Fua’amotu International Airport

Air Traffic Control Building Environmental Social Management Plan - Addendum to the Environmental Management Plan for Tonga Aviation Infrastructure Project (TAIP)

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Executive Summary

This construction Environmental and Social Management Plan (ESMP) has been prepared specifically for the Air Traffic Control Tower (ATCT). Fua’amotu International Airport (TBU) is located on Tongatapu Island which is the main business centre of the Tonga archipelago. In order to upgrade the airports in Tonga a project called the Tonga Aviation Investment Project (TAIP) was established. The purpose of TAIP is to carry out the upgrade activities as identified in the Pacific Aviation Investment Program (PAIP) funding loan from the World Bank (WB). TAIP is responsible to provide safe and secure air transport operations and environmentally sustainable and efficient airports in Tonga. All components of the TAIP are required to meet International Civil Aviation Organisation (ICAO) standards and recommended practices, as well as airline safety standards.

The following projects were identified a few years ago for upgrading works and apart from the ATCT works the other three have been completed:

1. Runway pavement rehabilitation – completed
2. Upgraded terminal – completed
3. Upgraded runway lighting and navigational aids – completed
4. New Air Traffic Control Tower – initial stage progressing

To reiterate this construction ESMP is especially for the new Air Traffic Control Tower (ATCT). Snow Consulting has been contracted by TAIP through the Tonga Airports Limited (TAL) as the design consultants of the new ATCT and also do a site specific construction ESMP.

This ESMP outlines the construction activities and the existing environmental (physical, bio-physical and socio-economic) conditions of the new ATCT site. The ESMP identifies potential environmental and social impacts and the measures needed to prevent, minimise or mitigate adverse impacts and improve environmental performance for the ATCT site.

Under World Bank (WB) environmental and social screening guidelines, the new ATCT component of the TAIP project is classified as a Category B project therefore it requires the development of a construction ESMP. To clarify further, all WB Category B projects are determined during the screening process to fall within the following confines:

- potentially limited adverse social or environmental impacts that are few in number,
- site specific,
- largely reversible, and
- readily addressed through mitigation measures.

All construction ESMP are dynamic documents subject to updating if there are changes to the scope of works for the project, detailed designs, or if further information becomes available as a result of consultation with stakeholders and the community. However, it is the primary objective of this construction ESMP to provide a framework for managing the construction of the new ATCT in a manner that incorporates the principles of environment sustainability while minimising potential adverse effects on nearby dwellers and airport workers, the local community and the environment.

This construction ESMP includes information on mitigation and monitoring, capacity development and training, and implementation costs (in accordance with WB Operational Policy 4.01 Environmental Assessment). The majority of potential adverse impacts will occur during the construction phase of the new ATCT. However knowing that the new ATCT primarily involves the construction of a new building, mitigation measures should be able to alleviate or lessen any potential negative impacts.

The key potential impacts that are being identified and addressed by mitigation and amelioration measures are:

- Solid waste generation and disposal
- Hazardous materials handling and storage (potentially from hydrocarbon contaminated...
- Traffic disruption during construction activities and equipment and materials transport from the port and around Tongatapu
- Safety hazards for workers and users of the facilities where upgrades are occurring
- Wastewater discharges
- Construction lay-down area establishment and dis-establishment
- Tree trimming
1.0 Background

1.1 Environmental Safeguards Document Hierarchy and Development

The Environmental Safeguard Documentation Hierarchy flowchart which is shown below establishes the hierarchy and development of documents associated with the entire upgrade of the Fua‘amotu International Airport of which the Air Traffic Control Tower (ATCT) is one component of the works.

![Flowchart of environmental safeguards document hierarchy](image)

Tonga’s new Environment Management Plan cares about future generations and sets out a framework for controlling environmental impacts. Growth needs to be managed to strike a balance between the social and environmental impacts of the Fua‘amotu International Airport (TBU) operations, and the social and economic benefits to the local area. This ATCT Environment and Social Management Plan includes the comments of a local stakeholders, regulators, the TBU Consultative Committee and other people that were noted in 2015 public consultation process.

Noise, dust waste water and solid waste remain as the key issues and impacts that can emanate from the construction and operation of the new ATC Tower. Air quality is another impact that is carefully managed and issues of water uses and quality, waste management and the impact on habitats and the landscape are also included. Based on previous studies, the proposed ATCT ESMP impacts are considered to be minor in terms of the site location, size and construction works to be involved. Considering the number of Air Traffic Controllers to be on watch during one shift, impacts during operation will be minimal.

The basis for environmental performance at the construction site of the Tonga Air Traffic Control Tower is not only to ensure that the company complies with local, regional and national requirements, but that the
Construction Company also strives to exceed these standards and to continually improve its environmental performance. Given the airport’s location in close proximity to major residential and institutions and the ongoing growth of the airport area, environmental management is a key focus.

1.2 Introduction
The Report covers the Environmental and Social Management Plan (ESMP) of the Air Traffic Control (ATC) Tower. It highlights the key environmental and social components including land use and public consultation. It also indicates potential significant impacts.

1.2.1 Location of New ATC Tower
The identified preferred location for the new control tower adjacent to the new Rescue Fire Building (shown in Figure 1), which meets the compliance requirements of the airport operations certificate.

Tongatapu is the biggest island of the Kingdom of Tonga and it is the seat of the nations’ capital, Nukualofa. It is also the seat of its monarchy. It is home to approximately 71,260 residents (2006) which accounts for 70% of the national population.

![Figure 1-2: Location of the ATC Tower in relation to the other construction and airport facilities sites](image)

The Fua’amotu Airport is an international airport operated by the Ministry of Civil Aviation in Tonga. It is located on an elevation of 38 metres above mea sea level on latitude 21°14′28″S and longitude 175°08′58″W. It is about 21 kilometres from the main Nukualofa town centre.

1.3 Purpose of the ATCT ESMP
The purpose of this ESMP is to provide the environmental and social baseline description of the ATCT site, identify potential impact from construction activity and also follow on to the operational timeline of the development appropriate mitigation measures. Additionally, it provides a record of existing environmental conditions against which any changes arising from the activities of the project can subsequently be compared.

Key environmental issues were identified for both the construction and operation phases along with the
identification of environmental risks. Based on the environmental impacts identified on the ground, mitigation and monitoring measures were subsequently developed for each of the significant risk issues.

### 1.4 Justification for the Necessity of the Fua’amotu Airport Projects

TAL/TAIP has completed all the necessary analysis to ascertain the justification for all the Project activities including the Air Traffic Control Tower and those are clearly stated in the TAL/TAIP ESMP.

Other documents relevant to this ESMP are as follows:

- In February 2011 an overarching EMP (Tonga Airports Limited and Ministry of Public Enterprises, February 22, 2011 titled: *Environmental Management Plan for Tonga Aviation Infrastructure Investment Project*) was published for all components of the TAIP was published. This EMP which is in compliance with WB Policy OP/BP 4.01 Environmental Assessment and Tongan national legislation has been updated to TAIP/TAL EMP December 2015 and is referred to in this ESMP.

- Consultation and public disclosure was undertaken during the project preparation phase with details of stakeholders and outcomes included in the overarching EMP.

Tonga Airports Limited (TAL) is responsible for all airport operations, compliance and infrastructure at TBU.

### 1.5 Benefits from this Project

Benefits from the Airport project are defined in the TAIP/TAL ESMP and can be referenced to it.

### 1.6 Approval and Permitting

The environmental aspects of the TBU activities come under the jurisdiction of the following regulatory authorities. The TAIP/TAL ESMP was approved by MECC in 2015. Since this ESMP is an Addendum to the TAIP/TAL ESMP it will not need any further approval as was confirmed in our meeting with the Department of Environment Officer in December 2016. The ESMP contains sub-plans for the ATC Tower Contractors to follow throughout the construction and also into the operational duration of the Tower.

The following national legislations are relevant to this development project and the developer will comply with all necessary consents to enable the project to begin as soon as practicable.

#### 1.6.1 Environmental Guidelines

The Government of Tonga has a well-established regulatory framework under MECC that provides measures to protect and preserve the environment from abuse, pollution and degradation, to manage the environment for sustainable development and to promote environmental awareness.

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 focus. All these legislations have been highlighted in the preceding documents to this one.

Accordingly, activities funded under the TAIP have all complied with the Government of Tonga’s established procedures and associated guidelines established under the Environmental Assessment Act 2003, and environmental legislation of the relevant ministry.

Several reports have been completed and approval has been granted in the past. These reports are listed here:
- PAIP ESMP for Fua’amotu International Airport (TBU)
- PAIP ESMP Framework
- TAIP/TAL EMP
This ATCT site specific ESMP will outline sub-plans as addendum to the above reports.

1.6.2 Ministry of Infrastructure (MOI)
MOI issues building permits. It also works collaboratively with the Public Health to provide the standard plans for all septic tanks plans which all building contractors must comply with. Other permit issuing authorities will be the Tonga Power Limited concerning all electrical wiring the Fire and Rescue with regards to Fire Safety Plan. For both authorities MOI can be used as the point of contact.

1.6.3 HASAW Act (Health and Safety at Work Act)
It clearly demarcate the roles of employees and employers with regards to workplace safety. The HASAW Act requires the preparation of health and safety plans that identifies hazards and risks and determines solutions to minimize negative impacts and maximize safety.

1.6.4 Civil Aviation Services
The Civil Aviation Division provides the following services to ensure the safety and security of civil aviation in Tonga: “issues certification and approval for ground safety and certification” and “approval for air operations”.

1.6.5 Internal Obligations
An internal environmental policy has been developed to demonstrate the intention of Snow Consultants to improve their environmental management. The policy incorporates a series of broad commitments including pledges to comply with all relevant environmental laws and to continually improve environmental performance. In addition to the policy, the Developers have developed a set of Environmental Control Procedures for different facets of the operation along with an incident reporting system. All employees are required to follow the specified procedures.

1.7 Objectives and Scope of this ESMP
This ESMP identifies the environmental, social and safety management and mitigation actions required for the construction activities of the new ATCT. It provides an overview of the environmental and social baseline conditions of the area of the proposed ATC Tower, summarizes the potential impacts generated by the construction works and set out the management measures required to mitigate any potential impacts. These ESMP will be utilised by the contractors commissioned by TAL and Snow. This ATCT site specific ESMP is based on the detail design submitted by Snow and is subject to further update if there are changes to the scope of works, or if further information becomes available as a result of consultation with stakeholders and the community.

This ESMP addresses the issues in adherence with the TAIP/TAL ESMP and other preceding relevant environmental documents. All contractors and subcontractors shall comply with this ESMP requirements as applicable to the tasks they are employed to undertake.

1.8 Environmental and Social Management Approach
The environmental management framework allows for the identification of environmental and social impacts, the development of mitigation and/or management actions and the establishment of a structure to ensure the effective implementation and adaption of mitigation and management measures. To achieve the above the Snow Environmental Policy is placed in the Tonga legislation context as below:

1.9 Management System
TAIP/TAL compiled an Environmental Social Management Plan that the Contractor and employees will be familiarized with to enable strict adherence because it is the base document for all airport environmental activities

1.9.1 Interface with other plans
The ATC Tower ESMP is an addendum to the TAL ESMP and therefore should be read in conjunction with the following Project Document.
- PAIP Environmental Social Management Framework October 2013
1.9.2 Safeguards Roles
1.9.2.1 Tonga Fiduciary Services Unit
The Technical Fiduciary Services Unit (TFSU) is responsible for coordinating implementation across all activities for the PAIP. The TFSU is based at Tonga Airports Ltd and is comprised of fiduciary, procurement and technical staff. The TFSU leads the procurement activities on the PAIP, with inputs from the countries like Tonga. TFSU has been contracted by TAL/Govt of Tonga to supervise safeguards for the TAIP project.

1.9.2.2 Tonga Airport Limited TAL which is responsible for the Tonga Airport is the Client. TAL is responsible for the environmental safeguards through the legal documents with the World Bank, and any permits with the Govt of Tonga. All environmental safeguard issues will be reported to TAL for final decision.

1.9.2.3 Sir Frederick Snow Consultants
Snow has been appointed as the Project Managers and will be construction supervisors. It will be responsible for supervising the Contractor’s implementation of the ESMP and also responsible for daily monitoring and supervision of safeguards.

1.9.2.4 Contractor The Contractor will be responsible for the construction of the new ATC Tower and related ESMP mitigation measures.

2.0 Project Description

2.1 Summary of Key Works
The project comprises the construction of a new Air Traffic Control Tower (ATCT). During construction, ATCOs will be consulted to provide details of periods when construction activity may have to be suspended for operational and/or safety reasons. There will be three eight hours shifts per day during the operation and for each shift two ATCOs will be on duty. The Tower which is always very quite is in operation for 24 hours.

2.1.1 New ATC Tower Building Details
After presenting the final draft Detail Design Report in a meeting with TAL and the World Bank in May, the following conclusion was agreed.

- The Tower selected location co-ordinates was provided by TAL - 21°14'48.4"S 175°08'45.7"W (-21.246775, -175.146020).
- The ATC Tower height is to be 26m.
- The Tower structure will be a reinforced concrete octagonal form with the Facilities in an adjacent single storey structure.
- The Tower is to include the provision of a lift.
- The estimated cost is about US$ 3M.

Detail analysis and design calculation can be viewed in Document Number: FS-C-90357-DD-S-001 which will be available to the appointed Contractor.

2.1.1.1 Specification for Concrete Works
The specifications for the concrete works of the ATC Tower construction are shown provided in detail in the Specification for Concrete Works referenced as FS-S-90357-DD-S-001

The appointed Construction Contractor must fully understand that all work shall be completed in accordance with the appropriate engineering codes and standards as specified in this document referred to above. The document also describes the contractual obligations. The Contractor must provide submissions where
specified for Sir Frederick Snow and Partners approval.

All structural concrete is to be in accordance with the Tonga Building Code and all other “Standards listed in Section 2 of the Specifications for Concrete Works highlighted in DRW FIA 90357-DD-S-001-03.

Figure 2.1.1-1: is the preferred 3D rendered octagonal model of 26m high ATC Tower which has been agreed upon to be build and the Facilities building showing the south side elevation and the roofed car park partly seen on east side.

### 2.1.2 Facilities Building and Tower

Facilities building will include separate male and female toilets. There will be no sleeping quarters and with its removal, the kitchen is enlarged. Storage areas, offices, training room, equipment room, evacuation preparation room and the controller cab operations area are shown in Drawing Number FIA-90357-A-500-03. However, there will only be a unisex toilet in the Tower at level 14 and a restroom on level 11.5 as shown in DRG 90357-A-501-03. The Facilities building design will comply with the NZS4121:2001 Standards for disabled people accessibility.

### 2.1.3 Old ATC Tower

The existing Tower will be left as is for TAL to manage. Snow is tasked to build the new Tower only and will not rehabilitate the existing Tower. It may be used for training young Air Traffic Controllers.

### 2.1.4 Trimming of Trees

WB Policy OP 4.01 & OP 4.12 are not required in the future tree trimming process because the areas that are identified by Snow calculations which are shown in Figure 2.4.1-1 below illustrate that the area is just north west of the new ATC Tower and the VOR is sitting in between the two lump of trees. The insert clearly show these two areas and do not disturb any farm. It may not require removal but just trimming which can be scheduled on three yearly basis.

