or psychosocial appointments, legal proceedings, and relocation to safe accommodation among other services that may be needed.
2. An employee who supports a person experiencing sexual harassment may take care givers leave, including but not limited to accompanying them to court or hospital, or to take care of children.
3. Employees who are employed in a casual capacity may request unpaid special leave or unpaid care givers

[48] It is critical that a survivor centered approach be adopted. The survivor should be fully involved in the decision making. Except for exceptional circumstances the perpetrator should be required to take appropriate actions to accommodate the survivor (e.g. move, change hours, etc.), rather than the survivor changing.

leave to undertake the activities described above.

4. The amount of leave provided will be determine by the individual's situation through consultations with the employee, the management and the GCT where appropriate.

Potential Sanctions to employees who are perpetrators of GBV 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.

Referral to the Police or other authorities as warranted.

Appendix G: UXO Procedure Policy and Response Plan

SOLOMON ISLANDS

NATIONAL TRANSPORT FUND BOARD

AGENDA ITEM

Purpose:

The purpose of this agenda item is to update The Board on TSDP's progress in developing a simple high-level policy in relation to unexploded ordinance (UXO) - for inclusion in the MID Specification for Road and Bridge Works master document.

This item has been written For Information Only.

Background:

TSDP staff have recently been undertaking a review the various practices, procedures and specifications that are prescribed within the MID Specification for Road and Bridge Works master document.

When staff were canvassed as to whether any other processes or procedures might be worthwhile, one staff member suggested that it might be beneficial to develop a policy that provides MID recommendations as to procedures in relation to unexploded ordinance {UXO).

Current Situation:

While responsibility for UXO typically resides with The Royal Solomon Islands Police Force Explosives Ordinance Disposal Unit {RSIPF- EDD Unit), MID has proposed that contractors and landowners do have so some responsibilities in relation to ordinance when doing work commissioned by MID.

This policy does not seek to assume any responsibilities currently shouldered by RSIPF- EDD Unit but it seeks to reduce the risk to anyone involved on MID Projects by requiring in some cases that study is undertaken to assess likelihood of UXO and that practices to reduce the adverse effects of UXO are adopted.

The RSIPF- EOD Unit has been consulted in the drafting of this policy. While they are receptive to the idea of such a policy and understand the benefits of offering such high-level guidance to contractors, they as yet have not offered any formal written response to the detail of this first draft policy.

EOD Unit has indicated that a reply will be forthcoming however, and that TSDP staff can expect their reply shortly.

Recommendation:

It is recommended that the Board receive the report attached For Information Only.

9.0 UNEXPLODED ORDNANCE PROCEDURES

9.1 Use of this policyguidance

This policy is intended to propose initial minimum sensible generic procedures to help reduce the risks posed by unexploded ordnance (UXO).

Note that this policy has not been written by personnel with any technical expertise within the UXO subject area. These interim guidelines have been written to ensure that this risk area does receive a robust design and construction response to help minimise any risks posed by UXO in a common-sense manner.

As such this policy procedure document does not provide a comprehensive technical guideline that can be relied upon to assure the safety of personnel in relation to UXO.

Note that all designers, consultants and contractors all bear a collective responsibility for minimising the potential harm of these potentially very dangerous hazards.

It is envisaged that this interim policy guidance document will be replaced by a policy that has been written by personnel with technical expertise within the UXO subject area in due course.

9.2 Ownership

UXO remains relatively benign if left undisturbed. However, once any intrusive investigations, excavations or earthworks are conducted in an affected area, the risk of contact with any remaining UXO is increased and while explosions are rare the consequences can be disastrous so this threat must be taken very seriously by all involved.

The responsibility to assess and mitigate or eliminate any UXO related hazard generally resides with the landowner or developer.

In the case of crown land and any development on it, the Solomon Islands Government (SIG} is effectively the land's custodian, and as such is responsible for UXO related hazards, especially when proposing infrastructure or materials acquisition from such areas.

Given the history and scale of military conflict in the Solomon Islands, some assessment of the likelihood of UXO in any proposed works area should be made as part of the design/study phase of any larger scale

project.

In any case where SIG staff are involved in the design and/or construction management of infrastructure, the project design manager shall be primarily responsible for requiring and acquiring an assessment of UXO.

9.3 General Methodology for UXO

UXO assessments should deliver to the design team a robust investigation of the likelihood of UXO in all

The UXO investigation performed should initially be informed by local historical knowledge of either **a)** previous ordinance in the area or **b)** knowledge of past military actions in the area. In the event that either of these are thought to suggest a significant risk of any UXO then a second, physical assessment of the presence of UXO shall be required.

In the event that historical knowledge does not suggest that UXO is likely, then design and or construction may proceed in the absence of a physical (e.g. metal detector) survey, but construction

activities should always keep this possibility in mind and any metallic noises treated {e.g. against digger buckets) should always be treated with this risk in mind.

ln the event that historical knowledge suggests that UXO is likely, the project design manager must require that all (likely) affected site areas are surveyed by suitable experts who can do so competently and safely. This is practice will typically require that the area proposed for civil works Is surveyed and cleared of any UXO's etc with a Certificate Of Clearance from the Explosive Disposal Unit (EDU), Royal Solomon Islands Police Force (RSIPF) before any physical works Contractor takes possession of the site.

The survey of subject site area(s) will include an initial desktop historical review, a risk assessment and strategy for mitigation, which will be based upon all available reference material for the proposed location. This will then determine what, if any, additional survey works are advisable to verify the level of threat and hence what further works may be necessary to mitigate the risks. lt is indeed likely that for many areas of the country, the risk will be identified to be so low that no further action will be necessary other than general awareness, however, this should never be assumed.

larger scale projects may be beyond the resources of the RSIPF Explosives Disposal Unit however, and in such cases the project design manager will likely need to put the clearance task out via private contract to provide the requisite expert UXO identification and removal assistance, prior to works.

A contractor (to this offer) is required to complete a survey of ''The Area", including carrying out a magnetic anomaly survey, clearly identifying suspected ordinance locations, arranging for removal of any such ordinance, providing a complete clearance of all ordnances on site and all documentation necessary for certification of the clearance.

9.4 Typical Contractor Specialist Assistance

A contractor will typically be required to:

- Complete the UXO survey of The Area - within the geographical envelope specified in the site plan for "The Area". The survey shall include but not be limited to magnetic anomaly survey. This will include all sink holes, areas of subsidence, and bunkers etc. Note that this shall also include all project affected areas outside of the primary site, such as materials acquisition sites, e.g. quarries, river beds etc
- Cordon all areas where a "positive" ordinance detection is indicated. This should be done in such a manner as to prevent safety risks arising from unauthorised tampering. This may include temporary secure storage to support this objective as long as the transit and containment of said UXO can be done in a safe manner.
- Arrange for the prompt removal of all UXO and other metallic debris. Note that the removal of UXO may be affected in either of two ways. The removal of UXO shall EITHER be expedited by the contractor {to this offer) issuing advice and a specific Instruction to Civil Contractor requiring that they undertake safe disposal OR by the contractor carrying out safe excavation, removal and disposal of the items utilising in-house expertise - Noting that the disposal mechanism adopted must correspond with the UXO disposal mechanism cited in the contractor's proposal document.
- Identify, Isolate, remove, destroy and responsibly dump all UXO (etc).
- Manage any unintended explosive events by having the staff available for triage, medical care and event management and by having clear plans in place ready for any such unintended event.
- Clear all UXO from the entire site area - as depicted within the geographical envelope specified in

the site plan.

- Provide a letter that confirms that complete surveys of all UXO (etc) have been completed and all UXO (etc) have been detected, isolated, removed and destroyed.
- Complete all necessary work and documentation in order to receive certification of clearance from the relevant governmental quality assurance agent, i.e. EDU - RSJPF.
- Promptly report to RSIPF and the Site Engineer on any potential residual risks identified by the contractor, as they arise. Reporting should be followed up with documentation to record this advice.
- Neutralise and/or isolate any such potential residual risks so that no adverse safety effects can arise.
- Monitor site and any hazards arising during construction phase.

