Faleolo International Airport: Design & Construct: Pavements, Drainage & Service Infrastructure

Contractor's Environmental & Social Management Plan

Project:	**Samoa Aviation Investment Project (SAIP)** Faleolo International Airport Design & Construct, Physical Works: Pavement, Drainage & Service Infrastructure
Contract No:	ICB: SAA/ICBW/S-A15.4
Employer:	Samoa Airport Authority
World Bank	P 143308

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Contract Plan Issue Date	Document Preparation & Control Safeguards Specialist	Document Authorisation Project Manager Major Projects North
20 May 2018 Rev 3	Craig Smart	Peter Murr

Comments on this Issue

This plan will reference, but not duplicate, what is adequately covered in ISO9001:2000 Certified Quality System, AS/NZS 4801: 2001 Health and Safety System and ISO14001:2004 Environmental Management System.

This Plan is tailored to fit with the Employers set of documents, plus intending to ensure all the requirements of NZS14001are covered when the full Company Integrated Management System and the Project-specific document set are considered together.

Distribution

Copy No	Holder
01	Peter Murr – Project Manager (Downer)
02	Craig Smart – Safeguards Specialist (Downer)
03	Employer - SAA represented by LYON

Revision Register

Revision No	Description	Date
01	First Draft for Consideration (CESMP1)	14 Feb 18
02	Second Draft for Approval (CESMP2)	April 18
03	Third Draft for NOL (CESMP3)	20 May 18
04		

Approvals

	Name & Position	Sign	Date
Downer Originator	Craig Smart Safeguards Specialist		
Downer Submission	Peter Murr Project Manager		
Employer Acceptance			

Table of Acronyms and Abbreviations

AC Asphalt concrete
ACP Apia Concrete Products
ACM Asbestos Containing Material
AGL Aeronautical Ground Lighting
AGMO Assistant General Manager for Operations
AP Affected Person/People
APW Faleolo International Airport
ARFF Aircraft rescue and firefighting
ATC Air Traffic Control
CARs Civil Aviation Rules
CESMP Contractors Environmental and Social Management Plan
COEP Codes of Environmental Practice
CEAR Comprehensive Environmental Assessment Report
CVORConventional VOR
DBA Decibel
D&B Design and Build Contract
EA Executing Agencies
EHS Environmental and health and safety
EIA Environmental impact assessment
EIB European Investment Bank
EMP Environmental Management Plan
ESMF Environmental and Social Management Framework
FOD Foreign Object Debris
GDP Gross domestic product
GoS Government of Samoa
Ha Hectares
HF High Frequency communication equipment
HMA Hot mix asphalt
HIV/AIDS Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IA Implementing Agency
ICAO International Civil Aviation Organisation
IFC International Finance Corporation
IUCN International Union for Conservation of Nature
IPCC Intergovernmental Panel on Climate Change
IESMP Integrated Environmental and Social Management Plan
ILS Instrument Landing System
LAeq Equivalent Continuous Level
LIRL Low Intensity Runway Edge Lights
LTA Land Transport Authority
MAF Ministry of Agriculture and Fisheries
MNRE Ministry of Natural Resources and Environment
MOWP Method of Works Plan
MWTI Ministry of Works, Transport and Infrastructure
NAVAIDS Navigational Aids
NDB Non Directional Beacon
NGOs Non-government organisations

OHS Occupational Health and Safety
OP Operational Policy
PAIP Pacific Aviation Investment Program
PAPI Precision Approach Path Indicator
PCCSP Pacific Climate Change Science Program
PEAR Preliminary Environmental Assessment Report
PESMP Project Environmental and Social Management Plan
PIB Public Information Bulletin
PISA Preliminary Integrated Safeguards Assessment'
PPE Personal protective equipment
PSC Project Steering Committee
PST Project Support Team
PUMA Planning and Urban Management Agency
PUM Board Planning and Urban Management Board
PWD Public Works Department
RCP Representative Concentration Pathway
RFS Rescue Fire Service
RWY Runway
SAA Samoa Airport Authority
SAA PST Samoa Airport Authority SAIP Project Support Team
SAIP Samoa Aviation Investment Project
SCG Shanghai Construction Group
SDS Safety data sheets
STD Sexually transmitted diseases
STEC Samoa Trust Estate Corporation
SWA Samoa Water Authority
SWM Solid Waste Management
SWMP Solid Waste Management Plan
TFSU Technical and Fiduciary Services Unit
THR Threshold
TMP Traffic Management Plan
TWY Taxiway
VHF VHF communications equipment
VOR VHF Omnirange
WB World Bank