Figure 2.1.4-1 shows the two small vegetation areas (marked by yellow circles) that will need future tree trimming to keep LOS clear. All of this are in TAL property.
2.2 Mechanical Works

Detail mechanical works are shown in the drawings contained in the detail design submitted by Snow.

2.2.1 Air Conditioning

Air conditioning shall be provided by designated split air conditioning systems. Each condensing units associated with each split system serving the ATC Tower VCR level and the ground floor Office areas shall be located externally one level below the VCR level and also to the rear of the Facilities building.

The following areas on the ground and Tower VCR levels shall be served by the Split air conditioning: at the Facilities Building – equipment room, all offices, training/meeting room, bedroom, electrical room, server archive, the evacuation preparation room and the VCR level of the ATC Tower.

The ATC Tower VCR level shall also be provided with fresh air supply ventilation systems. The fresh air system shall be interlocked with the fire alarm system to ensure the supply and extract fans stop when a fire is detected.

2.2.2 Hot Water Services and Water Heaters

Hot water distribution shall be in accordance with the cold water services to all toilets, wash rooms, tea points and kitchens will be provided with local electric water heaters. The water heaters shall be connected to the electrical supply via a fused double pole isolating switch.

The water heaters shall be non-pressure cistern type, low-pressure or high-pressure type domestic/industrial to suit the application and shall comply with appropriate Australian/New Zealand standard. Electric thermostatic controlled immersion heaters shall comply with the appropriate Australian/New Zealand standard.

2.2.3 Storm and Waste Water Drainage

The foul and waste water drainage system shall serve all toilets, wash rooms, tea points and kitchens on level 14 and 16 of the ATC tower and the ground floor Office areas. Above ground soil and vent pipes shall be installed in PVC-U solvent welded pipes in accordance with the appropriate Australian/New Zealand standard.

Two Ministry of Infrastructure (MOI) septic tanks will be constructed under the regulations of the Building Code of the Kingdom of Tonga. Exact locations of these tanks are shown on the Detail Design Drawing number FIA 90357-C-103. Waste water will drain through two manholes along the ends of the southern elevation of the Facilities Building into a central larger manhole that will discharge the waste water into the MOI size 6 septic tanks. There is a separate MOI size 6 septic tank for the ATC Tower which is located generally northwest of the ATC Tower. The drainage field of the septic tanks will be located at least 5 metres away from the rain water supply tanks as shown in the detail design drawing.

All rain water will be harvested and stored in four 10,000 litre tanks (DRW FIA 90357-C-106-03). Any excess storm water will be trapped in surface drains which will drain into a sediment pond to trap debris and sediments before it discharges back into the soil to recharge the groundwater.

2.2.4 Above Ground Foul and Waste Water Drainage

The sewerage and waste water drainage system shall serve all toilets, wash rooms, tea points and kitchens on the ground floor and at CAB level. The above ground drainage pipe-work shall be designed in accordance with the requirements of AS/NZS 3500 Part 2.

The installed pipe-work, fittings and accessories are covered in detail the detail design drawings and specification which the Contractor shall view at the beginning. Above ground soil and vent pipes shall be installed in PVC-U solvent welded pipes in accordance with the appropriate Australian/New Zealand standard. Waste pipes shall be installed in MUPVC solvent welded pipes in accordance with the appropriate Australian/New Zealand standard.
2.2.5 Water Storage & Supply
The existing water storage tank, located adjacent to the original fire station, shall be utilised to serve the new ATC Tower. A water pipe connection shall be taken from the existing supply pipe that is already laid to serve the new fire station.

The rainwater is to be collected and drained through outlets installed in the ATC Tower roof, external walkways slab, Office areas roof and external parking shading screens connected to PVC down pipes connected to the rainwater ground level drainage system below. The rainwater ground level drainage shall connect to four external rainwater harvest storage tanks of 10,000 litre capacity.

Rain water drainage is designed to accommodate the maximum rainfall intensity recorded over the last 50 years. Rainwater is harvested to serve the WC’s, urinal and Cleaner’s sink within the office areas. The daily consumption for the ATC Tower has been calculated on the basis of occupancy of 20 staff per day and an average of 45 litres per person per day:

\[20 \text{ staff personnel/day} \times 45\text{l/person/day} = 900 \text{ litres of water consumption per day.}\]

2.2.6 Fire Fighting Equipment
The type of extinguishers that Snow has recommended for each area of the new ATC Tower and ground floor Office is dependent on the type of materials in each area.
Class A: ORDINARY COMBUSTIBLES e.g. Wood, Paper, Textiles, Plastics etc.
Class B: FLAMMABLE & COMBUSTIBLE LIQUIDS Petrol, Solvents, LPG etc.
Class C: FLAMMABLE GASES Acetylene, LPG (gas) etc.
Class E: ELECTRICAL ENERGISED EQUIPMENTS
Class F: COOKING OILS & FATS

Advice of the Airport fire authority is required to confirm the type of fire extinguisher to be provided. Detail technical details can be found in the Detail Design report and also the detail design drawings.

2.2.6.1 Fire Detection and Alarm Systems and Fire Safety Plan
A new automatic analogue addressable fire alarm system in accordance with BS 5839 shall be installed throughout the control tower. More details are provided by Snow in the appropriate electrical works and safety reports and drawings. There is also a Fire Safety Plan shown in Drawing Number 90357/E/207 for all levels of the ATC Tower.

2.2.7 Elevator
The ATC Tower will be fitted with an electric traction MRL Elevator suitable to carry 450kg (6 persons) – 630kg (8 persons). The elevator shall be provided with fully automatic door system finished in stainless steel door panels. The elevator travel speed shall be 1 m/s and car lighting shall be LED including emergency lighting with 3 hour back up operation. The standard elevator design will not be able to operate for fire-fighting or rescue, and it will only be able to recall to the lowest floor when the fire alarm activates. The elevator design will be in accordance with disabled regulations as standard i.e. push button/indicator heights and car handrails.

2.2.8 Car Park
The ATCT will be serviced by 594 m² of chip seal car parking and 495 m² of access road (72 m long) connecting to the internal perimeter road from the new fire rescue station.

2.3 Electrical Works
In Snow Consulting Design Concept Report the design proposal for the electrical services layout for each of the 16 levels of the new ATC Tower is shown in the Detail Design drawings. All electrical works and Instrumentation in the existing Tower will remain and the renovation works will be the responsibility of TAL.

2.3.1 Standards Used and Design Criteria
The National Building Code 2007 states that all electrical work including the wiring and switchgear installation shall comply with AS/NZS 3000:2000 Electrical Installations. Snow Consulting has proposed that the electrical installation is to be installed in line with the current issue of the wiring regulations AS/NZS 3000:2007.

2.3.2 Power Supply and LV Distribution
The existing power supply for the terminal and existing control tower is sourced from the Tonga Power Limited national power grid. These HV power supply cables enter the main electrical switch-room via the step down transformers located adjacent to the switch-room which provides electrical services distribution for the control tower, power centre, fire station and runway lighting. The electrical distribution switchboards located in the main power house are to be modified to allow for the provision of additional power supplies to the new control tower and future development of this area. Wherever possible the existing cables and sub main cables to local distribution boards shall be retained and reused depending on the condition and current carrying capacity of the sub main cables feeding the existing distribution boards. The new distribution boards shall generally be three phase and neutral with integral load break main isolator switches rated for the full connected load, and a full complement of RCBO / MCB circuit breakers.

2.3.3 Emergency (Standby) Generator
In case of any power outage of the national grid caused by unforeseen circumstances, there are two existing standby power generators readily available on site that are capable of providing 133 kVA power from any of the two generator to the main changeover switch panel. The anticipated new control tower building maximum demand load is expected to be well within the combined generators available power supply of 266 kVA.

2.3.4 Small Power System
The new control tower shall be provided with a main distribution switchboard located in the ground floor electrical switch-room. From the main ground floor switchboard cables shall be routed to feed sub main distribution boards located locally. The main electrical ground floor switchgear is supplied directly from the main power house by means of three phase and neutral steel wired armored cables installed directly in the ground between the power house and the control tower.

2.3.5 Earthing and Lightning Protection
The Control Tower shall be provided with a complete lightning protection and earthing system. A new main earthing system complete with earth bars and earth rods is to be provided complete with new circuit protective conductors installed throughout the control tower to comply with AS/NZS 3000 electrical installations wiring rules.

A new lightning protection system shall be provided as indicated on the drawings and shall be designed and installed in accordance with the requirements of BS: 62305, utilising roof mounted arresters, air termination networks, down conductors and earth electrode / pits. As part of the lightning protection system Equivalent Bonding Surge Protection devices shall be provided on all circuit cables entering or leaving the terminal building. Transient Overvoltage type 1 and 2 Surge Protection devices shall also be provided on the power supplies to specific items of critical equipment.

2.3.6 Lighting System and Lighting Controls
Lighting shall be achieved throughout the control tower by the installation of a variety of luminaires with the use of low energy lamps high efficiency luminaire ballasts. The preferred choice of lamp within the light fittings shall generally be high frequency fluorescent tubes to reduce energy consumption and increase the life expectancy of the luminaires. The method of controlling those light fittings within the control room, training and meeting rooms shall be by on off switch and dimmer. Other means of control may include daylight saving controls, and time switch control as appropriate for the area.

2.3.7 Emergency Lighting
All escape routes shall be provided with emergency lighting to enable the evacuation and escape of staff and public in the event of a mains failure in an emergency situation.
The emergency lighting system shall be of the “maintained” type complete with self contained batteries and inverters located adjacent to or within the body of the luminaire which allow the lamp to operate at a reduced output for a minimum of 2 hours. Auto test facility to carry out a set of test procedures on a regular basis to confirm the integrity of the batteries and the luminaires will be provided. Emergency exit signs shall also be provided over escape doors, The provision of emergency escape lighting shall be supplied to comply with BS5266-2011 will be provided in strategic locations for safety reasons.

2.3.8 Mechanical Supplies
New dedicated power supplies shall be provided as necessary for all new mechanical plant. Power supplies to roof mounted equipment shall be wired in PVC/XLPE armored cable mounted on cable tray. Where single core or multi core non armored power or control cables are used within the building these shall be installed either in a metal or heavy duty plastic conduits or in a multi-compartment cable trunking.

2.4 Construction Methodology
The contracts for the ATC Tower construction works has yet to be awarded, so the precise construction methodology is unknown. However the conceptual and detailed design by Snow Consulting has provided all the necessary structural reinforced concrete details which the Contractor should comply with the approval of the resident Engineer. All details are shown in the “General Notes on Reinforced Concrete shown as Drawing No. 90357/S/410 Rev 2.

2.4.1 Methods Of Work Plan (MOWP)
The MOWP will be set out by the Contractor once it is appointed by Snow. It is only fair to say that the new ATC Tower construction work will not affect any daily activities as the airport will operate normally. The existing ATCT will remain operational until the new ATCT is fully commissioned and put into operational service.

2.4.2 Materials and Equipment
The majority of materials and equipment for the new ATC Tower construction will be sourced locally. If any material is to be imported whether air or ship freighted will need to be processed in accordance with Tongan quarantine and customs laws.

2.4.3 Required Aggregate Supply
The coral based aggregates have been widely used for building construction in Tongatapu which are sourced locally. Close to the airport, there is enough quantity and quality coral aggregates available, therefore there is no technical constraint to building the new ATC Tower using locally produced materials. However, it must be clear that Snow and its construction contractor will have no part in the operation of the quarry and the Contractor will decide where to purchase building material from. Two of quarries are already in operation.

Now that the final decision on the ATCT design has been agreed to be octagonal and 26 metres, the volume of materials to be used is now confirmed and given in the final design document. The volume of block work is estimated at 84 m$^3$ and concrete is 225 m$^3$ and will amount to 309 m$^3$ or 745 tonnes. Ready mix concrete is also available in Tongatapu and a guarantee from them that they can provide all the building material needed for the Tower.
2.4.4 Construction Lay Down Area
The TAIP/TAL ESMP has earmarked the proposed construction lay down area which is located adjacent to the existing Airport Rescue and Fire Fighting (ARFF) building. This site was most recently used during the upgrading of the runway. The size of the lay down area is expected to be at its smallest during the ATC Tower works. It is estimated that less than one hectare (ha) of land will be required for the duration of the ATCT construction works. The lay down area is within the airport security perimeter fence which makes it a secure site with restricted access to airport workers only.

The construction lay down area is not a residential camp. Foreign contract and project staff will utilise existing local accommodation. The ground of the construction lay down area will likely be compacted by the end of its use and so restoration will require turning of the soil, application of topsoil and re-vegetation.

2.5 New Tower Access Road and Supporting Utilities Location
The access road to the new ATC Tower construction site and the Stand down area which are both marked in Figure 2.5-1 below will enter and exit from the Airport Road that adjoins the Fua’amotu and the Pelehake communities. The access road is marked in blue colour and was designated by TAL. The access road will allow unrestricted vehicle movement away from the runway and therefore will not hinder the progress of the construction work once it begins. All heavy cartage vehicles will also move about the construction work site without interference to the overall function of the day to day activities of the Airport.

![Designated construction Access from Airport Road and the preferred aggregate haul road with the northwest extension only is also partially shown in blue from the northwest.](image)

The TAL designated access road is within the TAL land area and is an existing road that was used in for past airport activities.

2.6 Construction Timeframe
If TAL agrees to the preferred octagonal building design, the construction time will be only 24 months as stated in the detail design report.

2.6.1 Work Hours
Normal working hours are Monday to Friday, 7am to 6pm. Work outside of these hours will require permission from TAL and notice to affected parties and the public at least one week prior to work commencement. Work on a Sunday (Sabbath Day) is not permitted and any requirements to work on a Sunday (e.g. emergency works) will require special approvals.
3.0 Environmental and Social Baseline Overview

This section provides an overview of the baseline environmental and social conditions around the Tonga Airport where the new ATC Tower will be constructed.

3.1 The Physical Environment

A description of the physical environment shall comprise of the following elements:

3.1.1 Morphology of the ATCT Site

Specifically at the site the ground level above mean sea level is approximately 34 metres. The most rugged topography on the island is associated with near-vertical sea cliffs up to 30 m high on the windward coasts. In most areas these are fringed by a narrow reef flat with a well-developed algal rim. Elsewhere, the morphology of the island is very subdued. Typically the land surface is flat to gently undulating with occasional steep-sided hills 10-25 m high and linear, scarp-like features. The dimensions of the hills range from a few hundred metres to 1 km in diameter and their distribution is apparently random.

3.1.2 The New ATCT Site Topography

The area of interest includes the new ATC Tower site, the new Fire Station and the materials lay down area.

Figure 3.1: The general biophysical and social environment of the area of interest as marked on the map.

Figure 3.1.2-1: Shows the regional contour map of the site.
Snow Consulting has provided the most recent specific topographic map for the site and its surrounding area and a copy is shown here. The detail topography of the site clearly shows the land level features because the contour interval is only 10 cm apart. The details show a very flat area just as mentioned above. The building will be constructed at 34 m above mean sea level. That level will not be affected by the climate change sea level rise in the next 100 years or so.

The contour lines show a slight tilt towards the north. The contours do not show any indication of a natural drainage system at all even though the contour lines intervals is only 10 centimetres apart and should show the slightest of land surface elevation details.

In terms of construction site clearance and preparation, soil erosion will not be a concern due to the flat nature of the site and also the lack of any natural drainage pattern. The specific construction site is already cleared of all umbrella vegetations and is now overgrown with tall grass.