9.4.1 Typical UXO Consultant Contractor Minimum Competencies Required

- Expertise in the identification, isolation, removal, destruction and responsible dumping of UXO (etc) are frequently a mandatory pre-requisite to being awarded such contracts.
- Site safety experience within high-risk environments.
- Strong management culture- able to strictly manage the movements and behaviour of all staff
- Again, this is required due to the inherent dangers of this environment.
- Appropriate management of environmental impacts.
- An interest in WWII military relics- all of which should be photographed in situ & transferred to SIG.
- Expertise in triage and medical treatment in emergencies and adverse event management.

The contractor will conform and certify in accordance with CIRIA C681: Unexploded Ordnance (UXO). Or the contractor may propose an alternative internationally accepted standard.

Note: The means of UXO disposal may remain optional, but any contractor's offer made must dearly identify which UXO disposal mechanism is being proposed in conjunction with the offer. Safely disposing of toxic and explosive ordinance in an environmentally responsible manner is a significant liability, so the contract should be written such that a failure to specify which UXO disposal mechanism is being proposed in conjunction with the offer will result in the offer being declared invalid.

The consultant should submit a brief proposal that:

- reflects a good understanding of all the project requirements
- proposes a sensible methodology and offers an attractive approach to MID
- proposes the engagement of suitably experienced staff and provides a contractual commitment that all staff cited will be used on project
- provides a brief draft timeline (in excel only) with meeting dates and other milestones that conform with the delivery dates prescribed in this document {see below)
- explains the consultants successful track record with projects of a similar type and scale
- dearly identifies the fee required for the services offered within the proposal

The contractor should confirm the tasks, relevant delivery dates and meeting dates with MlD Staff upon MID's confirmation of the commission at the Project Inception Meeting.

9.4.2 Typical UXO Output Required:

Larger projects and especially those in identified high risk/ high UXO density areas will usually require that a contractor consultant is engaged for the UXO clearance task.

Beyond the primary physical clearance and disposal task, the project design manager shall also require several documents to be produced by the contractor consultant, as follows:

1. A brief summary report outlining the whole process from the initial SIG brief through to the final RSIPF EDU clearance certificate - and including any remaining responsibilities post report, e.g. site monitoring
2. A letter that confirms that complete surveys of all UXO (etc) have been completed and all UXO (etc) have been detected, isolated, removed and destroyed.
3. The appropriate Certificate of Clearance from the relevant governmental quality assurance agent, i.e. EDU- RSIPF.
4. Copies of all documented reports submitted to RSIPF and the Engineer on any potential residual risks identified by the contractor, as they arose.
5. A plan for managing risks during construction.

These documents should be provided as both "soft copy'' - MS Office software based electronic files (e.g. Word Documents), and as "hard copy''- i.e. paper sheets mounted in a suitable filing folder.

In the event that the project is of a smaller scale and the project design manager feels that it is inappropriate to engage a UXO Specialist contractor, then arrangements should be made with EDU RSlPF, to conduct the survey. EDU will provide a Clearance Certificate for "The area" upon completion of survey for the initial stage of risk assessment.

9.5 General Site Procedures to minimise risk of harm from UXO

Jf a site proposed for civil works is not seen as posing any risk related to UXO etc. or in cases where a Clearance Certificate had been issued, the contractor is still required to do the following if anything suspicious is encountered or dug up:

1. Immediately cease work and withdraw all staff to a sensible safe distance from the site.
2. Site staff to immediately report the risk of possible UXO having been encountered to the Site Engineer. Reporting should be followed up with documentation to record this advice.
3. Site engineer to urgently contact EDU-RSIPF and request immediate attendance for confirmation/removal and site certification. Reporting should be followed up with documentation to record this advice.
4. Once inspected by EDU-RSIPF and declared safe to do so, cordon all areas where a "positive" ordinance detection is indicated or being dug up and not actually removed or dealt with to prevent accidents arising from communication problems. This should ideally also be done in such a manner as to prevent safety risks arising from unauthorised tampering if feasible/safe to do so as well, but this entire process must be undertaken by UXO Specialists only. Ideally EDU-RSIPF will inspect/declare/remove the item concerned upon arrival.

Unexploded Ordnance Clearance

Description

This work shall consist of the detection and disposal of unexploded ordnance (UXO) that exist within the confines of the site and the certification that the entire site is free from contamination and is safe for all construction operations. The work shall include the following activities:

(i) Detailed Contamination Survey
(ii) Detection and Disposal of UXO

The Contractor shall carry out all necessary UXO detection and disposal and shall carry out such checks as shall be necessary to enable him to take full responsibility for safety from the risk of UXO over the whole area of the Site and for all construction operations.

General Requirements

Standards

The Sub-Clauses of this plan relating to the detection and disposal of UXO are derived from standard peace time range area clearance procedures typically in use by NATO military forces with modifications drawn from experience in the Indochina region. The procedures and methodology recommended by the United States Army Corps of Engineers for remediation of formerly used military sites were also taken into account and the resultant procedures closely follow best international practice for commercial activity in this field.

Limits of Work

Searching to remove UXO is required to provide a safe working environment for road construction. Clearance is required along the route alignment that is to be cleared of UXO to an overall width of 5m outside the limit of physical works on each side of the project roads and/or water main, the depth of any construction work is anticipated to be a maximum of 2m. This comprises a civil works area where the road/watermain will be constructed, plus a safe working zone added to the outer peripheries of the civil works area to provide reasonable safe turning and working room for plant and construction vehicles.

The complete width as defined in these specifications including any existing trafficked road formation, with the exception of intact pavement sections, is to be searched by metal detector using UXO area clearance techniques.

The complete width of 10m outside the limits of physical works on each side of the project roads, including any existing trafficked road formation together with all paved sections, is to be swept by magnetometer.

Additional searching for UXO may be required outside of the right-of-way to allow access to resource areas, camp sites, construction lay downs, bridge abutments and approaches, etc.

The limits of clearance required along the route will be determined from the results of the detailed contamination survey carried out in accordance with the provisions of sub-section 1.2.2 of this plan and as approved by the Engineer.

Areas of Non-Original Soil

Areas of non-original soil may exist containing UXO of indeterminate size at indeterminate depth. The maximum cut depth will be limited by the capability of the search equipment in geologically reactive

soil. Where earthworks are to occur below 30 cm in such areas, (detection performance depth for BLU 26/36 or equivalent) then complete UXO removal can only be achieved by successive search then-cut techniques. During initial searches the Contractor will be required to record and report on such areas to ensure that the required search-then-cut process is applied later in conjunction with construction.

Clearance Performance Requirements

Searches are to comprise a 100% area sweep by metal detector to remove shallow items, followed by a magnetometer search. Magnetometer searching is to be conducted at no greater than 1 metre lane separation.

Searches are to achieve the removal of all UXO within the specified size/depth capacity of the search equipment. All areas completed are to be certified free of UXO to within these limitations.

Contractor's Nominated Ordnance Expert

The Contractor shall nominate and provide an Ordnance Expert, who shall have appropriate internationally recognised qualifications or appropriate verifiable experience in its own or other countries, acceptable to the Engineer. It will be the sole responsibility of the Contractor's Ordnance Expert to declare each area of the site safe for construction operations and no construction activities shall be carried out in any area until this has been done. The Ordnance Expert will advise separately on works required ‘within' and ‘outside' the areas with UXO.

Staffing

Personnel involved in UXO clearance must satisfy the following criteria:

(i) staff supervising UXO searching must have qualifications and experience commensurate with the United Nations Standards; and
(ii) staff supervising magnetometer survey or conducting Quality Control must have received formal recognised training on and have field experience in magnetometer use; and
(iii) staff must have received a formal course providing them as a minimum, with instruction on UXO recognition, metal detector use, UXO excavation and first aid.

UXO Disposal

The Contractor will be responsible for the safe disposal of all UXO recovered. Where collateral property damage is likely to occur as a result of disposal activity, the Contractor will be required to first advise the Engineer before proceeding.

Explosives

The Contractor will be responsible for the supply, storage and security of all explosives required for UXO disposal and their use will conform to the requirements of internationally recognised Specifications.

Compensation

In the course of clearance operations, it may be necessary to damage crops, remove fences etc. The Contractor will be required to notify the Engineer in writing with a copy to the Employer prior to taking any action that may cause damage resulting in demands for compensation being presented.

Medical and Emergency Evacuation

The Contractor is required to provide the facilities and arrangements as defined in sub-clause 3.1 b) of these Specifications.