3.1.3 Geology

The geology of the Tongatapu Island including the site can be summed up as follow:

- Surficial top soil composed of volcanic ash clay material which forms the fertile farming land tall over Tongatapu.
- Thick layer of reddened lateritic soil which is the weathering and residual soil of the underlying limestone
- Thick limestone layer of up to 250 metres in thickness
- The underlying volcanic rock which is most likely basaltic in composition

The above sequence applies to the site also

The airport is located on the crescent shaped relic reef structure forming the highest elevation of the island which is indicated in the new ATCT site topography map shown as Figure 3.1.3-1 on the previous page. The slight tilt illustrates the inner slope of the ridge and gradually lowering to the north side where Nuku'alofa is located. The geology and topography shown here both indicate a tilt towards the north side where Nuku'alofa is located. The north side of Tongatapu Island has over the years experienced sea level inundation due to its low level.

3.1.4 Geotechnical Characteristics of the Site

There is no geotechnical investigation data specifically carried out for the new ATC Tower. However, four test holes were bored by IT Pacific Ltd for soil bearing capacity tests of the foundation of the new Fire and Rescue Station which is only about 30 metres from the new ATC Tower site.
In fact, SPT 4 (in red circle) can be seen is much closer to the new ATC Tower and is useful for the purpose of deducing the nature of the geotechnical characteristics of the site. It is also confidently used here due to the supporting geological data and also the characteristic of the surface soil seen in the hand dug pits at the selected ATCT site shown in Figure 3.1.5-2 below.

All boreholes were 2 metres in depth. In all four Fire Station test holes the ground water table was not encountered and this will also apply to the new ATC Tower site. The reason for this is that both sites are located about 34 m above sea level and is at the high elevated side of the island where groundwater table is always lower compared to the lower north side of the island.

### 3.1.4.1 Soils
The hand dug pits at the ATCT site show a thin layer of the loose black top soil very clearly and its richness can be witnessed in the green grass growing all over the site (Figure 3.1.4-2 (b) below.

![Figure 3.1.4-2: the typical soil characteristics of the ATCT site soil which is similar to the loose soil with sandy matrix described in the new Fire Station geotechnical report. The Fire Station is seen in (a). (b) shows the surface of the reddened lateritic soil that overlies the limestone.](image_url)

### 3.1.5 Hydrology
There is no permanent or temporary water course in the Tongatapu Island and specifically anywhere in the vicinity of the airport grounds. The flat terrain is an impediment to efficient surface drainage, thus the soil characteristics explained above would easily allow rain water to percolate into the subsurface layers during heavy rains to recharge the shallow groundwater lens.

### 3.1.6 Fua’amotu Climate Overview
The Meteorological Services of Tonga operates from Fua’amotu International Airport. That would provide most accurate weather bulletin that the Contractor can use to plan construction activities. Fua’amotu has a tropical rainforest climate with no dry season. This climate data is very important for aviation purposes particularly for a very low limestone island system like Tongatapu, hence it being inclusive of every climatic conditions. For the purpose of construction dry weather is from November to March and is useful for planning construction activities. The Tonga tropical storm risk chart shows that Tropical Cyclones are associated with the dry weather.

### 3.1.7 Scenarios for Local Water Levels and Climate Change
With the present sea level rise scenario given in preceding documents the Site will hardly be affected by sea level rise based on the topography. Water level scenarios and climate change is well covered in the TAL/TAIP ESMP and will be made available to the appointed Construction Company and Sub-Contractors when required.
3.2 Biological Environment

3.2.1 Marine Biodiversity

The airport site is inland from the coast (approximately 2.5 km at the nearest point) so it is not expected that the airport activities will have any effect on the marine or coastal environment and vice-versa, however, sea sprays during adverse weather can affect the ATCT exterior metal-works.

3.2.2 Terrestrial Biodiversity

The grassland is an open area which used to be cultivated hence the removal of all trees. The left over trees will be left as they are to act as wind breaker. Even if there was no past agricultural activity, the changeover to airport would have still impacted the faunal species through noise and bright light at night.

The TBU Airport site which includes the proposed new ATC Tower site has been leased on long term to TAL by its private owners for airport development.

![Figure 3.2.1: shows the most recent localised view of the proposed ATCT site.](image)

Terrestrial biodiversity, particularly on Tongatapu is limited with no endemic plants or animals. The area in which the airport is located is an agricultural area with differing types of agricultural activities along each boundary. There are no conservation or reserve areas near the airport.

![Figure 3.2.3-1: shows the aspects around the airport with remnant plantations and Tower site is only a small area](image)
3.2.3 Aspects around Fua’amotu

The majority of the land use along this section of the Airport Road comprises a dense mix of residential, commercial properties and agricultural uses. There are no designated ecological areas within the site boundary in Pelehake and no records of any protected species. Habitat within the site boundary comprises primarily of sparse bladed grassland species which provides little cover or forage for animals and also waffle trees. In the vacant lots where construction staging and storage areas (lay down) will occupy, there is no vegetation cover as it had been used for the same purpose just one year ago for other airport rehabilitation and renovation works.

There are no known areas of natural or critical habitat within the scheme boundary. Areas of modified habitat within and in close proximity to the proposed works consist of agricultural land of low conservation value and impacts on these areas are likely to be limited and of a temporary nature (dust deposition and encroachment of earth from stockpiles). Therefore, no ecological/ protected species surveys are required for the area within the scheme boundary.

3.3 Socio-economic characteristics of area of influence

3.3.1 Population and Demographic Profile

The Airport is located in the district of Tatakamotonga and is in between Pelehake and Fua’amotu villages. Below is the population count for each of Tongatapu’s 7 districts for comparison:

<table>
<thead>
<tr>
<th>District</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolofo‘ou</td>
<td>18,832</td>
</tr>
<tr>
<td>Kolomotu‘a</td>
<td>16946</td>
</tr>
<tr>
<td>Vaini</td>
<td>12,951</td>
</tr>
<tr>
<td>Nukunuku</td>
<td>7,724</td>
</tr>
<tr>
<td>Lapaha</td>
<td>7,382</td>
</tr>
<tr>
<td>Tatakamotonga</td>
<td>7,252</td>
</tr>
<tr>
<td>Kolo’alava</td>
<td>4,071</td>
</tr>
</tbody>
</table>

*Table 3.3.1-2: shows the population distribution in the seven districts of Tongatapu (Census Statistics 2011)*

*Figure 3.3.1 shows the location distances and direction of the community can be affected by the ATC Tower construction.*
3.3.2 Communities near Fua’amotu Airport

It is not the intention of this ESMP to report the social aspects of the communities shown in Figure 3.3-1 above because they are all some distances away from the site. However, it is the responsibility of Snow Consultant and the ATC Tower Contractor to determine how these communities can be affected by the construction activities and also the long term operation of the ATC Tower. These households are closest to the Fua’amotu International Airport and are the ones likely to be affected by the ATC Tower construction works. Pelehake village is north and Fua’amotu village is south of the TBU Airport.

3.3.2.1 Toilets

Households that use flush toilets are contained in septic tanks but manual flush and pit toilets are always in direct contact with subsurface layers which is the conduit for the water lense. The ATC Tower will use two MOI designed septic tanks.

3.3.2.2 Solid Waste Disposal

Although there is also a waste collection service available only 33.5% of households in Pelehake use this method of solid waste disposal. For Fua’amotu which is a much bigger village only 16% of its households use the collection service method to dispose solid waste. Dumping of waste around villages can be detrimental to the groundwater system. At the proposed ATC Tower and the whole TAL complex, solid waste is removed from site by the collection service method.

3.3.2.3 Water Sources

Tongatapu has several fresh water lenses with water table that is calculated to be less than one metre above mean sea level. The airport site has a number of private ground water bore holes for extracting freshwater for use in the terminal and for fire fighting, along with rain tanks and a reservoir at the northern end of the runway. Over extraction, pollution from septic tanks and industrial activity all pose a threat to groundwater quality as does rising sea level as a result of climate change. It must be made clear that those residing close to the airport use public water supply which are not sourced from the airport boreholes.

3.3.2.4 Economic Activities

Economic activities in the proposed ATC Tower project area of influence that could have a direct bearing to the upgraded airport are briefly described below:

The upgrade of the airport is expected to increase communications and open new marketing channels and possibly stimulate investments in the vicinity of the airport and expected to change land use from small scale agricultural production to commercial activities.

3.3.2.5 Tourism

Tourism in the Friendly Isles is still currently underdeveloped. There is great potential for tourism investments and growth in Tonga. The Island Group has well preserved history and fine white coral sandy beaches and barrier islands which provide unique beautiful sceneries. Upgrading of the airport is likely to stimulate a large number of tourists to visit the Tonga Archipelago, thereby improving tourism and at the same time contributing to regional and national income.

3.3.2.6 Cultural Heritage

There are no known areas of archaeological significance within the area of the proposed new ATC Tower development. However, in the “public consultation” of 2015 concern for the uni-sex sharing of facilities like toilet and shower was strongly raised. In Tongan culture, uni-sex sharing is not recommended outside family household circle. Snow Consulting had initial plans to include separate toilets and bedrooms in the detail design Version 02 drawings. However, in a stake-holders workshop in Tonga the TAL Chief Operation Officer informed the workshop that aviation standard only allowed for one toilet and a restroom in the Tower. Snow Consulting has reflected this decision in changing the version 02 drawing with DRG 90357-A-501-03.
4.0 Natural Disasters
Two types of natural disasters are associated with this part of the southwest Pacific. Tropical Cyclones are common occurrences. Early warning systems are quite effective if people follow instructions.

Earthquakes or submarine volcanoes are not uncommon in the vicinity of Tonga because it sits on a very seismically active margin. Snow has thoroughly analysed seismic activities around Tongatapu using seismic standards and analysis is included in the detail report and incorporated in the design of ATC Tower.

5.0 Summary of Potential Significant Impacts
5.1 Identification of Environmental Impacts
If a common basis exists for construction activities in different countries, it can probably be found in a description of the principal activities that comprise the construction process itself.

- Pre-construction Phase - including site preparation work, site clearance and earthworks to level site by removing top soil cover and waste
- Construction Phase - Building profiling which includes squaring, construction ground outline and digging of pads including transport of materials and waste
- Post Construction Phase – when the building is in use

The three principals are useful means of breaking the overall scheme of things into small parts that aid in the assessment of environmental and social impacts and their causes.

Impact assessments, are used to describe the known impacts of various events, and employ rather straightforward quantitative techniques to estimate the magnitude of the impacts.

The impact assessment for the ATC Tower works has been undertaken in two stages:

- A comprehensive desktop review of the potential impacts, based on existing literature relating to airport capital works and waste discharging systems.
- Site visit and fieldwork to establish the significance of the potential impacts in the specific environmental and social context of the site and also to identify any impacts specific to the site and surrounding that was not highlighted in the desktop review.

Issues were cross checked against historical datasets and existing data gathered during the field study to ensure all potential issues are included.

Environmental risk assessment was then carried out based on the potential issues, in accordance with AS/NZ ISO 3100: “Risk Management – Principles and Guidelines”

5.2 Risk Analysis and Issues Prioritization
Risk estimating for the ATC Tower construction activities used a priority format with severity of the identified impact. This provides focus to the work estimating the risk in four categories:

- **High**: results in death, system loss, or severe environmental damage.
- **Medium**: results in severe injury, significant occupational illness, or major system or environmental damage.
- **Low**: results in minor injury, minor occupational illness, or minor system or environmental damage.
- **Negligible**: will not result in any of the above.

Probability for occurrence is the other factor that is considered in five levels that are typically cited in risk estimation as:
- **Highly probable**: likely to occur frequently
- **Probable**: likely to occur several times in the lifecycle
- **Occasional**: likely to occur at least once in the lifecycle
- **Improbable**: very unlikely to occur in the lifecycle
- **Highly improbable**: probability cannot be distinguished from zero

So, the environmental risk evaluation is performed by estimating the probability of the risk against the measure of severity of its outcome.

The generally accepted measure of risk is the product of the likelihood of any event occurring and the consequence of the event. For example, construction noise has a high probability of occurrences but a moderate consequence may be considered to have similar risk as waste water that has a moderate or low probability of entering the groundwater water lens but of high consequence. The methodology used in this assessment rates probable and consequence on a scale of 1 to 5. This numbers were assessed in the matrix shown in the Table 6.2-1 below, as an indicator to the degree of associated risk and the relative priority of the issue. Historical data collected from the site and interview airport workers were used to assess the likelihood of an environmental risk occurring.

The consequence of an environmental issue was assessed by the following factors:

- determining the severity of the effect,
- the area and population to be affected,
- the permanence of the effects and
- capability of the area to recover.

<table>
<thead>
<tr>
<th>Probability or chance</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Catastrophic</td>
</tr>
<tr>
<td>E – Highly probable: likely to occur frequently</td>
<td>E</td>
</tr>
<tr>
<td>H – Probable - likely to occur several times in the lifecycle</td>
<td>E</td>
</tr>
<tr>
<td>M - Occasional: likely to occur at least once in the lifecycle</td>
<td>E</td>
</tr>
<tr>
<td>L – Improbable: very unlikely to occur in the lifecycle</td>
<td>E</td>
</tr>
<tr>
<td>I - Highly improbable: probability cannot be distinguished from zero</td>
<td>H</td>
</tr>
</tbody>
</table>

**Table 5.2-1: Risk analysis matrix**

Potential impacts were analysed using the above matrix but only those that would cause greater impacts are listed below as key targets for environmental impact management and mitigation purposes.

### 5.3 Evaluation of Key Impact Areas

Impacts assessed as of lesser significance does not require any further management neither mitigating measures on the basis that the magnitude of the impact is one of the following:

- The impact is rather small
- The receptor is of very low sensitivity and/or
- That adequate controls are already included in the project design

The impacts that are evaluated as significant require the implementation of further management and
therefore mitigating measures are to be identified. This is important so as to minimise or reduce the impact to an acceptable level. In finding solutions to significant impacts which are listed below, the focus is demonstrated in reducing the impact to a level that is practicably low. As explained in a previous section, the significant impacts are further assessed as for those that are generated during the construction as well as during the operation. Several of the potential adverse impacts will occur both in the construction phase and carry through to the operation of the ATCT. Mitigation measures should be able to alleviate or lessen potential negative impacts.

5.3.1 Key Target Areas
The key problem areas identified are separated into the construction and operation of the ATC Tower.

5.3.2 Construction Period
The following have been identified to be the key targets

5.3.2.1 Terrestrial Flora and Fauna (L - Low significance)
The flora and avifauna that are found in the selected Project site are relatively common and can be found elsewhere on Tongatapu where the same conditions exist. As the site has already been cleared it is obvious that low significant impact to flora and fauna of the subject area and their surroundings will occur. Only the Tower building site will be cleared.

5.3.2.2 Groundwater (L – Low significance)
The topography of the site shows a downward tilt to the north indicating that the groundwater lens would be deeper in the north flat area. The borehole which feeds the ATCT and AFRS is behind the existing Fire Station with its own water pump. In the likelihood of oil/fuel spills into the site environment ATCT the construction company will have in place the necessary cleanup gear to minimise any impact. All traffic and heavy machinery refuelling will be carried out in bunded hard stand areas. If a wash-down area is allocated during construction then waste water will also be considered as a potential threat to the ground water and must be done in the hard stand bunded area.