Government Registration and Liaison

The Contractor will be required to demonstrate that it possesses formal registration by the relevant regulatory authorities in the country prior to commencing any site works.

In addition, the Contractor will be required to secure the necessary approvals and clearances from the appropriate Government Department enabling it to carry out UXO works in the country.

The Contractor shall maintain close liaison at all times with the appropriate authorities in the country, particularly those engaged in the ordnance clearance operations, and shall cooperate with them, particularly in the disposal of unexploded ordnance.

Equipment Requirements

UXO Detection

The Contractor is required to nominate the search instruments to be used for the UXO clearance task. Search instruments must be capable of operating in the conditions prevalent in the country.

The proposed metal detectors must be capable of confidently detecting the following when operating under the expected conditions:

(i) projectiles 20 mm HE or items of equivalent detectability to a depth of 25 cm; and
(ii) BLU 26/36 or items of equivalent detectability to a depth of 30 cm.

The proposed magnetometers must be capable of confidently detecting 81mm HE Mortar Bombs or items of equivalent detectability, to a depth of 1.25 metres in low magnetic noise conditions and to 0.75 metres in areas of high magnetic background noise.

The Contractor is required to provide evidence constituting an independent and objective verification of proposed instrument capability. Instrument capability will be tested and approved by the Engineer prior to its use on site. Further performance audits will be conducted during contract execution.

Provision of Equipment to the Engineer

The provision of equipment, manpower and assistance to the Engineer for Audit checking of the Contractor's work, prior to endorsement of any certificate shall be the responsibility of the Contractor, and the quantities of equipment, manpower and assistance shall be such as to be compatible with planned rates of construction progress.

Operation Requirements

Method Statement and Programme

Within 28 days from the issue of the Notice to Proceed the Contractor shall submit to the Engineer a detailed method statement for the de-mining and UXO clearance works. The method statement incorporating a detailed, resourced programme to ensure that all areas within the project site are safe, to internationally accepted standards, for construction operations shall include:

(i) intended procedures for the clearance;
(ii) work plans showing estimated time schedules;
(iii) clearance team structure;

(iv) type of equipment proposed;
(iv) quality control programme.

The Programme shall be revised and submitted to the Engineer at monthly intervals throughout the contract period and shall be adhered to whenever possible.

Detailed Contamination Survey

Prior to any mine and UXO clearance operations being conducted the Contractor will be required to carry out a detailed contamination survey of the Site to determine the extent of the mine and UXO clearance operations required. Survey and delineation of UXO contaminated zones will be carried out in accordance with the provisions of this plan and shall consist of 100% metal detector searches on 2-metre-wide cross sections over the full width as defined in the Special Provisions at 100 metre intervals along the centreline of the alignment. Magnetometer searches are not required.

Positioning

To enable accurate positioning and recording of search areas within the defined limits, the Contractor will be required to geodetically survey and mark the new road centre line. The outer boundary limits of clearance work, measured from the surveyed centre line, may then be located and marked.

The limits of the construction support areas requiring clearance will be defined by the Contractor. The boundaries of all areas cleared of UXO must be recorded and marked by semi-permanent means to facilitate subsequent identification during construction.

Contractor's Quality Control and Certification

The Contractor is required to include in its Method Statement as required under sub-clause 3.1 d) of these Specifications a formal Quality Control Programme. Quality Control surveys constituting a minimum 10% of the searched area are required.

The control areas are to be searched initially by metal detector followed by a magnetometer search.

Control areas and results are to be recorded and reported by formal log. Log sheets are to be personally signed off by the Contractor's Ordnance Expert and are to be available for examination by the Engineer.

At least seven days before the Contractor intends to enter any area of the site to commence construction works, the Ordnance Expert shall submit, to the Engineer, his certificate declaring the area concerned to be safe for all intended construction operations. The certificate shall clearly define the area concerned and shall be supported by the log sheets that will give details of the types of survey carried out and the classes and methods of disposal of the various UXO encountered.

Audit of Cleared Areas

The Engineer may perform a formal 10% check of UXO cleared areas. These percentages may be increased at his discretion.

If UXO are located during these checks, then a re-search at the Contractor's cost will be required. Finds triggering re-searching are either:

(i) one BLU 26/36 or metallic item of equivalent detectability per 10% of grid will require re-searching for UXO in that grid; or

(ii) three 20mm rounds or metallic items of equivalent detectability per 10% of grid will require a re-search of that grid.

When satisfied, the Engineer shall endorse the Contractor's Ordnance Expert's certificate. The Contractor shall not enter the area of the site concerned until such endorsement has been obtained. Such endorsement shall not relieve the Contractor of any of his responsibilities under the Contract.

Before providing such endorsement, the Engineer shall be entitled to consult the nationally recognised authority for UXO clearance in respect of the thoroughness of the ordnance search and shall be entitled to withhold endorsement if so advised.

Measurement and Payment

Detailed Contamination Survey for minefields shall be measured by square metre of area surveyed and recorded in accordance with these Specifications.

Detailed Contamination Survey for UXO shall be measured by kilometre of alignment surveyed and recorded in accordance with these Specifications.

Mine Detection shall be measured by square metre of site approved for clearance as determined by the results of the Detailed Contamination Survey and certified and endorsed as cleared in accordance with these Specifications.

UXO Detection shall be measured by Hectare of site approved for clearance as determined by the results of the Detailed Contamination `.

Lungga Quarry – Area Clearance Certificate

SCS SOLSEARCH CONSULTANCY SERVICES
P.O.Box 2518, Honiara, Solomon Islands.
Telephone: (677) 7162192 Email: solsearchconsultancy@gmail.com

AREA CLEARANCE CERTIFICATE

PROJECT: MCA/RFQNCS/S-A13

RELEASE NO: 09/20

Solsearch Consultancy Services (SCS) has completed site remediation works for EO/EOW in the area marked as 16-A, B, C, & D- Lungga Quarry as shown below.

RELEASE AREA- 16A-Lungga Quarry

This certificate is issued only for Areas 16 A, B, C & D-Lungga Quarry and shall n be used for other areas.

Declared on 03rd January of the year two thousand and twenty.

Nelson Nausi
Manager

Ben Pige
Site-QC

Appendix H: Previous Consultation Minutes

Public Consultations to Date

Public consultations for Munda Airport upgrades are ongoing through the project cycle. The consultations will be held on regular basis when the contractor is onboard. The previous consultations were held in 2020 and 2021. And will be held again prior the start of works for the new ATCT. The previous consultations were held with 4 targeted groups of stakeholders: (a) Village communities adjacent to MUA; (b) Government agencies, authorities and SOEs on New Georgia Island; (c) NGOs, non-governmental institutions and civil society groups; (d) donor agencies, especially those with experience and involvement in the SI Aviation sector.

Below is a summary of key findings from the initial consultation meeting with project stakeholders. Where possible, these comments have either been incorporated into project design, the mitigation measures, or into the ESMP implementation strategy. The consultation program is ongoing throughout project preparation and implementation.

- It has been an ongoing issue for infrastructure projects on Munda that consultation has not started early enough in the process and has not been treated as an important aspect of project implementation.
- The initial installation of the airport fence was done with little consultation and is not supported by the entire community. It increases the difficulty for families to respond to disasters such as tsunami. The location of the gates for the fences were not properly consulted on and are not in appropriate locations and there is a fear of coastal residents being trapped during a disaster event.
- Identifying the key customary landowners, resource owners and community groups is critical should there be a need to use land outside the airport boundary.
- There need to be consultations and public notices before any UXO work to ensure that the community is fully informed of what is going on and when it will be happening.
- There is an increased awareness of GBV and how to address it within the community.
- The terminal building should have public toilets for both genders.

Key Outcomes of consultations to date

The following were the list of stakeholders consulted within Munda and Noro on 25-28 May 2020:

- United Church Head Quarter;
- Helena Goldie Hospital (Owned by UC);
- Kokegolo School (Owned by UC);
- Civil Aviation Staff, Munda;
- Kekehe Community;
- Noro Stakeholders (NFD, SolTuna, Telekom, Solomon Power, Ministry of Commerce and Labour, Noro Clerk);
- Lambete community and business owners; and
- Royal Solomon Islands Police Force, Munda.

Other key stakeholders' meetings including SIG Ministries, Utility Providers and NGOs were held in Honiara.

The meetings held with stakeholders for MUA works both in Munda and Honiara have been facilitated by the Director for Aviation. Presentations included the following topic outline:

- SIRAP background – That discusses the subprojects under SIRAP.
- Introduces the key players under SIRAP Aviation projects including WB (lender), MCA (Implementation Agency for the aviation projects, SIRAP PST (Project Support Team) and SMEC being the design consultant.
- Munda Airport Project Scope of work.
- Potential Impacts associated with the project such as temporary noise, odour and increased traffic and the possibility of night works was also presented.
- Mitigation measures on how the impacts will be minimised.
- Development stages of the project including timelines for the project implementation.

After the presentation, there were opportunities for questions, comments and answers. Some of the concerns raised were included in the final designs of the project.

All key outcomes and concerns that were raised during the meetings are summarized below.

United Church Head Quarter, Helena Goldie Hospital and Kokegolo School – 25 May 2020:

- Fully support the project;
- Ask that they are continually informed on the progress of the project;
- Happy to allocate a land south west of the airport for SIRAP laydown area;
- Concerned that with the improvement of the runway shall attract an increasing number of planes arriving and population. They want Aviation to understand that the hospital in Munda is not equipped to cater for accidents and increase demand for medical attention;
- Asked if UC can be considered for aviation grounds maintenance works;
- Expressed that because of the airport and the height restrictions enforced by Aviation for ground structures, UC wants a height restriction map that would enable them to plan their developments in the future;
- Asked for a corporate sense of responsibility by SIRAP and MCA; and
- Asked MCA to fulfil the outstanding MOUs with UC on land encroached into by aviation.

Civil Aviation Staff, MET, Solomon Airlines – 25 May 2020:

- Raised concern that children who used pedestrian access normally touch and change the elevation of precision approach path indicator lights. How this issue can be resolved; and
- Wanted all airport culverts to have a grate to prevent dogs from entering.

Noro Stakeholders (NFD, SolTuna, Telekom, Solomon Power, Ministry of Commerce and Labour, Noro Clerk) -26 May 2020:

- Concerned about increasing demand for water in Munda because of the project, especially new terminal building as the Noro source is already inadequate. Munda cannot rely on Noro source. They have to find other sources of water;
- Labour Division of Ministry of Commerce wants night works to be safe for contractor staff and remuneration of staff to reflect the nighttime work;
- Solomon Power (SP) wants airport designs to be provided to them to cross-check any SP interphases;
- Solomon Power wants SIRAP to provide power load/demand for laydown and site office;
- Commented the airport upgrade should also be complemented by road improvement work between Noro and Munda;

- SOLTUNA commented that the airport upgrade works under SIRAP will greatly benefit their business as it enables the international flights; and
- Asked about MCA's responsibility to the community.

Kekehe Community - 26 May 2020:

- Express appreciation with the awareness and request for more awareness on the progress of the project;
- Asked if pedestrian walkway through the airport kept open even during construction at night;
- Asked that abled people from Kekehe are given priority for casual employment during construction and maintenance of Aviation area.

Lambete community and business owners – 27 May 2020:

- Keen to know when the international flight ban in Munda will be lifted;
- Want more pedestrian access points through the airport fence in case of Tsunami;
- Asked that airport service contacts be given to communities in Munda; and
- Expressed concern that the landing ramp at Munda wharf needs to be improved to enable for offloading of machines and building material for SIRAP.

Royal Solomon Islands Police Force, Munda -27 May 2020:

- Aware that influx of contractor workers may lead to a rise in social problems.

Western Provincial Government Representative -27 May 2020:

- Expressed happiness and support for the project.

Utilities (Solomon Power, Solomon Water and Telekom):

- SW requested that SIRAP includes measures to safeguards its proposed 2 bores north of the runway about 100m away in the ESMP and CESMP;
- SW also informed SIRAP that their Munda Water Supply project will commence and finish later than SIRAPs but can provide a specification to SIRAP on commercial water supply for the terminal and other aviation infrastructure;
- Telekom expressed that they have difficulties moving their lines away from either SIG or MCA land due to land disputes. However, Telekom is ready to be on-site with the contractor when doing excavation works;
- SP apart from their contribution during the Noro Meeting (meeting 2) also said that they will come to the site to ensure that their lines and the contractor are safe during excavations. They also requested that to be informed well ahead before any excavations commence.

Biosecurity -19 June 2020:

- Advised that movements of aggregates and materials from Honiara to Munda must go through liaison with Biosecurity to avoid spreading of GAS. Biosecurity will monitor consignment before leaving Honiara and again in Noro or Munda before leaving the vessel; and
- Also advised that storage areas of machines and aggregates must be baited with Snail bait at the perimeter. This would confine and kill off any possible presence of GAS.

MYWCFA -19 June 2020:

- The main concern with such development which WB is also sharing are: Protection Issues, Gender Based Balance, Domestic Violence, Sexual Abuse, Violence against Women and Children, Trafficking, Child abuse and Exploitation etc.;
- For HIR and MUA, a mechanism has been put in place to help address these concerns called SAFE NET that work closely with partners. MWYCFA is the one coordinating this SAFENET;
- SAFENET is in cooperation with the police forces, has safe place clinics and safe place areas that are available for everyone;
- Recommends that communities in Munda must be connected to SAFENET;
- Most of SAFENET partners are in Gizo, the closest one to Munda would be the 'Family Support Centre" located at Noro;
- Advised that when doing consultation must propose inclusive participation, Men, women, youths, children and people with special needs must have a say in decision making processes. It is important that communities are made aware of their rights; and
- MWYCFA can connect SIRAP with their partners.

MECDM -19 June 2020:

- The project is required to apply for development consent and discharge permit.

MoFR -19 June 2020:

- MoFR only has power over areas where they have forestry licenses or logging concession areas. For areas outside this, MoFR does not have the legal jurisdiction to grant licenses to fell trees. In cases for any development that would require felling of trees (outside concession areas), MoFR can only assist in providing a valuation of the trees that require felling. This amount is payable to the tree owners if they request compensation. For fruit trees and sago palms, it would be MAL's responsibility to provide a valuation.

MMERE Water Resources Division -11 June 2020:

- River permits only apply to conservation and protected areas. The current River Act has limited coverage and only covers Guadalcanal Province and not the whole SI. In this case, since Lungga River is not within a conservation area, no river permits are required.

MID Quality Assurance Division – 19 June 2020:

- MID laboratory only has equipment that can only do a range of the test. If the contractor has other test requirements, they need to arrange other avenues to perform the test as MID does not have the equipment to do so;
- If requiring general aggregate tests done for Lungga River quarry, need to inform MID and allow access into quarry sites.

MUNDA COMMUNITY CONSULTATION MEETING

Meeting 1: United Church Mission

Venue: UC Meeting Room

Date: 25/05/2020

No.	Name	Title	Community/Organization

1	Salome Pita	NSS-SIRAP	MCA-PST
2	Lania Temahua	Engineer	SMEC
3	Marista Kapini	Safeguards-SMEC	SMEC
4	Trevor Veo	Director Aviation	MCA
5	Brian Bird	General Secretary	UCSI
6	George Tora	Hospital Secretary	HGH
7	Cliff Bird	UCSI Advisor	UCSI
8	Sereima Baeto	Registered Nurse	HGH
9	Andrew Teho	Director of Nursing (HGH)	HGH
10	Ahdfitu Make	Chaplain HGH	HGH
11	Eddie Pratt	Treasurer-UCSI	UCSI
12	Serah Tamana	Assistant Director of Nursing, HGH	HGH
13	Kathleen Gapirongo	CNC(Sup) HGH,	HGH
14	Winston Pitakomoki	HS, UCSI	UCSI
15	Moya Diko	Registered Nurse/Clinical Tutor	HGCON/HGH
16	Riatako Turanga	Education Secretary	Assembly Office
17	Joel Zio	Secretary R.C	Roviana Circuit
18	Myrielyn Komolo	MSP Implementation Officer (UCSI)	Assembly Office
19	John Paranga	UCSI-Development Officer	UCSI Assembly Office
20	Geraldine Hila	Women's Desk Officer (UCSI	Assembly office
21	Dennie Ramo	Pastor Kokeqolo	Kokeqolo Congregation
22	Aaron Viqa	Assistant Treasurer	UCSI Assembly office
23	John Eto	EA Accountant	Assembly Office