5.3.2.3 Dust (L – Low significance)
One of the major environmental impacts is degraded air quality, resulting from airborne emissions from sudden increase in vehicles using roads. Some emission would be noticed from construction vehicles, haulage vehicles and machinery emissions.

Agitated dust will be a nuisance to the residents along the designated haul and cartage routes and site construction earth moving machineries. This may result in breathing and respiratory problems to pedestrians and also roadside residences. Dust becomes a nuisance to residents when it accumulates on clothes, vegetation and even interior of homes. There are no sensitive receptors close to the site.

5.3.2.4 Noise Impact (I - Insignificant)
Potential sources of noise pollution would be construction machines and traffic. Noise nuisance is a health hazard and can induce partial hearing problems, disturbances to sleep and concentration of school children.

Traffic movement into and out of the area and on site heavy excavation machines during site preparation will be the biggest noise sources at the construction site. The effect on nearby community is expected to be negligible as the nearest sensitive receptor is approximately one kilometre away and in between are existing tree lines. The runway separates the construction site from the international terminal building which is located almost 500 metres to the north. The easterly prevailing wind which blows almost year round will carry the sound away to the west. Apart from the new fire and rescue station which is only about 30 metres away there is no other community close to the work site. It is expected that noise impact would be minimal due to tree shielding, distance to the nearest receptor, and that all machineries and haul trucks will operate only during the day.
5.3.2.5 Waste Management (M – Moderate significance)
Poor management of garbage, waste fuel and heavy oil, and other solid waste is detrimental to the soil, groundwater and terrestrial flora and fauna at the construction site. Concrete bund must be constructed where the fuel tanks are placed and the heavy oil container must be moved on to it. Any oil spill can be contained and cleaned before percolating into the soil and into the underlying groundwater lens.

5.3.2.6 Transport of Materials and Equipment (L – Low significance)
There will be at least twenty trucks to cart building materials from Nukualofa and also haul aggregates from the designated quarry site to the lay-down area. Due to on-site concrete batching impacts it is recommended that the Contractor use the ready mix concrete that is abundantly available in Nukualofa. If the Contractor uses ready mix it would mean the reduction of heavy trucks as well as road congestion since all that is needed will be just a few container trucks to cart equipment from the Wharf to the site. That would mean a slight increase in number of 30 tonnes trucks and may be three twin cabs and r industrial loading machines to be used during the initial construction stage.

That increase in vehicle numbers is only temporary the most during the preconstruction stage only. The number of heavy vehicles used per day will vary depending on the needs at the site. If the above recommendation to use ready mix is agreed to there will also be no need to be concerned with quarry aggregates and traffic congestion during peak traffic hours along Liku Road as well.

5.3.3 Operation Key Impacts Areas

5.3.3.1 Groundwater and Water Management (L – Low significance)
The recharge area for groundwater is the mountain and in Tongatapu it will be the higher side of the island where the airport is located. If clean surface runoff is allowed to percolate into the sandy soil it will naturally percolate back into the water cycle system. Maintenance of all the Tower and Facilities guttering by TAL is important to harness rainwater for use during the operation era. The MOI has properly designed septic tanks and good maintenance of the disposal field will mitigate most impacts. No wastewater must be allowed to flow out into the soil.

5.3.3.2 Waste Management (M – Moderate significance)
Solid waste will be removed from site to the only waste landfill site on Tongatapu. If there is a likely recycling system in Nukualofa and plastic bottles can be sorted and removed for recycling whilst all other solid waste can be removed to the designated waste dump.

5.3.3.3 Tree Trimming (L – Low significance)
There will be no removal of trees but trimmings only so that instead of growing taller they can grow branches sideways. The two areas where tree trimmings will be made have been identified and shown earlier in Figure 2.1.4-1. In both areas there are no cultivation to be compensated as only shrubs and trees are growing.

6.0 Management Requirements - Mitigating Measures

6.1 Construction and Operation Environmental Mitigation Measures
The Contractor must prepare a Contractors ESMP/EHS plan that documents how they will comply with this ESMP. The Contractor must have trained specialists appointed for EHS. The Contractors ESMP is cleared by TAL(TFSU safeguards specialist) and Snow before works can begin.

This should all be documented in the bid documents, along with supervision requirements, incident management and enforcement - please discuss this with the design engineers and TFSU about how this will be in the bid documents.

6.1.1 Terrestrial Ecology – Flora and Avi-Fauna
The proposed project requires minimal clearing of vegetation specifically where the ATC Tower and Facilities
buildings will be located. There is a wide grassland open space south of the site which TAL can mow or keep clean and tidy up to the TAL outside perimeter fence.

In terms of beatifying the area immediately surrounding the Tower and Facilities building TAL can plant flowers and plants to enhance its appearance. No negative impact is envisaged. As a precautionary measure, plan to mitigate any likely flora impact is described in detail in the Environment Mitigation Plan.

6.1.2 Storm Water and Water Management
There is no surface water anywhere near the airport. However, the construction work and its related activities can impact the groundwater lens through its waste water disposal methods.

During the construction of the ATCT clean water diversion bunds will be used to direct any runoff away from disturbed work areas, stockpiles and storage areas. The diversion bunds will direct this clean water to land for soakage.

Roof catchment rain water will be harvested in 20000 L tanks for use, and risk of contamination of groundwater will be avoided as only ready-mix concrete is allowed on site. In the event that concrete batching and wash down will be done on site it should be carefully done on a hard stand bunded area, so as not to affect the airports freshwater supply.

The Fire Station and the existing ATCT have a groundwater borehole supply in close proximity. Monitoring will be carried out prior to construction works commencement, during construction works and at completion of all construction works to confirm no contamination of groundwater as a result of the works. The bore nearest to the construction lay down area will be monitored to capture any potential effects as a result of a spill or general site activities.

6.1.2.1 Groundwater Environment and Solid Waste Management
Impact to the groundwater environment will be minimised in the following ways:

a) Runoff from disturbed areas can be diverted around the edge of the disturbed area by a cut-off drain. Runoff should be diverted in a non-eroding channel that drains into the main sediment settling pond before clean water can be discharged into the environment and sediment removed and deposited back onto the environment. Contractor should be made responsible for this temporary erosion mitigation measure.

b) Toilet facilities and site office/rest house will have use of special MOI designed on-site septic tanks waste management systems. During the operation of the ATC Tower TAL will be responsible for the maintenance

c) Oil and fuel stored on site will be on needs only basis to avoid accidental spill during construction as well as in the operation. Emergency spill kit equipment should be available on site at all times. A hard stand bunded area should be constructed by TAL to keep stand by generator fuel and oil. All unused or used oil should be collected for reuse and/or sent for recycling to designated location.

d) No careless littering is allowed except in assigned litter bins are designed to minimise or eliminate the risk of FOD on the airport and likewise the vehicles that will be emptying them. Litter bins are to be installed at strategic locations around the site. Solid wastes collected in the bins are to be removed at least three times a week to the designated rubbish dump.

e) The development intends to practice good solid waste initiatives such as avoiding use of unnecessary materials; and separation of wastes before recycling, reusing and disposal on site.
6.1.3 Oil/Fuel and Chemical Storage and Spill
If oil/fuel or hazardous chemical is spilled on the ground it will percolate into the subsurface layers and into the water lens to affect the groundwater. People rely on groundwater for their main source of water supply as explained earlier in Section 3.3 of this report. They can be affected by water borne diseases which can be contagious. As a precautionary measure, plan to mitigate any likely groundwater quality impact is described in detail in the Environment Mitigation Plan. Many grass eating animals can be affected if they ingest oil. As a precautionary measure, plan to mitigate any likely groundwater quality impact is described in detail in the Environment Mitigation Plan.

6.1.4 Construction Lay Down Area
The construction lay down area will be used to store equipment and materials for all components of the project and there are a number of potential hazards always associated with the equipment and materials. Although the construction lay down area is within the airport perimeter fence, additional fencing may be required around this designated storage area (e.g. hazardous substances) to prevent access by unauthorised personal. Each specific storage area within the compound will be clearly marked with signages Each storage site will have its own design like the following:

- for solid waste collection,
- machinery maintenance,
- hazardous substance storage,
- plant operations (concrete) 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. The design for each of the storage area will include:

- providing hard stand areas,
- protection from wind and rain,
- bunding (hazardous substances),
- clean water diversion drains, and
- collection and treatment of waste water from site operations (e.g. concrete production, machinery maintenance).

6.1.5 Transportation and Traffic
There would be some impact anticipated relating to increase in traffic flow into and out of the construction site. Airport Road is always busy. The airport is one of the busiest workplace in Tonga. It opens for business until very late at night. Traffic of all types (light and heavy) enters and leaves the airport premises daily from dawn until late at night. The construction vehicles will have set mitigation measures for transporting materials and equipment from the wharf and passing especially through schools and busy streets. Signage in clear large font, max speed limits must be set, PPE esp. highly visibility vest worn, strictly follow designated travel time, cover load.

6.1.6 Air Pollution Control
The use of low-emission machinery, well-maintained vehicles and machinery would reduce emission rates on site during construction and the operational phase of the project.

The use of cleaner fuels in machinery could also further assist emission controls. The selected ATCT site will greatly help the prevailing wind to direct dust movement away from the residential area along the Airport Road and likewise the populated airport terminal building.

In order to reduce fugitive dust emissions during unloading of gravel, water will be sprayed to soak dust. During the site preparation work the site will be periodically wetted to reduce fugitive dust generation by
earthworks machineries.
- Haul roads are expected to be the major source of fugitive dust. To reduce dust from haul roads the following measures will be taken:
- The main delivery route is tar-sealed road. However, the access road leading to the site and office will be gravel.
- The haul road has just been recently used for the airport upgrading purpose and should be adequately compact ready for use. If some maintenance is required it will be completed as part of the ATC Tower site preparation work.
- Periodically water will be sprinkled on this road in amounts just sufficient to dampen the surface.
- Overloading of transport equipment shall be prevented in order to stop spillage.
- The airport road sides are both lined with trees in many stretches and it is very clear that the residents who build homes behind the tree lines have intentionally planted them to catch the dust emitted from vehicles.

During dry weather, dust can be generated from the construction site during site clearance and foundation preparation work. Although not much excavation is expected to be done as the foundation design has chosen to use the pad footing. As a precaution measure, plan to mitigate any likely air quality impact is described in detail in the Environment Mitigation Plan.

6.1.7 Imported Labour
Socio-economic benefits to the local community, in terms of jobs, and earnings and up-skilling of local people who can find employment with the foreign workers.

The people of Tonga have a unique culture and are very friendly. Behaviors and conduct of foreign workers can rub-on and quickly influence locals causing slow change in the local culture. Workers code of conduct must be instigated by the Contractors and made known to those who come to work on the Project for the first time.

6.1.8 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 the Contractor accepts responsibility for implementing actions to help reduce instances of HIV/AIDS, gender based violence (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 life time of the civil works, including monitoring and reporting.

6.1.9 HIV-AIDS Prevention
While mobilized for work, the Contractor shall produce a conduct appropriate HIV-AIDS Information, Education and Consultation Communication (IEC) campaign via an approved service provider approved by the Client’s Consulting 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 Client’s Consulting 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 Client’s Consulting 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 labour 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 behaviour 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.

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

The Client’s Consulting 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.

Prior to contractor mobilization, the approved service provider shall prepare an action plan for GBV IEC campaign which shall be submitted to the Client’s Consulting Engineer for approval.
6.1.10 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 workers 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. These workers are likely to be from both overseas and from other areas of Tongatapu and the Contractor must therefore be aware of the potential impacts that this influx of outside labour can have on the local community, and manage these impacts and interactions appropriately.

In terms of the vulnerability of the airport area communities to external influences, in the context of the Fua’amotu area and its surrounding villages, these village communities can be considered to be low-risk and peri-urban due to their proximity to and integration with the Fua’amotu international airport and the ease of access to these communities. This being said, local area communities may still be vulnerable to increased social pressures from any uncontrolled influx of labour.

The exact division of labour force and recruitment strategy has yet to be determined and should be described in the CESMP.

7.0 Occupational Safety and Health
All occupational health and safety requirements as per WB EHS and Government of Tonga law must be in place and workers trained in necessary procedures (e.g. spill response plan). The OHS Code of Practice which is in Appendix D has been designed to reinforce existing GoT health and safety law and must be applied to all aspects of the TAIP project Civil works shall not commence until the Client’s Consulting Engineer has approved the OHS plan, the Safety Officer is mobilized 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 in OHS Code of Practice in Appendix D.

8.0 Contingencies
An emergency plan is in place. The plan encompasses the following: cyclone, storm events, fire, accidents and oil spills emergency evacuation and assistance will be top priority. The PAIP/TAL ESMP has laid out the reasons why a contingency plan is required for the ATC Tower construction and also the long term operation. Sirens can be used at identified locations (one at construction site and the other at the lay-down area. Weekly tests will be carried out to monitor working conditions. The Contingency Plan is in Appendix E.

9.0 Monitoring
TAL wants to ensure that all necessary operational aspects of the new ATCT construction and operational activities are compliant with the relevant Acts that were listed at the beginning of this report. To maintain a system as the set standard the following measures will be meted out:
- Hierarchical position roles and responsibilities will be written clearly by the site management, and they must accept the different levels of responsibilities for all aspects of environmental and safety issues (Positions Roles and Responsibilities)
- The establishment of an environmental, health and safety at the work place team must be organized to include representatives from all work units at the site including drivers
- The appointment of an on-site Health and Safety Officer is very important and a legal requirement under the HASAW Act.
- During construction there will have to be increased airfield operations patrols as well as security presence on the airside of the site for two reasons a) increased risk of FOD and b) increased risk of "wanderers".

The role of each respective member is to oversee the up-keep of all relevant and necessary improvements of the site in terms of environmental, quarry safety and health and sanitation issues.

### 9.1 Roles and Responsibilities

TAL is responsible for the delivery of the TAIP TBU project including all the funding that is received and also the contracts that are awarded under the TAIP. TAL is the Implementing Agency (IA) in regards to funding received from donors including the WB. A Project Management Unit (PMU) within TAL has been established to undertake the day to day management of the project. Aspects of the monitoring required by the ESMP will be undertaken by TAL. The implementation of the TAIP/TAL ESMP is the responsibility of the contractors awarded contracts under the TAIP. There are two diagrams below illustrating the reporting and levels of responsibilities for the implementation of this ESMP.

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**Figure 9.1-1** shows the reporting and responsibilities hierarchy for implementing the ATC Tower ESMP.
9.2. The Construction Organisation Structure

Figure 9.2-1: The ATCT construction management hierarchy of responsibilities and roles each position shown above are listed in Appendix C.

The management organization structure of the proposed development project is shown above in the hierarchical management system.

9.2.1 Leadership

Environmental protection, sustainability and safety are core values in the position descriptions of all construction staff. The Construction Manager will lead in setting the highest standards for environmental management and performance on site. All employees are charged to act immediately to correct any non-conforming conditions and promote environmental awareness, good environmental behaviour and continuous improvement at every opportunity. The following Project personnel have key accountabilities in the development, approval and execution of the works in accordance with this ESMP and the organisations they represent are shown:

- TFSU Safeguards Specialist – TAIP/TAL
- Project Manager – Snow Consulting
- Construction Manager/Contractor – Snow Consulting
- Snow Safeguard Specialist
- Project Engineer / Site Engineer – Snow Consulting
- Site Superintendent / Supervisors/EHS Officer - Contractors
Key environmental responsibilities and roles above is clearly defined and informed to all position holders. Key environmental responsibilities are clearly defined in Appendix C of this ESMP.