Meeting 2*: Munda Aviation Staff, Solomon Airlines. MET, Fire Fighters*

Venue: MCA Terminal

Date: 25/05/2020

No	Name	Title	Community/Organization
1	Lania Temahua	Engineer	SMEC
2	Allard Puikera	Assistant Manager (Munda)	CAD/MCA
3	George Gibson	OIC/ATS Munda	CAD
4	John Kaki	Met. Officer	Met. Service
5	Mike Kute Kao	Aerodrome fire officer	CAD/MCA
6	Eddie Kasa	Aerodrome fire officer	CAD/MCA
7	Tracey Maroe	Terminal Cleaner	MCA
8	Sato Kirihaou	Aerodrome fire officer	CAD/MCA
9	Jevalyn Bisili	Aerodrome fire officer	CAD/MCA
10	Festus Sekatanunah	Met. Service	MECDM

11	Ian Lilo	Aerodrome fire officer	CAD/MCA
12	Ishmael Guipitu	Aerodrome fire officer	CAD/MCA
13	Hivari Zio	AVSEC	CAD/MCA
14	Idine Pada	Communication Officer (ATS)	CAD/MCA
15	Conroy Saepio	Sol-Airlines (Supervisor)	Sol.Airlines
16	Richard Bugoro	Aerodrome Fire Officer	MCA/CAD
17	Ray Pania	Sol-Airlines	Sol-Airlines
18	Marista Kapini	Safeguard	SMEC

Meeting 3: Noro Stakeholders (NFD, SOLTUNA, NORO Council, Solomon Power, Telekom, MCILI) Venue: Community Centre Conference Room, Noro

Date: 26/05/2020

No	Name	Title	Community/Organization
1	Salome Pita	NSS – SIRAP	MCA - PST
2	Trevor Veo	Director Aviation	MCA
3	Marista Kapini	Safeguards	SMEC
4	Lania Temahua	Engineer	SMEC
5	Gavin Totu	NTC – Clerk	NTC
6	Jonathan A Bisili	Soltuna CAD	Soltuna
7	Nelsen Ho Boso	NFD Community Affairs Dept	NFD
8	Isaiah Alepio	Safety Coordination	Soltuna Ltd
9	Elsiva Koroi	Officer In charge	Telekom Noro
10	Biilly Guporo	Immigration Officer	MCILI – Immigration
11	Eric Maefelu	Chief labour Officer	MCILI – Labour
12	Jay Pitavoqa	OIC	Solomon Power Noro

Meeting 4: Kekehe Community **Venue:** Kekehe Community Hall

Date: 26/05/2020

No	Name	Title	Community/organization
1	Lania Temahua	Engineer	SMEC
2	Salome Pita	NSS – SIRAP	MCA – PST
3	Marista Kapini	Safeguards	SMEC
4	Trevor Veo	Director Aviation	MCA
5	Beatrice P. Zio	Grassroot	Kekehe
6	Derek T Kera	Self Employed	Kekehe
7	Achilles Piripita	Pastor	Kekehe
8	Allard Puikera	Assistant Manager (Munda)	MCA/CAD
9	Christopher Lamupio	Casual Security Officer	Kekehe Village
10	J Kaeovo L. Pio		Kekehe Village
11	Esther Kale	Housewife	Kekehe Village
12	Annie Hoto	Housewife	Kekehe Village
13	Hanako Kalola	House wife	Kekehe Village
14	Vaikili Lamupio	Farmer	Kekehe Village
15	Marie Vazu	AGH Worker	Kekehe Village
16	Anna Tekautu	Housewife	Kekehe Village
17	Edalima Lampio	House wife	Kekehe Village
18	Rutti Alenie	Gardener	Kekehe Village
19	Agnes Toshi	Housewife	Kekehe Village
20	Henzel Pio	House wife	Kekehe Village
21	Betty Dick	Housewife	Kekehe Village
22	Rachel Don	Housewife	Kekehe Village
23	Don William	Carpenter	Kekehe Village
24	Lalaku Kasa	Fisherman	Kekehe Village

25	Andrew Vazu	Builder	Kekehe Village
26	Tepili Douglas	Student	Kekehe Village
27	Ashley Lamupio	Farmer	Kekehe Village
28	Bobby Kasu	Farmer	Kekehe Village
29	Davis Lamupio	Farmer	Kekehe Village
30	Teika Sunga	Self-Employed	Kekehe Village
31	Souson Kasa	Self-Employed	Kekehe Village
32	Alban Kufole	Self-Employed	Kekehe Village
33	William Biku	Self-Employed	Kekehe Village
34	Edvim. P	Farmer	Kekehe Village
35	Booshy Kere	Self-Employed	Upper Kekehe Village
36	Junior Maika	Self-Employed	Upper Kekehe Village
37	Lestrange Fabiano		Kekehe Village
38	Margaret Fabiano	Agnes Lodge	Kekehe Village
39	Shelca Poliki		Kekehe Village
40	Marygold Aqorau	House Wife	Kekehe Village
41	Leni Xeye		Kekehe Village
42	Nathan Kalole		Kekehe Village
43	Mairy Biku		Kekehe Village
44	Pisa Lamupio		Kekehe Village
45	Grace Relia		Kekehe Village
46	Audrey Guma		Kekehe Village
47	Corina Pao		Kekehe Village
48	Areasi Manavakana		Kekehe Village
49	Rachel Anita		Kekehe Village
50	Rev Kasa		Kekehe Village
51	Constance Kasa		Kekehe Village
52	Maelister Piripita	Pastor	Kekehe Village

Meeting 5*: Lambete Businesses and Community, Wester Provincial Government, RSIPF)*

Venue: MCA Terminal

Date: 27/05/2020

No	Name	Title	Community/Organization
1	Trevor Veo	Director Aviation	MCA
2	Lania Temahua	Engineer	SMEC
3	Marista Kapini	Safeguards	SMEC
4	Salome Pita	NSS – SIRAP	MCA – PST
5	Vicente Mayamaya	General Manager	Agnes Lodge
6	Peter Maelagi	Senior Forester	Munda Forestry
7	Lilly Alenge	Police Constable	Munda Police
8	Mattew Sakiri	PFO MAL Ministry	Munda Agriculture Office
9	Ronnie Kidoe	Self Employed	
10	Cliff Collinson	Self Employed	
11	Delcy Ngatulu	Western Provincial Officer	Western Provincial Government
12	Geof Jamakana	E.H. Division Officer	Munda M.H.M.S
13	Allard Puikera	Assistant Manager (Munda)	MCA/CAD

Meeting 8: Utilities

Venue: MCA Office, Ranadi

Date: 10/06/2020

No	Name	Community/Organization
1	Steven Vaji	SMEC
2	Simon Walegerea	Telekom

3	Jeremy Maneipuri	Solomon Power
4	Silas Talosui	Solomon Water
5	Leonard Urimatii	Telekom
6	Raziv Hilly	MCA
7	Mesach Korabule	MCA
8	Salome Pita	SIRAP PST
9	Marista Kapini	SMEC

Meeting 9: Solomon Islands Government

Venue: MCA Office, Ranadi

Date: 19/06/2020

No	Name	Community/Organization
1	Steven Vaji	SMEC
2	Trevor Veo	MCA
3	Koisau Sade	MWYCFA
4	Joe Horohou	MECDM
5	Samuki Vazu	MOFR
6	Raziv Hilly	MCA
7	Newton Maeriua	SMEC
8	Salome Pita	SIRAP PST
9	Marista Kapini	SMEC
10	Lania Temahua	SMEC
11	Ishmael Alulu	MID
12	Samuel Hone	Bio Security

Appendix I: Safeguard supervision for the SIRAP Munda Airport upgrade works

1. Contractor International Safeguard Specialist

The Contractors International Safeguard Specialist (Key Personnel) should:

- Have 10 years total similar work experience which will include experience in environmental management on civil construction projects and in assessing environmental and social impacts associated with infrastructure projects.
- Hold tertiary qualifications in a field relevant to environmental management and/or engineering.
- Be resourced to provide in country support at key project milestones and regular intervals in between.
- Be resourced to provide weekly inputs to safeguard oversight from home office base.