10.0 Consultation and Stakeholder Engagement

10.1 Outcomes of Consultation to Date
There have been two rounds of public consultations completed by PAIP/TAL since the inception, the initial public consultation that was completed in 2011 and also a follow-up consultation which was conducted in 2015 to update stakeholders of the progress of the TAIP project and also to provide details on the development of the ATCT phase of the project.

Following that public consultation workshop, several recommendations have great relevance to the ATC Tower construction and they have all been addressed as explained below:

10.2 Key Concerns for the ATCT

10.2.1 Cultural Concern
Cultural concern was raised about having uni-sex toilets and bedrooms in the ATC Tower building. In a workshop held in Tonga in May, the TAL Chief Operations Officer had informed the attendees that the Civil Aviations standard only allow for gender neutral or unisex toilet in the upper Tower level which is now designated on the 14th level of the Tower. Likewise sleep-out is also removed and in place will be a restroom on level 11 as shown on DRG 90357-A-501-03

10.2.2 Pre-Construction Consultation
It is important that the stakeholders especially communities around the site be informed about the progress of the TAIP. It will be an opportunity to let them know about how TAL has addressed their concerns and also inform them that the ATC Tower will now be construction and that they can apply for employment opportunities based on their skills level.

Public announcement of this consultation can follow the 2015 consultation format through radios/TV and print media in the English and local vernacular. Construction impact and risk level to the public is low and insignificant but as stakeholders who raised their concerns in the first two consultations, TAL has a responsibility to keep them aware of the Project progress.

11.0 Site Office Administration

11.1 Complaints Register
A public telephone number will be advertised in the media and maintained throughout the Project to serve as the online point of contact for enquiries, concerns and complaints. All enquiries, concerns and complaints will be recorded on a central database and then appropriate manager will be informed. The following information will be recorded:

- time, date and nature of enquiry, complaint or concern;
- type of communication (eg telephone, letter, personal contact);
- name, contact address, contact number and email address;
- response and investigation undertaken as a result of the enquiry, complaint or concern; and
- actions taken and name of the person taking action.

Some enquiries, complaints and concerns may require an extended period to address. The complainant(s) will be kept informed of progress towards rectifying the concern. All enquiries, complaints and concerns will be investigated and a response given to the complainant in a timely manner. A nominated manager will be responsible for undertaking a review of all enquiries, complaints and concerns.

11.2 Training and Induction of Employees and Contractors
The Project Manager has the responsibility for ensuring systems are in place so that employees and
Contractors are aware of the environmental requirements for construction. All ATCT Project staff will undergo an induction covering environmental, health, safety and cultural heritage requirements and also training about their responsibilities under the ATCT’s ESMP. The purpose is to ensure that all personnel will understand their obligations to exercise due diligence for environmental matters.

11.3 Training Resources and Records
Training resources support and provide on-going education for on-site personnel in regard to environmental matters. These resources will be used to communicate up to date methods, hazards and environmental awareness where specific training is not deemed necessary.

Training records in regard to environmental training will be maintained on site by the Environmental Manager. Records will include:
- Who was trained;
- When the person was trained;
- The name of the trainer; and
- General description of training content

11.4 Records Keeping
The Project Manager will be responsible for overseeing the reviews and/or updates of these documents during the course of work. It is the responsibility of the officer to whom the documents is issued to ensure it is updated.

The contractor will be responsible for weekly environmental inspections of the construction site. The Project Manager will cross check these inspections by undertaking monthly audits using the check list in the TAIP/TAL ESMP Report.

The contractor will maintain and keep all administrative and environmental records which would include a log of incidents together with records of any measures taken to mitigate the causes of complaints at the site.

<table>
<thead>
<tr>
<th>RECORDS</th>
<th>DEFINITIONS</th>
<th>RESPONSIBLE OFFICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Record</td>
<td>A complete record of all employee accidents to be maintained</td>
<td>Foreman</td>
</tr>
<tr>
<td>Notification of accidents</td>
<td>Fatal or serious accidents to be reported to the Police</td>
<td>Construction Site Manager</td>
</tr>
<tr>
<td>Environmental Non-compliances or Incidents</td>
<td>A record of all non-compliances of the objectives of the Environmental Management Plan must be maintained together with an account of the mitigation undertaken</td>
<td>Environmental Officer</td>
</tr>
<tr>
<td>Communications Register</td>
<td>A register of all official communications to be maintained</td>
<td>Community Liaison Officer</td>
</tr>
<tr>
<td>Training Record</td>
<td>A record of all training undertaken</td>
<td>EHS Officer</td>
</tr>
<tr>
<td>Risk Register</td>
<td>A register of all risks to be maintained</td>
<td>Construction Site Manager</td>
</tr>
<tr>
<td>Complaints Register</td>
<td>A record of all complaints to be maintained with response</td>
<td>Community Liaison Officer</td>
</tr>
<tr>
<td>Monitoring Records</td>
<td>A record of all monitoring results</td>
<td>Construction Site Manager</td>
</tr>
<tr>
<td>Environmental Management and Monitoring report</td>
<td>To be submitted to the Engineers Representative on a monthly basis. Presents a summary of all accidents and environmental record with corrective action; Complaints and Monitoring Records</td>
<td>EHS Officer</td>
</tr>
<tr>
<td>Inspection reporting</td>
<td>Normal report for the Environmental Consultant</td>
<td>All supervisors</td>
</tr>
</tbody>
</table>
12.0 Recommendation and Conclusions

12.1 Recommendations:

1) The new ATC Tower design shall be inclusive in the providing accessibility in the new ATC Tower structure for people with disabilities.
2) Snow as the new ATC Tower Consulting Designer should include a written clause in the construction Contractor’s contract to employ local skilled and unskilled labour from communities shown in Figure 3.3.1.
3) Snow has seriously considered the cultural concern raised but the Civil Aviation standard is paramount about unisex toilets in the new ATC Tower.
4) Ahononou Quarry is in operation in a new site slightly inland from the initial coastal quarry. Aggregate requirements for the new ATC Tower should be sourced from this quarry due to its quality but the decision is made by the Contractor.
5) All mitigation monitoring measures must be implemented.
6) Induction and training for workers as highlighted in this report must be completed and all records be kept for future references.

12.2 Conclusions

1) Water is a scarce in Tonga especially Tongatapu where more than 70% of Tonga’s population live so, it is very important to manage water uses at all the work sites at the ATCT construction (e.g. no leaking taps or cisterns).
2) Dust and noise emission must be controlled through good work practices (e.g. switch off ignition of any vehicle that is not in use).
3) Haul vehicles must follow time restraint to avoid congestions.
4) Use of the feeder road from Ahononou across Liku Road to the Airport will totally stop any concern for dust impacts to Fua’amotu village from aggregate haul vehicles.
5) The vegetation at the ATCT site has been cleared for some reasons other than especially for this project. The area that has been cleared is about one acre (0.4 hectare).
6) The new ATCT foundation earthworks will most likely be less the 90 m² and therefore vegetation clearing for this purpose will only cover a small portion of the cleared area.
7) Since the topography is almost flat and the site is well covered with thick grass there will be insignificant erosion caused.
8) Ground water table is reported to be well below two meters into the subsurface layers. Geotechnical boreholes at the new Fire Station site which is just a few metres away from the new ATC Tower site show that the water table is well below 2 metres. The reason for this is that the site is higher and the water table will be expected to be deeper compared to the central and northern parts of the island.
APPENDIX A

MITIGATION MEASURES
Purpose and Objectives of the Mitigation

To ensure the environmental objectives of this construction project are fulfilled, this ESMP will be used by the Construction Company to structure and control the environmental management safeguards that are required to avoid or mitigate adverse effects on the environment.

The environmental objectives of GOT/TAL are pre-determined and have been explained earlier in this report.

The Mitigation Plans will be updated from time to time during the construction stage to incorporate changes that may arise from conditions of approvals.

Environmental Mitigation Measures During Construction

Terrestrial Flora and Fauna

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
<th>ESTIMATED MITIGATION COSTS</th>
<th>EXECUTING AGENCY</th>
<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flora and Fauna</td>
<td>Retain topsoil for later use to promote successful re-vegetation</td>
<td>Suitable vegetation to be established on disturbed areas.</td>
<td>Minimal</td>
<td>Construction Contractors</td>
<td>Snow/TAL</td>
</tr>
<tr>
<td></td>
<td>Grass to be mowed and kept tidy and flower garden to be kept clean during operation.</td>
<td>Lawn mower to be available and well maintained</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Storm-water

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
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<tbody>
<tr>
<td>Storm water Management</td>
<td>Install drainage works to segregate surface water run-off from disturbed and undisturbed areas if required</td>
<td>Effective segregation of clean water from disturbed areas</td>
<td>Minimal</td>
<td>Construction Contractor</td>
<td>Snow/TAL</td>
</tr>
<tr>
<td></td>
<td>Divert run-off around fuel storage areas in defined drainage corridors protected against erosion.</td>
<td>No breaches in the integrity of bunds or drains</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Install and maintain sediment control devices during any form of construction works anywhere at the site.</td>
<td>Relevant drains, bunds and sediment traps are in place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Store and handle potentially hazardous liquid effectively.</td>
<td>All potentially hazardous liquid (fuel &amp; oil) are</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ensure that all personnel performing activities related to environmental management practices are trained, qualified and competent.

Enquiries, concerns and complaints investigated promptly

Ensure storage facilities and stockpiles are constructed in well bunded area

---

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
<th>ESTIMATED MITIGATION COSTS</th>
<th>EXECUTING AGENCY</th>
<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater and Soil Contamination</td>
<td>Lubricants shall be collected and recycled, or disposed of according to Tongan regulations. Spill response plan training completed for all construction workers. Zones for preliminary accumulation of wastes are designated in areas that will cause no damage to the vegetation cover or leach into groundwater (e.g. within construction lay down area on hard surface) All personnel performing potentially contaminating activities to attend environmental awareness induction training Ensure potentially hazardous materials are stored and handled effectively</td>
<td>Induction and training has occurred for all site workers No contaminated land at completion of construction All material is free of contamination. Compliance with relevant Tonga Hazardous Material Act No spills. Hazardous materials are stored and handled effectively.</td>
<td></td>
<td>Construction Contractor</td>
<td>Snow/TAL</td>
</tr>
</tbody>
</table>

---

Induction and training has occurred for construction staff

Appropriate action initiated to reduce impact. No complaint repetition

Stockpiles must not be placed near watercourses

---

Groundwater and Soil Contamination

- Lubricants shall be collected and recycled, or disposed of according to Tongan regulations.
- Spill response plan training completed for all construction workers.
- Zones for preliminary accumulation of wastes are designated in areas that will cause no damage to the vegetation cover or leach into groundwater (e.g. within construction lay down area on hard surface)
- All personnel performing potentially contaminating activities to attend environmental awareness induction training
- Ensure potentially hazardous materials are stored and handled effectively
Waste Management

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
<th>ESTIMATED MITIGATION COSTS</th>
<th>EXECUTING AGENCY</th>
<th>SUPERVISIN G AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Management</td>
<td>Ensure that all personnel are aware of waste management practices on site</td>
<td>Induction and training has occurred for all construction staff as well</td>
<td>Minimal</td>
<td>Construction Contractor</td>
<td>Snow/TAL</td>
</tr>
<tr>
<td></td>
<td>Segregation of all waste as appropriate</td>
<td>Waste segregation practiced effectively</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Periodically assess further opportunities for materials reuse/recycling by inspection of wastes</td>
<td>Waste inspections performed periodically</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ensure that waste storage and disposal is undertaken effectively</td>
<td>Waste is managed in accordance with the waste management hierarchy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process oily water through Oil/water separators</td>
<td>Oil separator in place where required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collect and dispose of oily waste</td>
<td>Contract with the designated</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### Chemical Storage and Spill Management

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
<th>ESTIMATED MITIGATION COSTS</th>
<th>EXECUTING AGENCY</th>
<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Storage and Spill Management</td>
<td>Maintain inventory of all potentially hazardous substances. Maintain a Material Safety Data Sheet (MSDS) register</td>
<td>Chemicals used and their storage meets the Tonga Standards Good Storage Practices</td>
<td>Minimal</td>
<td>Construction Contractors</td>
<td>Snow/TAL</td>
</tr>
<tr>
<td></td>
<td>Design and maintain storage area so that spill can be recovered.</td>
<td>Containment areas designed to meet Tongai Standards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Containment areas kept free of unrelated equipment and waste</td>
<td>Good housekeeping standards. Good Storage Practices</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Provide hazardous materials awareness training and spill management

Induction and training has occurred for construction staff

Regularly inspect storage areas for any defects with bunding, floor, cover, and structure, etc

Chemicals used and their storage meets Tonga Standards

Good Storage Practices

Ensure that equipment, transfer hoses and valves that use fuel, oils or other chemicals are regularly maintained.

Systems working effectively

### Construction Lay Down Area

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL SOCIAL MITIGATION MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lay Down Area Stock yard</td>
<td>Mark on the ground exactly where deliveries are to be placed.</td>
</tr>
<tr>
<td></td>
<td>Record and track all items in the lay down area (when delivered and when used).</td>
</tr>
<tr>
<td></td>
<td>Allow for security fencing and possibly guards if the area is accessible.</td>
</tr>
<tr>
<td></td>
<td>Store hazardous chemicals, oil and fuel in designated bunded hard stand areas where refueling can also be done</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE CRITERIA</th>
<th>ESTIMATED MITIGATION COSTS</th>
<th>EXECUTING AGENCY</th>
<th>SUPERVISIN G AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearly draw a Plan for where different materials are stored</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep a ledger record of all items as they are delivered and when used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fence around the Lay Down area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunded hard stand areas must be strategically located</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage must be put in place to warn of dangers and inflammable chemicals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover to stop dust and erosion</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Minimal</td>
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<p>| |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Contractor</td>
</tr>
</tbody>
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<p>| |</p>
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<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Tal/Snow</td>
</tr>
</tbody>
</table>
### Traffic Control

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
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<th>SUPERVISING AGENCY</th>
</tr>
</thead>
</table>
| Traffic Movement and Control | Traffic Management Plan (TMP) includes:  
  - Advise authorities about over-dimension vehicles to obtain relevant permits and signages will be used by all long tray vehicles and appropriate road and operation signs to be placed along the road.  
  - Flag operators will be at strategic locations,  
  - Personnel protective equipment (e.g. high visibility vest) to be adorned by those controlling vehicles movement,  
  - Advise authorities like police about routes to be used by construction vehicle to enable safe transport of materials and equipment.  
  - Upgrade and maintain the old access roads.  
  - Maximum speed and  
  - Designated travel times to be applied | Minimum disruption to local roads and traffic.  
No accidents  
No noise or dust complaints from nearby villages and settlements.  
Public use of the road is not curtailed during construction  
Access road to meet national road standard | Minimal | Construction Contractor | Snow / TAL |

### Air Quality

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
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<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Use dust suppression measures such as water sprays on active work areas. Keep work areas clean with regular sweeping. Freshwater supply in Fua’amotu is limited so water</td>
<td>Minimise dust nuisance on and off-site. No enquiries, complaints or</td>
<td>Minimal</td>
<td>Construction Contractors</td>
<td>Snow/TAL</td>
</tr>
</tbody>
</table>
sprinkling for dust suppression should be kept to a minimum and only as required.

Overloaded vehicle which is not covered properly shall be refused entry to the construction lay down area or material shall be refused delivery.

Rehabilitate or cover disturbed areas as soon as possible. Use closed/covered trucks for transportation of construction materials.

Limit burning of waste.

Cover stockpiles containing fine material (e.g. sand and topsoil) when not actively being used.

Smart clearing only small vegetation areas at a time and re-vegetation should occur as soon as practicable.

Concerns about dust.

Dust generation minimised

No enquiries, complaints or concerns

Stop burning of waste on-site other than in approved incineration facilities.

Dust masks and personnel protective equipment must be available for workers during dust generating activities.

**Imported Labour**

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
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<th>EXECUTING AGENCY</th>
<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bringing new social attitude that can influence locals</td>
<td>Contact influenced local residents’ in many ways both negative and positive</td>
<td>There is need for training and to raise awareness</td>
<td>Minimal</td>
<td>Contractor/Snow</td>
<td>Snow/TAL</td>
</tr>
<tr>
<td>Local culture is threatened</td>
<td>Local persons provide facilities like accommodation, food and transport (purchases of goods and services).</td>
<td>Code of conduct to be drawn.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic inflation may increase</td>
<td>Socio-economic benefits to the local community, in terms of goods and services provides.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>contact between these workers and local residents</td>
<td>Must  not influence locals. If locals invite be cautious</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction workers straying into Airport operation areas</td>
<td>Construction site policy must incorporate NO loitering into airport operation area</td>
<td>No reports of misbehavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Induction at beginning on employment must be made aware Stringent reprimand must follow up</td>
<td>Awareness in induction. Reminder to be clearly written and displayed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Health, Safety and Emergency Response

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
<th>ESTIMATED MITIGATION COSTS</th>
<th>EXECUTING AGENCY</th>
<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Response</td>
<td>Maintain fire-fighting equipment</td>
<td>Current fire safety certificate</td>
<td>Minimal</td>
<td>Construction Contractor</td>
<td>Snow/TAL</td>
</tr>
<tr>
<td></td>
<td>Train all staff in emergency preparedness and response (cover health and safety at the work site)</td>
<td>Induction and training has occurred for all project employees and construction staff</td>
<td></td>
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</tr>
</tbody>
</table>

## Enquiries, Concerns and Complaint Response

<table>
<thead>
<tr>
<th>POTENTIAL NEGATIVE IMPACT</th>
<th>ENVIRONMENTAL SOCIAL MITIGATION MEASURES</th>
<th>PERFORMANCE CRITERIA</th>
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<th>EXECUTING AGENCY</th>
<th>SUPERVISING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enquiries, concerns and complaints response</td>
<td>Respond to enquiries, concerns and complaints quickly addressed, and record in complaints register</td>
<td>Complainant satisfaction No repeat complaints</td>
<td></td>
<td>Construction Contractor</td>
<td>Snow/TAL</td>
</tr>
</tbody>
</table>
APPENDIX B

Environmental Monitoring
Purpose and Objectives of the Monitoring

Monitoring will continue to address traffic, erosion, dust, safety, and noise. Monitoring will occur throughout the construction phase of the project, with the aim of determining:

- compliance with PAIP/TAL ESMP approval conditions and management commitments together with the sub-plans which are tailor-made for the ATC Tower only;
- the need for any contingency investigations and/or ameliorative measures if unexpected impacts are detected; and
- facilitating continuous improvement and best practice environmental management.

Monitoring is in accordance with EIA 2003 and EIA Guidelines 2010 and WB EHS Guidelines strategy provided in the table below. The monitoring result will be reviewed regularly to ensure that, as part of Snow contingency planning, additional investigations can be initiated in the event that this monitoring identifies an impact with potential risks to the environment and community.

Reporting

Snow will submit Monitoring Reports to TAL and MECC about its environmental performance and compliance when required.

Table Environmental Monitoring Strategies

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ASPECT</th>
<th>ISSUE TO MONITOR</th>
<th>PROPOSED MONITORING STRATEGY</th>
<th>FREQUENCY and RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water and Soil</td>
<td>Polluted areas</td>
<td>Inspection of sites to ensure waste collection in defined area; Spill response plan in place and workers trained. Complete spill kits available where hazardous substances sorted and handled. Groundwater sampling from Fire Station borehole and results are submitted to TAL and MECC If baseline conditions are exceeded show remedial action taken to address issue.</td>
<td>When: weekly By whom: Site Construction Manager Urgently</td>
</tr>
<tr>
<td>Safety of Road Users and Transport Movement</td>
<td>Safety of the surrounding communities and settlements, road users, public at large and employees on the job site</td>
<td>Monitor the effectiveness and efficiency of the safety procedures and equipment used to safeguard employees e.g. flags and diversions in place, and workers wearing appropriate personnel protective gear. Monitor the compliance with traffic management plan. Regular inspections to check that TMP is implemented correctly. If complaints received from other road users and local communities, follow through immediately.</td>
<td>When: on equipment and materials haulage days during the construction stage By Whom: Construction Manager</td>
</tr>
<tr>
<td>Dust, Noise and Air Pollution at all construction activities work sites</td>
<td>Safety of the surrounding communities and settlements, road users, public at</td>
<td>Visual site inspections while work is in progress. Regular visual inspections to ensure stockpiles are covered when not in use and trucks transporting material are covered and not overloaded.</td>
<td>When: daily By Whom: work supervisors during different</td>
</tr>
<tr>
<td>Activity Description</td>
<td>Details</td>
<td>Frequency</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Visual Inspection to ensure workers are wearing protective equipment when required.</td>
<td>Measurement of noise level with hand-held noise meter not to exceed 70 dB within all airport property. 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 Project Manager and TAL 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 Project Manager and TAL</td>
<td>construction activities</td>
<td></td>
</tr>
<tr>
<td>Safety of the soils, groundwater, surrounding environment and employees at that particular site</td>
<td>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. Inspections to ensure workers have access to and are wearing appropriate personnel protective equipment for handling hazardous materials when needed during working hours</td>
<td>When: On weekly basis By whom: Site Construction Manager</td>
<td></td>
</tr>
<tr>
<td>Water and solid waste care is very important to workers at the new ATC Tower both during construction and operation</td>
<td>Proper maintenance of septic system, No reports of odour or seepage All waste water drainage system must be well maintained regularly Ensure all wastes are removed from site and disposed of in an approved manner to an approved landfill site No visible construction wastes on site or elsewhere around the construction and other work sites other than those in designated waste receptacles All employees must be aware of all site waste management practices</td>
<td>When: on monthly basis By whom: ATCT management during operation</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

Roles and Responsibilities
1. **TFSU Safeguards Specialist**
Supervises all safeguards requirement for the TAIP project. The TFSU Safeguards Specialist works in collaboration with Snow in terms of executing corrective actions.

2. **Contractor’s Project Manager**
The Project Manager has responsibility to:
- Ensure the Project achieves all environmental legislative compliance;
- Provides leadership in the development and implementation of this ESMP;
- Ensure that engineers, supervisors, foreman, operators and construction workers are familiar with and implement all relevant environmental control measures;
- Periodically reviews all environmental control measures to assess their ongoing applicability and effectiveness;
- Environment review of the site developments
- Monitoring of Environmental performance
- Programme monthly internal environmental audit

3. **Contractor’s Construction Site Manager**
The Construction Manager has ultimate responsibility to:
- Provide leadership to the site team to achieve Project environmental objectives and targets to ensure a high level of performance is achieved.
- Promote the company’s policies, procedures and standards relating to health, safety and environmental management and ensure that they are complied with;
- Encourage all employees to maintain acceptable standards of health, safety and environmentally friendly work practices and foster awareness of health, safety and environmental matters; and
- Encourage the reporting of incidents, events and other concerns and ensure appropriate feedback on proposed corrective actions.
- Report performance on a weekly basis to internal and external stakeholders; and
- Report significant incidents internally and externally as required by law and the Project Conditions.
- Environmental Emergency Response Planning and action plan
- Preparation of environmental reports as required
- Prevention/minimization of site disturbance

4. **Contractors EHS Officer**
The Environmental Health & Safety Officer (EHS) is the functional and technical leader for the Project’s environmental obligations and the principal contact for internal and external communication. This position holder has the authority and responsibility for overseeing all environmental management aspects, including the following key responsibilities:
- Be the principal source of functional and technical expertise available to the entire Project team;
- Provide leadership sufficient to inspire and influence others to achieve the Project objectives and targets;
- Ensure that environmental plans, procedures and work instructions as applicable are prepared, reviewed and approved prior to commencement of work;
- Report significant incidents internally and externally as required by law and the Project Conditions;
- Ensure that all key environmental aspects and associated impacts are incorporated into this ESMP, and that suitable control measures are proposed to minimise the Project’s environmental impact;
- Ensure that all relevant environmental permits are obtained for the Project;
- Ensure all site employees and contractors engaged to work on the Project are appropriately inducted and trained in environmental issues and controls relevant to the Project;
- Ensure monitoring programs, which assess the performance of this ESMP and specific Plans, are implemented;
- Report internally and externally in accordance with Project and other requirements;
- Conduct an employee and sub-contractor induction training session, prior to each individual beginning work on the Project;
- Provide ongoing support to Supervisors and site personnel in implementing the ESMP; and
- Investigate and report incidents and non-conformance and ensure corrective and preventive action is taken and is effective.

5. **Snow Project Engineer**
The Project Engineer has the responsibility to:
- Prepare and review work packages against Project environmental objectives and targets to ensure a high level of performance is achieved.
• Ensure designs are undertaken in accordance with the requirements of the Project Scope, Technical Requirements, ESMP and relevant standards;
• Ensure design has minimal environmental impact; and
• Participate in incident and non-conformance report investigations and ensure that corrective and preventative action proposed is implemented effectively.
• Develop, implement and monitor construction methods to ensure compliance with consents and designations and ESMP
• Coordinate environmental interfaces with contractors and suppliers
• Comply with all Legislations, Regulations designation and consent conditions in relation to the work that is undertaken.
• Demonstrate good understanding of major environmental and community issues and environmentally sensitive areas.
• Implement environmental protection measures in accordance with the Contract and ESMP.

6. Contractor’s Superintendent
The Superintendent has the responsibility to:
• Provides leadership to the site team to achieve Project environmental objectives and targets
• Ensure that the ESMP and sub-plans are implemented appropriately
• Leads the emergency response team
• Ensures all environmental controls are protected and maintained on a daily basis
• Ensure environmental impacts are minimised;
• Promote zero tolerance of harm to the environment; and
• Participate in incident and non-conformance report investigations and ensure that corrective and preventative action proposed is implemented effectively.
• Ensure all construction activities are in accordance with the construction ESMP.

6. Contractor’s Supervisor
• Manages the construction of critical erosion and sediment control devices, temporary storm water ponds and removal of site vegetation
• Co-ordinate daily site inspections of all environmental control devices and co-ordinate maintenance where necessary;
• Monitor the site during heavy rainfall and high wind events; and
• Ensure that all on-site employees are aware of environmental requirements at all times.

7. Contractor’s Employees and Sub Contractors
All employees and subcontractors engaged on the Project are required to operate within the requirements of this ESMP and relevant environmental legislation.
• Attend toolbox talk and environmental training including familiarization with construction ESMP and sub-plans
• All site employees are responsible for reporting environmental incidents, complaints, defects and other problem areas to supervisors on site
• Ensure that required processes and procedures of environmental management are followed;
• Ensure that environmental mitigation and protection measures are maintained and working correctly;
• Within day to day work responsibilities ensure the environment on site and adjacent to the site is protected and respected; and
• Ensure the site is tidy and all waste is placed in appropriate bins

8. Contractors Community Liaison Officer (CLO)
The Community Liaison Officer has the responsibility to:
• Provide guidance on cultural aspects of the local people, particularly those expatriate workers;
• Provide translation of written or verbal when required;
• Complaints and disputes are to be made to the CLO when predominately in the native language. These complaints and eventual resolutions are to be formally recorded;
• Report all complaints or disputes to the Project Manager or delegate when required;
• Act as the Contractors’ Representative when issues to the Ministry’s, local authorities and local contractors are required.
Appendix D

Code of Practice
Code of Practice

OHS IMPLEMENTATION PLAN GUIDELINE

1. Objective

The objective of this Code of Practice is to provide guidance on the:

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

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

2. Requirements

For the purposes of the project, in addition to the national OHS standards the employer is adopting a code of practice 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-management-standards/](http://certificationeurope.com/ohsas-18000-health-safety-management-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.

With their bids, Contractors will be required to submit statistics for their workplace safety performance for the past 5 years on (including sub-contractors for projects where they were lead contractor):

- 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 counselling; (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 million man-hours equivalent workers for the injury year specified)

- Total Recorded Frequency Rate (the number of recordable injuries [recordable/lost time/fatal] per million man-hours equivalent workers for the injury year specified)

The Client’s Consulting Engineer is required to monitor OHS guidance during their regular duties. There will be monthly/bi-monthly independent OHS audits by a certified auditor as part of the consultant’s supervision team.

The Contractor will be required to report monthly on their performance with the above indicators supplied during bidding, as well as:

- 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

3. Principles

Employers must take all reasonable practicable steps to protect the health and safety of workers and provide and maintain a safe and healthy working environment.

All contractors must have in place an OHS management system which is compliant with, or equivalent to, OHSAS 18000, Work Safe Australia, Work Safe New Zealand, or an OECD country acceptable to the client to be proposed and agreed during bidding by the client. The system must be kept current and maintained for the life of the project.

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.

The following key principles are relevant to maintaining worker health and safety:

3.1 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.

3.2 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 be 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.

3.3 Training and supervision

Each employer must take all reasonable 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 extends to the correct use of PPE and providing employees with appropriate incentives to use PPE.

To that end, all safety officers, supervisors and managers for the contractor and Client’s Consulting Engineer must have a minimum level of occupational health and safety (OHS) training equivalent to the New Zealand Construction Safety Council Tier-1 training (http://tinyurl.com/ohs-tier-1-training).

3.4 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.

### 3.5 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.

### 4. 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.

5. **Job Safety Analysis**

The 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.

The annex to this Code of Practice includes a template for a JSA that must be completed and included as an attachment to the Health and Safety Code of Practice.

6. **Implementation**

6.1 **Documentation**

A Health and Safety Plan must be prepared and approved and submitted as part of the CESMP 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 EHS Guidelines, Vanuatu’s health and safety legislation, and industry best practices as appropriate.

6.2 **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.

To that end, all safety officers, supervisors and managers for the contractor and Client’s Consulting Engineer must have a minimum level of occupational health and safety (OHS) training equivalent to the New Zealand Construction Safety Council Tier-1 training (http://tinyurl.com/ohs-tier-1-training).

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.

6.3 **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.

The PPE requirements shall be clearly defined in the CESMP and be based on the New Zealand Transport Agency’s ZeroHarm approach (http://tinyurl.com/ohs-ppe-requirements). It should be noted that these PPE requirements also apply to site visitors, based on the perceived risk.