2. Supervision Consultant

General

In order to prevent harm and nuisances on local communities, and to minimize the impacts on the environment during the construction and operation of the SIRAP Project at Munda Airport (MUA), the following plan has been prepared which should be adhered to by all Contractors and his employees:

- The Environmental and Social Management Plan (ESMP) for MUA including site specific measures in Appendix B;
- The mitigation measures included in tender and contract documents;
- The specifications, procedures, and best practices included in the ESMP. These specifications complement any technical specifications included in the work quantities and the requirements of any SIG regulations and standards.

Objective of the Assignment

The Consultant is to provide professional technical services (“the Services”) to help ensure effective implementation of the Environmental and Social Management Plan (ESMP) during the SIRAP works.

In order to achieve the goal of minimizing the negative environmental and social impacts of the project, the ESMP will be integrated in the design documents for SIRAP MUA, and in the technical specifications and contract documents. It will need to be closely followed and implemented by the contractors. The implementation of the ESMP will therefore involve four parties:

- The ***National Safeguards Specialist (NSS)*** is the person responsible for overall coordination of ESMP implementation. This person will be appointed directly by PMU.
- The ***Contractor’s Safeguard Specialist (CSS)*** responsible for implementing the ESMP and other construction related environmental and safety issues.
- The ***Construction Supervision Engineers (CSE)*** who are responsible for supervising and monitoring all construction activities and for ensuring that contractors comply with the requirements of the contracts and the EMP. The CSE will include a ***Supervision Safeguard Specialist (SSS)*;** and,

- A Client's International Safeguard Specialist, who provide support to the NSS for oversight of ESMP implementation throughout the works.

This Terms of Reference is for the **Supervision Safeguard Specialist (SSS)** to be part of the Construction Supervision Engineers (CSE).

Scope of Services:

The general services to be provided by the SSS are to inspect, monitor and audit the construction activities[49] to ensure that mitigation measures adopted in the ESMP are properly implemented, and that the negative environmental and social impacts of the project are minimized.

The Contractor has the responsibility for ensuring compliance with the project ESMP and contract conditions while undertaking the works. This is overseen by the SSS. The SSS is therefore to be an independent monitor to ensure compliance with the ESMP and to ensure adequate performance of the Contractors on environmental issues.

The SSS will inspect, monitor and carry out environmental review of all road and bridge contracts packages and lots. The SSS shall have extensive knowledge and experience in environmental supervision, monitoring and auditing to provide independent, objective and professional advice to the client on the environmental performance of the project. The SSS team leader shall be familiar with the project works through review of the relevant reports, including the EMP and any development consents as well as project technical specifications and contract documents.

As part of the CSE, the SSS is expected to perform the following duties:

Phase I: Preparation

The objective of Phase I is to lay the groundwork for the successful execution of the project. In this phase, the SSS shall: (i) review the ESMP, project designs and technical specifications and confirm that there have been no major omissions of mitigation measures; (ii) prepare a supervision work plan for ESMP monitoring including identification of key project milestones which will require intensive monitoring and in-country presence of SSS; and, (iv) develop and execute a training program for all involved in construction activities.

The main tasks in this phase are:

Review of Project Documents: The SSS shall review the ESMP, project designs and technical specifications and confirm in writing that there have been no major omissions of mitigation measures. If any issues are identified, the SSS shall propose to the NSS updates to the ESMP and the design and technical specifications to address these issues. Once approved by NSS, the SSS shall update the ESMP.

[49] The term 'construction activities' in this TOR pertains to all aspects related to the SIRAP MUA during the construction phase including, but not limited to, all construction sites, permanent and temporary camps, off-site activities (disposal sites, borrow pits), all associated facilities (crushing plants, asphalt plants, maintenance yards), access roads, traffic and disturbances (dust, noise) in local roads, and areas of impact away from the project site. The ESMP of the project contain a full description of these activities.

Environmental Supervision Checklist: The SSS shall establish a comprehensive checklist which will be used during the construction of the project to monitor the contractor's performance. This shall cover major aspects of the project, required mitigation/control measures and their implementation schedule.

Logbook*:* The SSS shall keep a log-book of each and every circumstance or change of circumstances which may affect the environmental impact assessment and non-compliance with the recommendations made by the SSS to remediate the non-compliance. The logbook shall be kept readily available for inspection by all persons assisting in the supervision of the implementation of the recommendations of the ESMP and Contract. The NSS shall verify the logbook as part of his environmental audit.

Environmental Training: The SSS shall design and execute a comprehensive training program for all actors: Supervision Engineers, NSS, Contractor's CSSs (and workers as part of the trainings given to the CSS), on the environmental requirements of the project, and how they will be supervised, monitored and audited, giving particular attention to:

- **ESMP:** The requirements of the ESMP, the agreed environmental monitoring checklist, the environmental monitoring form, how non-compliance with the ESMP will be handled, and all other key issues shall be covered. Particular attention will be paid to the specific provisions in each contract's technical specifications indicating how the ESMP is to be complied with;
- **Health and Safety:** The health and safety requirements of the project shall be clearly identified and communicated with the Contractors and NSS (included in environmental specifications for contractors).

At the conclusion of the training Contractors will also sign a statement acknowledging their awareness of the environmental regulations, the ESMP, the compliance framework, and health and safety obligations. The CSS shall sign a similar statement confirming their understanding of the supervision responsibilities. This shall be provided to PMU and the World Bank

Phase II: Supervision of Construction Activities

On behalf of the NSS and the Chief Supervision Engineer, the SSS will:

- Review, and inspect in an independent, objective and professional manner in all aspects of the implementation of the ESMP;
- Carry out random monitoring checks, and review on records prepared by the Contractor's CSS;
- Conduct regular site inspections;
- Review the status of implementation of environmental protection measures against the ESMP and contract documents;
- Review the effectiveness of environmental mitigation measures and project environmental performance;
- As needed, review the environmental acceptability of the construction methodology (both temporary and permanent works), relevant design plans and submissions. Where necessary, the SSS shall seek and recommend the least environmental impact alternative in consultation with the designer, the Contractor(s), and PMU;
- Verify the investigation results of any non-compliance of the environmental quality performance and the effectiveness of corrective measures; and
- Provide regular feedback audit results to NSS and CSS according to the procedures of non-compliance in the ESMP;

- Provide training programs at minimum six monthly intervals and every time there are new workers or new Contractors coming into the site, including CSS and PMU staff, to appraise them of issues identified and how to improve environmental compliance;
- Instruct the Contractor(s) to take remedial actions within a specified timeframe, and carry out additional monitoring, if required, according to the contractual requirements and procedures in the event of non-compliances or complaints;
- Instruct the Contractor(s) to take actions to reduce impacts and follow the required ESMP procedures in case of non-compliance / discrepancies identified;
- Instruct the Contractor(s) to stop activities which generate adverse impacts, and/or when the Contractor(s) fails to implement the EMP requirements / remedial actions instructed by the SES or the EMC.

Review of Site CESMP: To ensure consistency across the project, the SSS shall provide the final review and recommend clearance (following approval from World Bank) of the CESMP including all sub plans. Where these plans are found not to comply with the ESMP the SSS shall work with the CSS and Contractor to establish a suitable solution.

Site Inspections: The SSS shall closely audit the construction activities through regular site inspections accomplished through daily site visits, walks and visual inspections to identify areas of potential environmental problems and concerns. As noted in footnote 1 of this TOR, the area of inspection should cover both the construction areas and the environment outside the site area that could be affected, directly or indirectly, by the contractor's activities.

Inspections should be done independently from the Contractor's staff. It is expected that the SSS shall have their own handheld and portable monitoring equipment such as cameras, transport and other resources. Where definitive monitoring is necessary to resolve contentious issues or to impose penalties, the SSS may contract third parties to carry out specific monitoring at the locations under review.

Where there is infringement of technical specifications, or condition of contracts, or noncompliance with the ESMP, the SSS shall be immediately inform Contractor's Chief Engineer, Supervision Chief Engineer and NSS. The SSS shall also report all infringements to the PMU as part of the monthly reporting.

Regular joint environmental site inspections (e.g. weekly) should be organized by the SSS and CSS, with participation from the Contractor's Environmental Officer (DEO). These should be used as an opportunity for the SSS to further train the CSS and Contractor's staff.