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

<table>
<thead>
<tr>
<th>Objective</th>
<th>Workplace Hazards</th>
<th>Suggested PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye and face protection</td>
<td>Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.</td>
<td>Safety Glasses with side-shields, protective shades, etc.</td>
</tr>
<tr>
<td>Head protection</td>
<td>Falling objects, inadequate height clearance, and overhead power cords.</td>
<td>Plastic Helmets with top and side impact protection.</td>
</tr>
<tr>
<td>Hearing protection</td>
<td>Noise, ultra-sound.</td>
<td>Hearing protectors (ear plugs or ear muffs).</td>
</tr>
<tr>
<td>Foot protection</td>
<td>Falling or rolling objects, pointed objects. Corrosive or hot liquids.</td>
<td>Safety shoes and boots for protection against moving &amp; falling objects, liquids and chemicals.</td>
</tr>
<tr>
<td>Hand protection</td>
<td>Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.</td>
<td>Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.</td>
</tr>
</tbody>
</table>
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.

7. 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. Each month, the contractor shall supply the following data to the Client’s Consulting Engineer for reporting to the client. These data are to also include incidents related to any sub-
contractors working directly, or indirectly, for the Contractor. Definitions of the above are to be in accordance with those used by the New Zealand Transport Agency (http://tinyurl.com/nzta-ohs-reporting).

The Client’s Consulting Engineer shall be notified of any incident in accordance with the standards below:

<table>
<thead>
<tr>
<th>Incident Severity Class</th>
<th>Incident Classification</th>
<th>Notification timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
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<tr>
<td></td>
<td>Fatality</td>
<td>As soon as possible</td>
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<td></td>
<td>Notifiable Injury, Illness or Incident</td>
<td>As soon as possible</td>
</tr>
<tr>
<td>Class 2</td>
<td>Lost Time Injury</td>
<td>As soon as practicable but within 48 hours</td>
</tr>
<tr>
<td></td>
<td>Medical Treatment</td>
<td>Within 72 hours</td>
</tr>
</tbody>
</table>

All Class 1 and Class 2 health and safety incidents must be formally investigated and reported to the Client’s Consulting Engineer through an investigation report. This report shall be based on a sufficient level of investigation by the Contractor so that all the essential factors are recorded. Lessons learnt must be identified and communicated.
promptly. All findings must have substantive documentation. As a minimum the investigation report must include:

- Date and location of incident
- Summary of events
- Immediate cause of incident
- Underlying cause of incident
- Root cause of incident
- Immediate action taken
- Human factors
- Outcome of incident, e.g. severity of harm caused, injury, damage
- Corrective actions with clearly defined timelines and people responsible for implementation
- Recommendations for further improvement
Job Safety Analysis (JSA)

Add Organisation Name:

Ref: Version:

<table>
<thead>
<tr>
<th>Business details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business name:</td>
</tr>
<tr>
<td>Contact person:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Contact phone number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Safety Analysis details</th>
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<tr>
<td>Work activity:</td>
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<tr>
<td>Location:</td>
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<tr>
<td>Who are involved in the activity:</td>
</tr>
<tr>
<td>Plant and equipment used:</td>
</tr>
<tr>
<td>Maintenance checks required:</td>
</tr>
<tr>
<td>Tools used:</td>
</tr>
<tr>
<td>Materials used:</td>
</tr>
<tr>
<td>Personal protective equipment:</td>
</tr>
<tr>
<td>Certificates, permits and/approvals required</td>
</tr>
<tr>
<td>Relevant legislation, codes, standard MSDSs etc applicable to this activity</td>
</tr>
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</table>
**Risk assessment**

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

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td><strong>Consequence</strong></td>
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<tr>
<td>Rare</td>
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<tr>
<td>Unlikely</td>
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<tr>
<td>Moderate</td>
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<td>3</td>
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<tr>
<td>Likely</td>
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<tr>
<td>Almost Certain</td>
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<td>5</td>
</tr>
<tr>
<td></td>
<td>Rare The event may occur in exceptional circumstances</td>
<td>Unlikely The event could occur sometimes</td>
<td>Moderate The event should occur sometimes</td>
<td>Likely The event will probably occur in most circumstances</td>
<td>Almost Certain The event is expected to occur in most circumstances</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>1</th>
<th>2</th>
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<tr>
<td><strong>Consequence</strong></td>
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<tr>
<td>Insignificant</td>
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<td>Minor</td>
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<tr>
<td>Moderate</td>
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<tr>
<td>Major</td>
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<tr>
<td>Extreme</td>
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<td></td>
<td>No injuries or health issues</td>
<td>First aid treatment</td>
<td>Medical treatment, potential LTI</td>
<td>Permanent disability or disease</td>
<td>Death</td>
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<table>
<thead>
<tr>
<th>Risk rating:</th>
<th>Low risk:</th>
<th>Moderate risk:</th>
<th>High risk:</th>
<th>Critical risk:</th>
<th>Catastrophic:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Acceptable risk and no further action required as long as risk has been minimised as possible. Risk needs to be reviewed periodically.</td>
<td>Tolerable with further action required to minimise risk. Risk needs to be reviewed periodically.</td>
<td>Tolerable with further action required to minimise risk. Risk needs to be reviewed continuously.</td>
<td>Unacceptable risk and further action required immediately to minimise risk.</td>
<td>Unacceptable risk and urgent action required to minimise risk.</td>
</tr>
</tbody>
</table>
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.
### JSA – Action steps

<table>
<thead>
<tr>
<th>Step No</th>
<th>Job step details</th>
<th>Potential hazards</th>
<th>Risk rating**</th>
<th>How to control risks***</th>
<th>Name of persons responsible for work</th>
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</table>
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:

<table>
<thead>
<tr>
<th>Print Names:</th>
<th>Signatures:</th>
<th>Dates:</th>
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Appendix E

Contingency Plan
CONTINGENCY PLAN

EMERGENCY EVACUATION AND ASSISTANCE

In case of an accident (serious injury) or anyone requiring assistance and/or fire the following procedures will be affective.

AN ALARM SYSTEM (SIREN/gong) WILL BLAST CONTINUOUSLY

When you hear the siren/gong!!!

1. Stop what you are doing
2. Make sure you are safe
3. Assess the situation
4. If accident (injury) - emergency rescue, first aid or resuscitation – assist victim only if it is safe for you to do so
5. If oil spill, hazardous substance (solid, gaseous, or liquid)
   - locate and isolate the source of spillage
   - shut down all engines and any electrical machine to eliminate risk of fire
   - assess the spill size – if too large to contain using on site equipment call the safety officer and site manager to take appropriate action
   - Quickly deploy petrochemical absorbent material to contain spill
6. If a fire threat:
   - All fire extinguishers must be readily in place and maintained regularly as required by the authorities.
   - Check out size of fire and if too big to control with site fire-fighting equipment call site manager and safety officer
7. If a tropical cyclone
   Phase 1: Extreme weather event watch - Prevention
   - An extreme weather event watch will be issued when an extreme weather event or developing event is likely to affect the area **within 48 hours**, but not expected to impact the area within 24 hours. This phase is a critical time for responsible staff to plan and prepare for the impact of the event. During this period, all responsible staff should review their safety plans and address any matters outstanding (e.g. fuel, torch, water).
   Phase 2: Extreme weather event warning – Preparedness
   - An extreme weather event warning will be issued when an extreme weather event or developing event is likely to affect the area **within 24 hours**. This phase is critical for Contractor to complete all preparations in an orderly manner prior to the event occurring.
   Phase 3: Actual extreme weather event - Response
   - By this phase, all employees are expected to have enacted their job location safety plans noting that the site will be closed and movements restricted commensurate with the threat to safety of the environment.
   Phase 4: After the extreme weather event has passed - Recovery
   Responsible team will assess residual risks and determine the actions needed to be addressed. Do not assume that as the extreme weather event has passed, it is now safe to move around the site.
   - No movement within job site until the official all clear is given by the responsible officer and supervision
Appendix F

Code of Conduct
TONGA AVIATION INVESTMENT PROJECT (TAIP) CODES OF CONDUCT AND ACTION PLAN

TO PREVENT

GENDER BASED VIOLENCE AS WELL AS CHILD ABUSE/EXPLOITATION

1. **Background**
The purpose of this Tonga Aviation Investment Project (TAIP) Codes of Conduct and Action Plan to Prevent Gender-based Violence (GBV) and Child Abuse/Exploitation (CAE) is to introduce a set of key definitions, core Codes of Conduct and guidelines that establish mechanisms for reporting, addressing, monitoring and sanctioning GBV and CAE within the work site and in its immediate surrounding communities.

The Codes of Conduct aim to prevent and/or mitigate the risks of GBV and CAE within the context of infrastructure development interventions for the Government of Tonga (GoT) to be funded under the World Bank financed Tonga Aviation Investment Project (TAIP). These Codes of Conduct are to be adopted by the civil works contractors, as well as supervision consultants.

Mutual respect and fair treatment by all parties, that include an understanding of the impact their presence has on the communities living in the areas targeted by the project, are deemed of utmost importance to create a respectful, pleasant and productive work environment. This will help prevent issues of GBV and CAE, thereby guaranteeing a safe environment to work in and around. The Codes also present clear guidelines for sanctions of staff should they be warranted. By ensuring that the project’s staff respect the project environment and its communities, a successful attainment of the project objectives will be achieved.

2. **Definitions**
The following definitions apply:

- **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 (i.e. gender) differences between males and females. It includes acts that inflict physical, sexual\(^1\) or mental harm or suffering, threats of such acts, coercion, and other deprivations of liberty. These acts can occur in public or in private.
- **Child Abuse and Exploitation (CAE)** – is defined as physical, sexual or psychological harm of minor children (i.e. under the age of 18) 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.
- **Child Protection (CP)** - An activity or initiative designed to protect children from any form of harm, particularly arising from CAE.
- **Child** – is used interchangeably with the term ‘minor’ and refers to a person under the age of 18.

\(^1\) Sexual favors or other forms of humiliating, degrading or exploitative behavior is prohibited.
This is in accordance with Article 1 of the United Nations Convention on the Rights of the Child.

- **Grooming** – is defined as 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 with indecent content to a recipient who the sender believes to be a minor, with the intention of procuring the recipient to engage in or submit to sexual activity with another person, including but not necessarily the sender. For further details, refer to the Criminal Code Act 1995, Division 474 (telecommunications offences, subdivision C).

- **Survivor/Survivors** – is defined as the person(s) adversely affected by GBV or CAE. Women, men and children can be survivors of GBV; children can be survivors of CAE.

- **Perpetrator** – is defined as the person(s) who commit(s) or threaten(s) to commit an act or acts of GBV or CAE.

- **Work site** – is defined as the area in which infrastructure development works are being conducted, as part of interventions planned under the World-Bank funded Tonga Aviation Investment Project (TAIP).

- **Work site surroundings** – are defined as the ‘Project Area of Influence’ which are any area, urban or rural, directly affected by the project, including all human settlements found on it.

- **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 through the use of 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 in the event that 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.

- **Contractor** – is defined as any firm, company, organization or other institution that has been awarded a contract to conduct infrastructure development works in the context of the TAIP and has hired managers and/or employees to conduct this work.

- **Consultant** – is defined as any firm, company, organization or other institution that has been awarded a contract to provide consulting services in the context of the TAIP, and has hired managers and/or employees to conduct this work.

- **Manager** – is defined as any individual offering labor to the contractor or consultant, on or off the work site, under a formal 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 defined as 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 in exchange for a salary (e.g. including unpaid interns and volunteers), with no responsibility to manage or supervise other employees.

- **Grievance Response Mechanism (GRM)** – the process established by the TAIP project to receive and address complaints (see www.taip.to)

- **GBV and CAE Allegation Procedure** – is defined as the prescribed procedure to be followed when reporting incidents of GBV or CAE.

- **Accountability Measures** – is defined as 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 and CAE.
• **Response Protocol** – is defined as the mechanisms set in place to respond to cases of GBV and CAE.

• **GBV and CAE Compliance Team**: A team established by the contractor and/or consultant to address GBV and CAE issues with the work force.

3. **Codes of Conduct**

This chapter presents three Codes of Conduct for use:

A. **Company Code of Conduct**: Commits the company to addressing GBV and CAE issues;

B. **Manager's Code of Conduct**: Commits managers to implementing the Company Code of Conduct, as well as those signed by individuals; and,

C. **Individual Code of Conduct**: Code of Conduct for everyone working on TAIP, including managers.

**Company Code of Conduct**

A. The company is obliged to create and maintain an environment which prevents gender based violence (GBV) and child abuse/exploitation (CAE) issues, and where the unacceptability of GBV and actions against children are clearly communicated to all those engaged on the project. In order to prevent GBV and CAE, the following core principles and minimum standards of behavior will apply to all employees without exception:

1. GBV or CAE constitutes acts of gross misconduct and are therefore grounds for sanctions, penalties and/or termination of employment. All forms of GBV and CAE including grooming are unacceptable be it on the work site, the work site surroundings, or at worker’s camps. Prosecution of those who commit GBV or CAE will be pursued if appropriate.

2. 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.

3. Do not use language or behavior towards women, children and men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.

4. Sexual activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child and consent from the child is not a defense.

5. Sexual favors or other forms of humiliating, degrading or exploitative behavior is prohibited.

6. Sexual interactions between the company’s employees at any level and member of the communities surrounding the work place that are not agreed to with full consent by all parties involved in the sexual act 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 — such sexual activity is considered “non-consensual” within the scope of this Code.

7. All employees, including volunteers and sub-contractors are highly encouraged to report suspected or actual GBV and/or CAE by a fellow worker, whether in the same company or not. Reports must be made in accordance with GBV and CAE Allegation Procedures.

8. All employees are required to attend an induction training course prior to commencing work on site to ensure they are familiar with the GBV and CAE Code of Conduct.

9. All employees must 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 institutional GBV and CAE Code of Conduct.

10. All employees will be required to sign an individual Code of Conduct confirming their agreement to support GBV and CAE activities.
11. I do hereby acknowledge that I have read the foregoing Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to prevent and respond to GBV and CAE. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

Company name: ____________________________  Signed by: ____________________________
Title: ____________________________________  Date: ____________________________

15 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 through the use of 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 in the event that 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.
Managers Code of Conduct

B. Managers at all levels have particular responsibilities to create and maintain an environment that prevents GBV and CAE. They need to support and promote the implementation of the Company Code of Conduct. To that end, they must adhere to the Manager’s Code of Conduct and also sign the Individual Code of Conduct. This commits them to support and develop systems that facilitate the implementation of this action plan and maintain a GBV-free and child-safe work environment. These responsibilities include but are not limited to:

1. Compliance Team and Development of Action Plan

1. Appoint the Contractor’s GBV and CAE Focal Point. This will typically be the contractor’s occupational health and safety manager. This person will:
   a. Represent the Contractor on the GBV and CAE Compliance Team (GCCT) which is comprised of representatives from TAL, contractor(s), the supervision consultant, and local service provider.
   b. Participate in training of staff to sensitize them to their responsibilities the Individual Code of Conduct; and,
   c. Be trained and empowered to undertake any investigations of staff members alleged to have minor violations of the Code of Conduct and ensure sanctions are applied as appropriate. For major violations the Focal Point must appropriately refer the complaint to: (i) a local service provider; (ii) the authorities; and/or, (iii) management for further action.

Work on GBV and CAE will be recognized in employee's scope of work and performance evaluations.

2. The GCCT will prepare an Action Plan for implementation by the contractor, based on the outline plan in Section 4 below. The Action Plan shall, as a minimum, include:
   a. GBV and CAE Allegation Procedure to report GBV and CAE issues through the project Grievance Response Mechanism (GRM);
   b. Accountability Measures to protect confidentiality of all involved; and,
   c. Response Protocol applicable to GBV survivors/survivors and perpetrators.