SSS field engineer's logbook shall be kept readily available for inspection by all persons assisting in project management, including the Independent Monitoring consultant

The SSS shall also regularly review the records of the contractors to ensure that they are up to date, factual and meet the EMP reporting requirements (*e.g.* environmental complaint monitoring records).

Complaints: Complaints will be received by the Contractor's Site Office from local residents with regard to environmental infractions such as noise, dust, traffic safety, etc. The Contractor's Chief Engineer or his deputy, and the DEO shall be responsible for processing, addressing or reaching solutions for complaints brought to them. The SSS shall be provided with a copy of these complaints and shall confirm that they are properly addressed by the Contractors in the same manner as incidents identified during site inspections. The SSS shall ensure that these complaints are logged into the SIRAP GRM

Unforeseen Impacts: In the event that an incident arises which was not foreseen in the ESMP, the SSS shall work closely with the CSS, the Contractors, and the NSS to confirm satisfactory resolution to the incident. The SSS shall then update the ESMP and the implementation guidelines, training the Contractors' staff accordingly.

Monthly Payments: The SSS shall confirm the monthly payments for environmentally related activities as recommended by the SSS to the client.

Site Restoration and Landscaping: The SSS shall closely monitor all activities with regard to site restoration and landscaping in areas such as borrow pits, quarries, camps, crushing plants, etc. to ensure that the activities are done to an appropriate and acceptable standard. The SSS will agree with the Contractor on a Site Decommissioning and Restoration plan to be implemented before the completion of the construction of the access road and bridges.

Project Initiation and Staffing: It is anticipated that the CSS and the SSS, will be mobilized one month before the start of the construction activities. The one month start up time will be utilized by the SSS to review and familiarize itself with the project, the project design, the technical specifications, contract documents, the ESMP and other project relevant documents and reports. Following the review, the SSS will prepare a brief report on the potential issues and challenges arising from the implementation of the ESMP and the condition of contracts and make recommendations to the PMU about how best to improve the implementation of the ESMP.

The SSS is expected to be mobilized at the beginning of the contract, to prepare the necessary guidelines, documentation, training, *etc*.

Reporting: As a minimum the SSS shall prepare the following written reports:

- Weekly report of non-compliance issues
- Summary monthly report covering key issues and findings from reviewing and supervision activities
- Consolidated summary report from contractor's monthly report
- The SSS shall also collect and report on data as requested by the PMU.

At the end of the project the SSS shall prepare a final report summarizing the key findings from their work, the number of infringements, resolutions, *etc*. as well as advice and guidance for how such assignments should be conducted in the future.

During the course of the project the SSS shall provide briefings as requested by the PMU, environmental agencies, the World Bank and MCA on the project progress, incidents, and other issues associated with environmental management and supervision. As a minimum these are expected to be at six-monthly intervals.

Appendix J: Native Land Leasing Process

Laydown sites and stockpile sites: for these activities, there is no land acquisition; the project requires only temporary access into lands. This land is used to park equipment and to position construction materials such as gravel. The procedure for these lands is as follows:

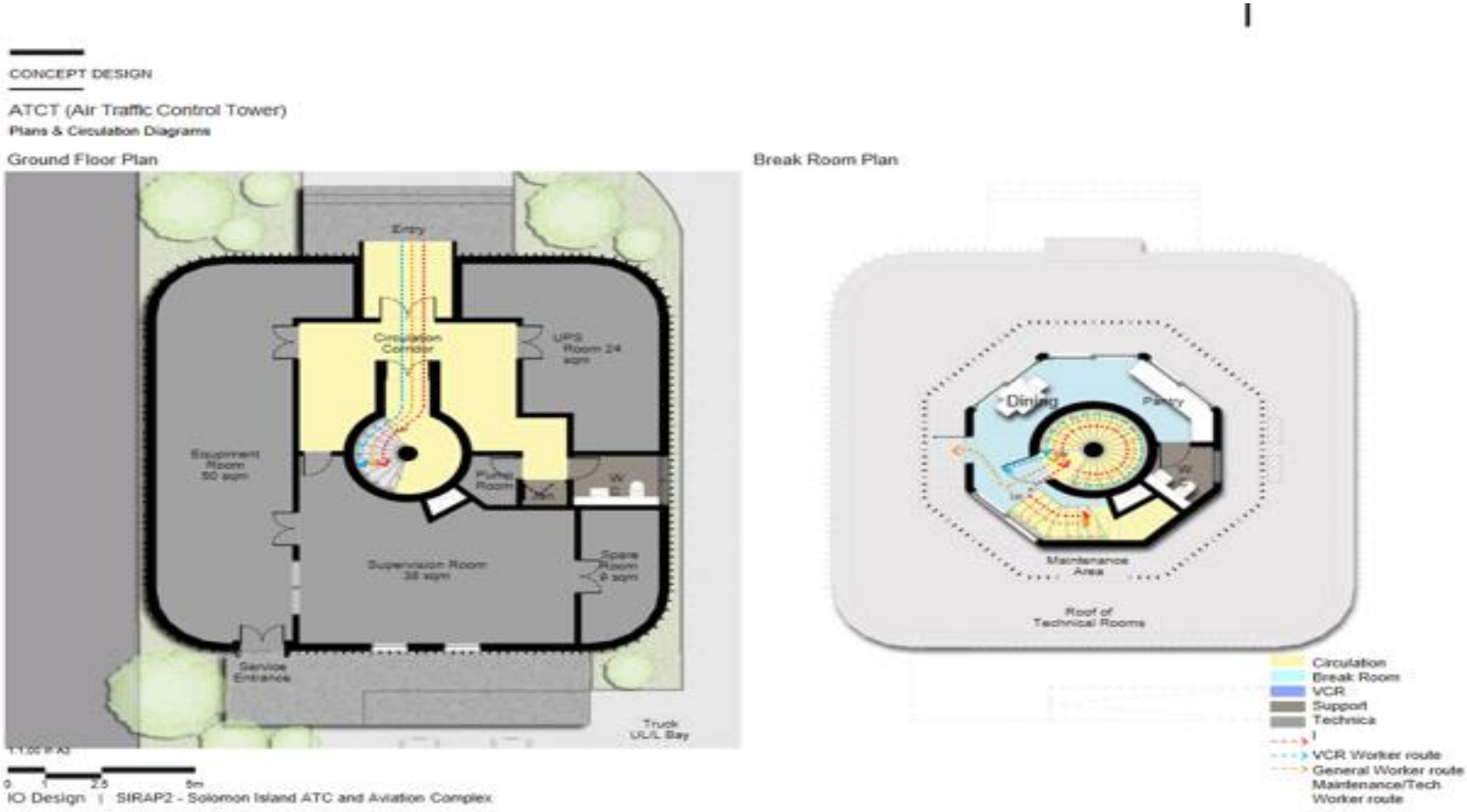
1. The National Safeguard Specialist (NSS) identifies the landowners, the boundaries of their properties, and non-land assets which can be affected by the project. The NSS produces a scoping report which lists the owners, marks out the boundaries of the land in a sketch map and lists down non-land assets which may be removed during civil works.
2. The communities are consulted (by the NSS) to seek agreement on the scoping report and to verify that correct landowners and boundaries have been identified.
3. MCA PMU and customary landowners sign a MCA approved Memorandum of Understanding (MOU) for voluntary land access with no cash compensation. This is usually done before mobilization of the Contractor.

Construction Material: for this activity, there is no land acquisition; the project requires only temporary access into lands. The procedure for these lands is as follows:

1. The NSS identifies the landowners, the boundaries of their properties, and non-land assets which can be affected by the project. The NSS produces a scoping report which lists the owners, marks out the boundaries of the land in a sketch map and lists down non-land assets which may be removed during civil works.
2. The communities are consulted (by the NSS) to seek agreement on the scoping report and to verify that correct landowners and boundaries have been identified.
3. Contractor (with support from NSS) enters negotiations with the landowners for access to materials.
4. Contractor and customary landowners sign a MCA approved Memorandum of Understanding (MOU).

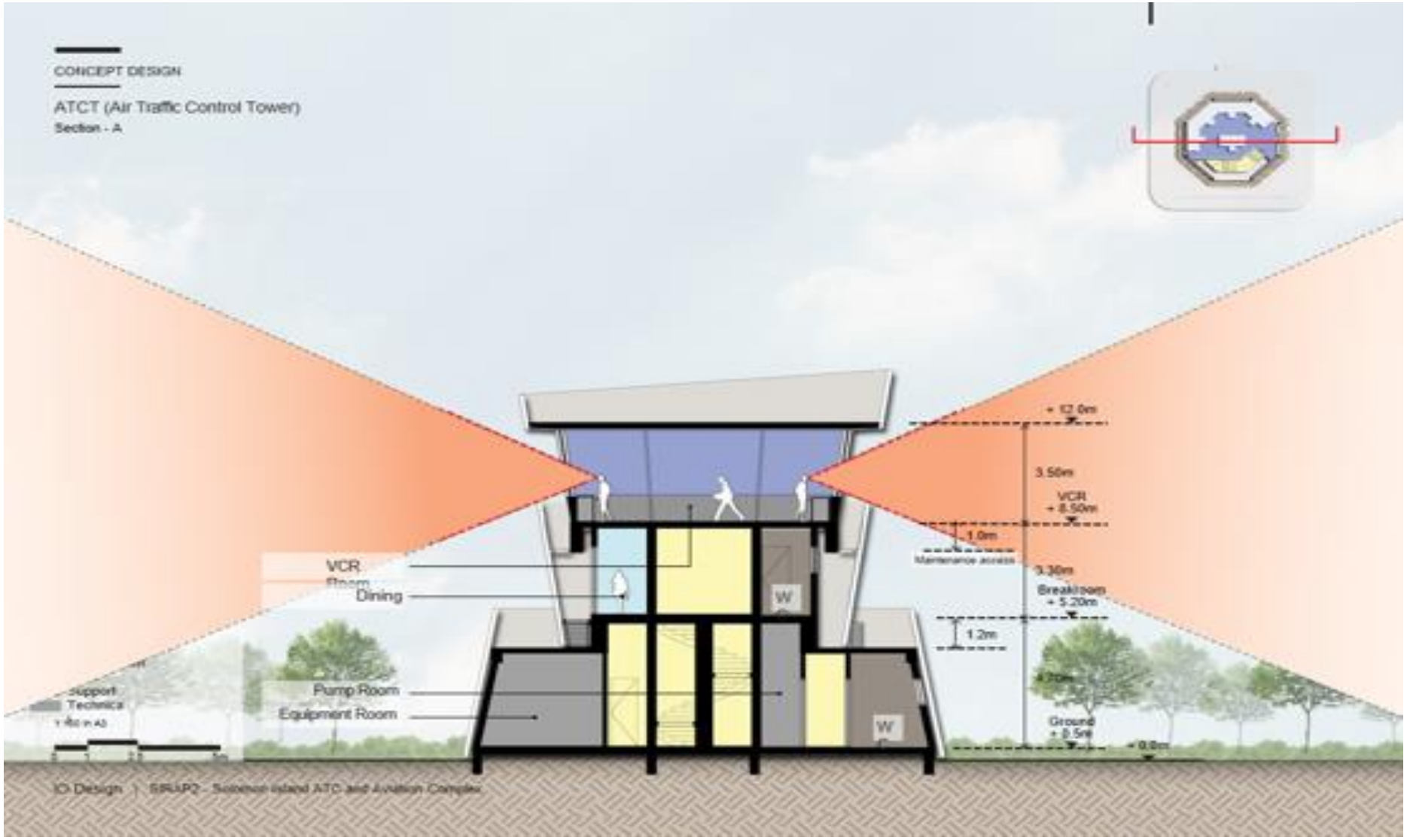
Appendix K: Concept Designs of Munda ATCT

Technical Block

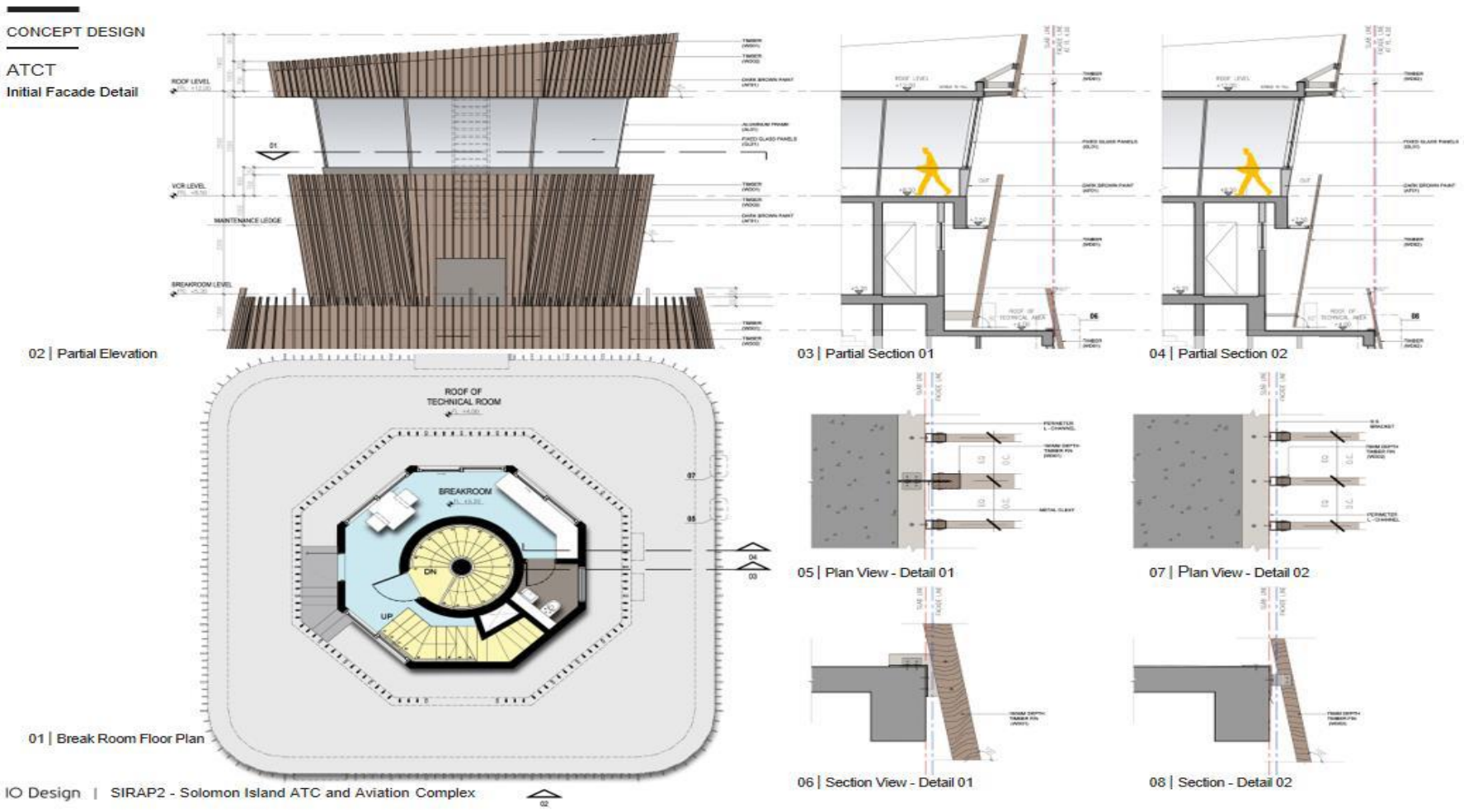


VCR/ Breakroom

VCR Visuals


CONCEPT DESIGN
ATCT (Air Traffic Control Tower)
Section - A
VCR
Dining
Pump Room
Equipment Room
W
W
3.50m
VCR
+ 8.50m
1.0m
Maintenance access
3.30m
Breakroom
+ 5.20m
1.2m
Ground
+ 0.5m
+ 0.0m

VCR Ledge


CONCEPT DESIGN
ATCT
Initial Facade Detail
02 | Partial Elevation
03 | Partial Section 01
04 | Partial Section 02
ROOF OF TECHNICAL ROOM
BREAKROOM
DN
UP
01 | Break Room Floor Plan
05 | Plan View - Detail 01
07 | Plan View - Detail 02
06 | Section View - Detail 01
08 | Section - Detail 02
IO Design | SIRAP2 - Solomon Island ATC and Aviation Complex

VCR Visibility