3. The Contractor shall submit the Action Plan for clearance by the TFSU safeguards teams, as well as the World Bank prior to full mobilization.

2. Implementation

1. Ensure that all staff receive a clear written statement of the company’s requirements with regards to preventing GBV and CAE in addition to the training.
2. To ensure maximum effectiveness of the Company and Individual Codes of Conduct
   a. Prominently display the Codes of Conduct in clear view in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
   b. All posted and distributed copies of the Company and Individual Codes of Conduct should be translated into the appropriate language of use in the work site areas (ex. Tongan, English).
3. Verbally and in writing explain the Company and Individual Codes of Conduct to all staff.
4. Promote internal sensitization initiatives (e.g. workshops, campaigns, on-site demonstrations etc.) throughout the entire duration of their appointment in collaboration with the GCCT and in accordance to the Action Plan.
5. Ensure that:
   a. All managers and employees sign the ‘Individual Code of Conduct for GBV and CAE’, including acknowledgment that they have read and agree with the code of conduct;
   b. Staff lists and signed copies of the Individual Code of Conduct are provided to the GCCT and TAL;
   c. Participate in training as outlined below;
   d. Staff are familiar with the TAIP GRM and that they can use it to anonymously report concerns over GBV and CAE (See Section 4.2 in the Action Plan).
   e. Staff are encouraged to report suspected or actual GBV and/or CAE through the GRM.
6. 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.
7. Ensure that when engaging in partnership, sub-grant or sub-recipient agreements, these agreements:
   a. incorporate the TAIP Codes of Conduct as an attachment;
   b. include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the TAIP Codes of Conduct; and,
   c. expressly state that the failure of those entities or individuals, as appropriate, to take preventive measures against GBV and CAE, to investigate allegations thereof, or to take corrective actions when GBV and/or CAE has occurred, shall constitute grounds for sanctions and penalties in accordance with the TAIP Codes of Conduct.
8. Provide support and resources to the GCCT to create and disseminate the internal sensitization initiatives through the Awareness-raising strategy under the Action Plan.
9. Any major issue with regard to GBV or CAE warranting police action shall be reported to TAL and the World Bank immediately.

3. Training

1. 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 and CAE 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 Action Plan for addressing GBV and CAE issues.
2. Ensure that time is provided during work hours and that staff attend the mandatory TAIP facilitated induction GBV and CAE training required of all employees prior to commencing work on site.
3. Ensure that staff attend the monthly mandatory refresher training course required of all employees to combat increased risk of GBV and CAE during civil works.
4. Managers are required to attend and assist with the TAIP facilitated monthly training courses for all employees. Managers will be required to introduce the trainings and announce the self-evaluations.
5. Collect satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.

4. Response

1. Managers will be required to provide input, final decisions and formal adoption of the GBV and CAE Allegation Procedures and Response Protocol developed by the GCCT as part of the final cleared Action Plan.
2. Once adopted, managers will uphold the Accountability Measures set forth in the Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of
GBV and CAE (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).

3. If a manager develops concerns or suspicions regarding any form of GBV or CAE by one of his/her direct reports, or by an employee working for another contractor on the same work site, s/he is highly encouraged to report the case using the identified reporting mechanism.

4. 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 was made.

5. Managers failing to comply with such provision can be in turn 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:
   a. Informal warning
   b. Formal warning
   c. Additional Training
   d. Loss of up to one week’s salary.
   e. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
   f. Termination of employment.

6. Ultimately, failure to effectively respond to GBV and CAE cases on the work site by the contractor’s managers or CEO may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and CAE. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

Company name: ________________________________

Signed by: ________________________________

Title: ________________________________

Date: ________________________________
C. Individual Gender Based Violence and Child Protection Code of Conduct

I, _____________________________, acknowledge that preventing gender based violence (GBV) and child abuse/exploitation (CAE) are important. GBV or CAE activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. All forms of GBV or CAE are unacceptable be it on the work site, the work site surroundings, or at worker’s camps. Prosecution of those who commit GBV or CAE may be pursued if appropriate.

I agree that while working on the TAIP project, I will:

- Consent to police background check.
- 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 participate in sexual activity with children—including grooming or through digital media. Mistaken belief regarding the age of a child and consent from the child is not a defense.
- Not engage in sexual favors or other forms of humiliating, degrading or exploitative behavior.
- Not have sexual interactions with members of the communities surrounding the work place and worker’s camps that are not agreed to with full consent\(^2\) by all parties involved in the sexual act. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered “non-consensual” within the scope of this Code.
- Attend and actively partake in training courses related to HIV/AIDS, GBV and CAE as requested by my employer.
- Report through the GRM or to my manager any suspected or actual GBV and/or CAE by a fellow worker, whether in my company or not, or any breaches of this Code of Conduct.

- With regard to children under the age of 18:

  - Wherever possible, ensure that another adult is present when working in the proximity of children.
  - Not invite unaccompanied children into my home, unless they are at immediate risk of injury or in physical danger.
  - Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor’s permission, and ensure that another adult is present if possible.
  - Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also “Use of children's images for work related purposes”).
  - Refrain from physical punishment or discipline of children.

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\(^2\) 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 through the use of 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 in the event that 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.
- Refrain from hiring children for domestic or other labor which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labor laws in relation to child labor.

D. **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.

E. **Sanctions**

The project has established a ‘GBV and CAE Compliance Team’ (GCCT) which is comprised of representatives from TAL, contractor and supervision consultant. The GCCT and/or the local service provider will oversee any investigation of grievances against the employee with regard to GBV and CAE, according the accused procedural fairness and within the local laws. If an employee has breached the Code of Conduct, the employer will take disciplinary action which could include:

- Informal warning;
- Formal warning;
- Additional Training;
- Loss of up to one week’s salary;
- Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months; or,
- Termination of employment.

In addition to the above, if warranted, report the employee to the Police as per local legal paradigms.

*I understand that it is my responsibility to use common sense and avoid actions or behaviors that could be construed as GBV or CAE or breach this Code of Conduct. I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and CAE. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action and may affect my ongoing employment.*

Company name: ___________________________ Signed by: ___________________________

Title: ___________________________ Date: ___________________________
F. 4. Action Plan

Implementation Roles & Responsibilities

Prevention

4.1 GBV and CAE Compliance Team & Code of Conduct Action Plan

The project shall establish a ‘GBV and CAE Compliance Team’ (GCCT) to create a Code of Conduct Action Plan to coordinate and monitor the contractor’s and consultant’s response to impacts of GBV and CAE in the workplace. The GCCT will include, as appropriate to the business, at least four representatives from the following:

a. A safeguards specialist representing TAL or another representative of the GoT;
b. The occupational health and safety manager from the contractor;
c. The supervision consultant’s Resident Engineer; and,
d. A representative from a local service provider with experience in GBV and CAE.

The terms of reference for the GCCT shall, among others, clearly indicate roles and responsibilities for the GCCT members. It will be the duty of the GCCT with support from the management to inform employees about the activities and responsibilities of the GCCT. GCCT members must undergo training by the local service provider prior to the commencement of their assignment.

The GCCT will be required to:

a. Finalize the draft GBV and CAE Codes of Conduct contained in this document.
b. Prepare the Action Plan which includes:
   i. GBV and CAE Allegation Procedures (See 4.3)
   ii. Accountability Measures (See 4.4)
   iii. An Awareness raising Strategy (See 4.5)
   iv. A Response Protocol (See 4.6)
c. Obtain approval of the Action Plan by company management;
d. Obtain TAL and World Bank clearances for the final Codes of Conduct and Action Plan prior to full mobilization;
e. Receive and monitor resolution and sanctions with regard to complaints received related to GBV and CAE associated with the TAIP Project; and,
f. Ensure that GBV and CAE statistics are updated and included in the regular project reports.

The GCCT shall hold quarterly update meetings to discuss ways to strengthen resources and GBV and CAE support for employees and community members.

4.2 Grievance Response Mechanism

(GRM) GRM GBV and CAE Focal Point

TAIP operates a grievance response mechanism (GRM) with an online portal at www.taip.to. Reports of GBV, complaints, or other concerns may be submitted online, via telephone or mail, or in person.

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3 Where there are multiple contractors working on the project, each shall nominate a representative as appropriate.
The GRM operator will refer grievances to the appropriate party to resolve them. If a complaint on GBV or CAE is made through the GRM, it will be referred to the GCCT who will investigate the complaint and provide the GRM operator with a resolution to the complaint according to the Action Plan. The GRM operator will, upon resolution, advise the complainant of the outcome, unless it was made anonymously. Complaints made to managers or the local service provider will refer to the GRM process for further action.

While the local service provider is available at all times to provide support, grievance resolution involving Contractor’s staff will be the responsibility of the Contractor’s GBV and CAE Focal Point. The GCCT will refer the grievance to the focal points for resolution and will advise on potential resolutions.

The Focal Point must be trained and empowered to resolve minor GBV and CAE issues. In major cases of GBV and CAE, the GBV and CAE Focal Point must appropriately refer the complaint to: (i) a local service provider; (ii) the authorities; and/or, (iii) management for further action. For client staff, the TAL safeguards appointee to the GCCT (or their delegate) will be responsible for resolving grievances.

It is essential that all staff of the GRM, GCCT and Focal Points understand the guiding principles and ethical requirement of dealing with survivors of GBV and CAE. All reports should be kept confidential and referred immediately to local service providers.

G. Local Service Provider

The client, the Contractor and Consultant must establish a working relationship with a local service provider, so that GBV and CAE cases can safely be referred to them, and for support to their Focal Points. The local service provider will be invited to nominate one representative who will also form part of the GCCT established by the project.

The GRM will automatically record information on grievances as part of the project GRM reporting framework. The GRM operator and local service provider will collect reports/complaints made/lodged by community members on potential GBV and CAE cases experienced in the work site surroundings, and submit them through the GCCT for further action, or the police if necessary.

4.3 GBV and CAE Allegation Procedures

All staff, volunteers, consultants and sub-contractors are highly encouraged to report suspected or actual GBV and/or CAE cases. The company will provide information to employees and the community on how to report cases of GBV and CAE code of conduct breaches through the GRM. The GCCT will follow up on cases of GBV, CAE and code of conduct breaches reported through the GRM. Reporting outcomes must be included in the Supervision Engineer’s Weekly, Monthly and Quarterly progress reports which are supplied to the World Bank. Any major issue with regards to GBV or CAE warranting police action shall be reported to TAIP and the World Bank immediately.

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4 The Contractor’s GBV and CAE Focal Point will be identified by the Contractor and will typically be the contractor’s occupational health and safety manager.

5 Survivors of GBV and CAE 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.
4.4 Accountability Measures

All reports of sexual exploitation and sexual abuse shall be handled in a confidential manner in order to protect the rights of all involved. To ensure that survivors feel confident to disclose their experience of GBV or CAE, 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). Contractor/Consultants must prohibit discrimination or adverse action against an employee on the basis of survivor’s disclosure, experience or perceived experience of GBV or CAE. (See Annex 1 for examples of actions to maintain accountability).

H. Monitoring & Evaluation Strategy

The GCCT 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.

4.5 Awareness-raising Strategy

Create an Awareness-raising Strategy with activities aimed to sensitize employees on GBV and CAE on the work site and its related risks, provisions of the GBV and CAE Codes of Conduct, GBV and CAE 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 also the related (expected) delivery dates. Awareness-raising activities may be linked with trainings provided by local service providers.

I. Response

4.6 Response Protocol

The GCCT will be responsible for developing a written response protocol in accordance to national laws and protocols. The response protocol must include mechanisms to notify and respond to perpetrators in the workplace (See 4.8 for Perpetrator Policy and Response). The response protocol will include the GRM process to ensure competent and confidential response to disclosures of GBV and CAE. An employee who discloses a case of GBV or CAE in the workplace shall be referred to the GRM for further action.

4.7 Survivor Support Measures

Appropriately respond to the survivor’s disclosure by respecting the survivor’s choices to minimize the potential for re-traumatization and further violence against the survivor. Refer the survivor to the local service provider to obtain appropriate support services in the community – including medical and

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6 Develop appropriate protocol for written recording of GBV issues and CAE raised in case the notes are subpoenaed. Develop processes for record keeping including activities undertaken by the GCCT.
psychosocial support, emergency accommodation, security including police protection and livelihood support – by facilitating contact and coordination with these services. The client, Contractor or Consultant may, where feasible, provide financial and other supports to survivors of GBV or CAE for these services. (See Annex 1 for examples of financial support)

If the survivor is an employee, in order 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 to the workplace, and make reasonable adjustments to the work schedule and work environment as deemed necessary. (See Annex 1 for examples of safety measures). The Contractor/Consultant will provide adequate leave to survivors seeking services after experiencing violence. (See Annex I for details).

**4.8 Perpetrator Policy and Response**

Encourage and accept notification through the GRM from employees and community members about perpetrators in the workplace. Through the GCCT and/or the local service provider, oversee the investigation of these grievances, according the accused procedural fairness and within the local laws. If an employee has breached the Code of Conduct, the employer will take action which could include:

1. Undertake disciplinary action up in accordance with sanctions developed by Contractor/Consultant.
2. Report the perpetrator to the Police as per local legal paradigms.
3. If feasible, provide or facilitate counselling for the perpetrator.

**4.9 Sanctions**

In accordance with the Code of Conduct, any employee identified as a potential GBV and/or CAE perpetrator shall be considered for disciplinary measures in line with sanctions and practices as agreed in the Individual Code of Conduct. (See Annex 1 for examples of sanctions). 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 I - Potential Procedures.

Taking into consideration the employer’s policies and protocols, this annex provides draft ideas for the client, Contractor and Consultant to select and finalize.

1. Accountability Measures to maintain confidentiality can be achieved through the following actions:
   1. Inform all employees that confidentiality of GBV/CAE survivors’ personal information is of utmost importance.
   2. Provide the GCCT 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).

2. GBV and CAE 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 the code of conduct be violated.
   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.

3. Financial and Other Supports to survivors can include:
   1. No/low interest loans.
   2. Salary advances.
   3. Direct payment of medical costs.
   4. Upfront payments for medical costs to be recouped from the employee’s health insurance.
   5. Providing or facilitating access to childcare.
   6. Providing security upgrades to the employee’s home.
   7. Providing safe transportation to access support services or to and from accommodation.

4. Survivor Support measures to ensure the safety of the survivor can include:
   1. Changing the employee’s span of hours or pattern of hours and/or shift patterns.
   2. Redesigning or changing the employee’s duties.
   3. Changing the employee’s telephone number or email address to avoid harassing contact.
   4. Relocating the employee to another work site/alternative premises.
   5. Providing safe transportation to and from work for a specified period.
   6. Supporting the employee 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.

5. Leave options for survivors that are employees can include:
   1. An employee experiencing GBV should be able to request paid special leave to attend medical or psychosocial appointments, legal proceedings, relocation to safe accommodation and other activities related to GBV.
   2. An employee who supports a person experiencing GBV or CAE may take carer’s leave, including but not limited to accompanying them to court or hospital, or to mind children.
   3. Employees who are employed in a casual capacity may request unpaid special leave or unpaid carer’s 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 GCCT where appropriate.

4. **Potential Sanctions to employees who are perpetrators of GBV and CAE 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.