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Appendices:

1 Introduction

1.1 Background

The Samoa Airport Authority (SAA) has awarded a contract to design and construct pavements, drainage and service infrastructure at Faleolo International Airport to Downer New Zealand Ltd (the Contractor). Downer are currently (Feb 18) in the mobilisation and design phase of the Project.

1.2 CESMP Source, Scope & Structure

1.2.1 Source Documents

In accordance with World Bank (WB) procedures a Project Environmental & Social Management Plan (PESMP - ref PAIP/SAIP Document "Faleolo International Airport (APW) Environmental and Social Impact Assessment & Management Plan, Upolu Island". Revision 6 v4, April 2017) has been prepared by the Technical and Fiduciary Services Unit (TFSU) in the course of developing the various projects that comprise the Samoa Aviation Investment Project (SAIP).

The PESMP is the prime source for Downer's Contractor's Environmental & Social Management Plan (CESMP ie this document), although the Technical Requirements (TR) document also provides some detail for the CESMP.

1.2.2 Structure

This document initially follows the CESMP Contents & Scope detailed by Part C Sec 1.1.1 of the Technical Requirements.

Downer holds AS/NZS ISO 14001: 2004 Accreditation and in accordance with this standard and Downer's Internal requirements additional material to satisfy the accreditation requirements is provided from Section 14 of this document on.

The various Certificates, Company Policies & Procedures and standard forms etc referenced in the text are provided in the Appendices eg a copy of Downer's AS/NZS 1SO 14001Accrediataion is provided in App 1 and its Environmental Sustainability Policy is given in App 2.

1.2.3 Scope

This CESMP sets out the methods and procedures to be used in the course of the work. These are intended to;

- Satisfy the Employer's environmental and social requirements as detailed in the Technical Requirements (TR) and PESMP documents
- Fulfil Downer's obligations - whether arising from;
    - Contract documents
    - Legislation
    - Accreditation terms of relevant standards
    - Company Policies and Procedures

There is significant reference in the PESMP to OH&S matters, and while this CESMP acknowledges these, the detail for addressing such is more fully given in the separate Safety Management Plan (aka Occupational Health & Safety Plan).

SAA intend to apply for a Development Consent (DC) for the airfield works (for which the SP1 Design Submission provides detail). When the DC is granted it may contain conditions that are not already incorporated in the CESMP (or subsidiary documents).

To date Downer have obtained two Development Consents – see Sec 8.2 Table. Details of the Olo Quarry DC are contained in a revision of the QMP. Details of the Contractor's Compound DC are contained in the specific site EMP.

This document is the third submission of the CESMP (CSEMP3) and will be amended and resubmitted for approval in the light of feedback received.

1.2.4 Associated Plans & Sub Plans

The CESMP is one of a suite of Management Plans for the contract work and has the following sub-plans;

- Quarry Management Plan (QMP)
- Traffic Management Plan (TMP)
- Waste Management Plan (WMP)
- Contractor's Compound (Laydown & Asphalt Plant etc) Environmental Management Plan (CCEMP)

As its name suggests the CESMP is primarily concerned with environmental and social matters and ranks alongside the Project Quality Plan, the Project Safety Management Plan and Method of Works Plan (concerned with all aspects of airfield safety) as the cardinal management plans for the Project.

Some plans, eg Quarry Management Plan, relate to activities in a specific geographic area and others cover activities in all areas. A diagram showing the spatial coverage of the plans is given below.

These plans are all part of Integrated Management System, see Section 14 below.

1.3 Revision & Review

1.3.1 Revision & Review

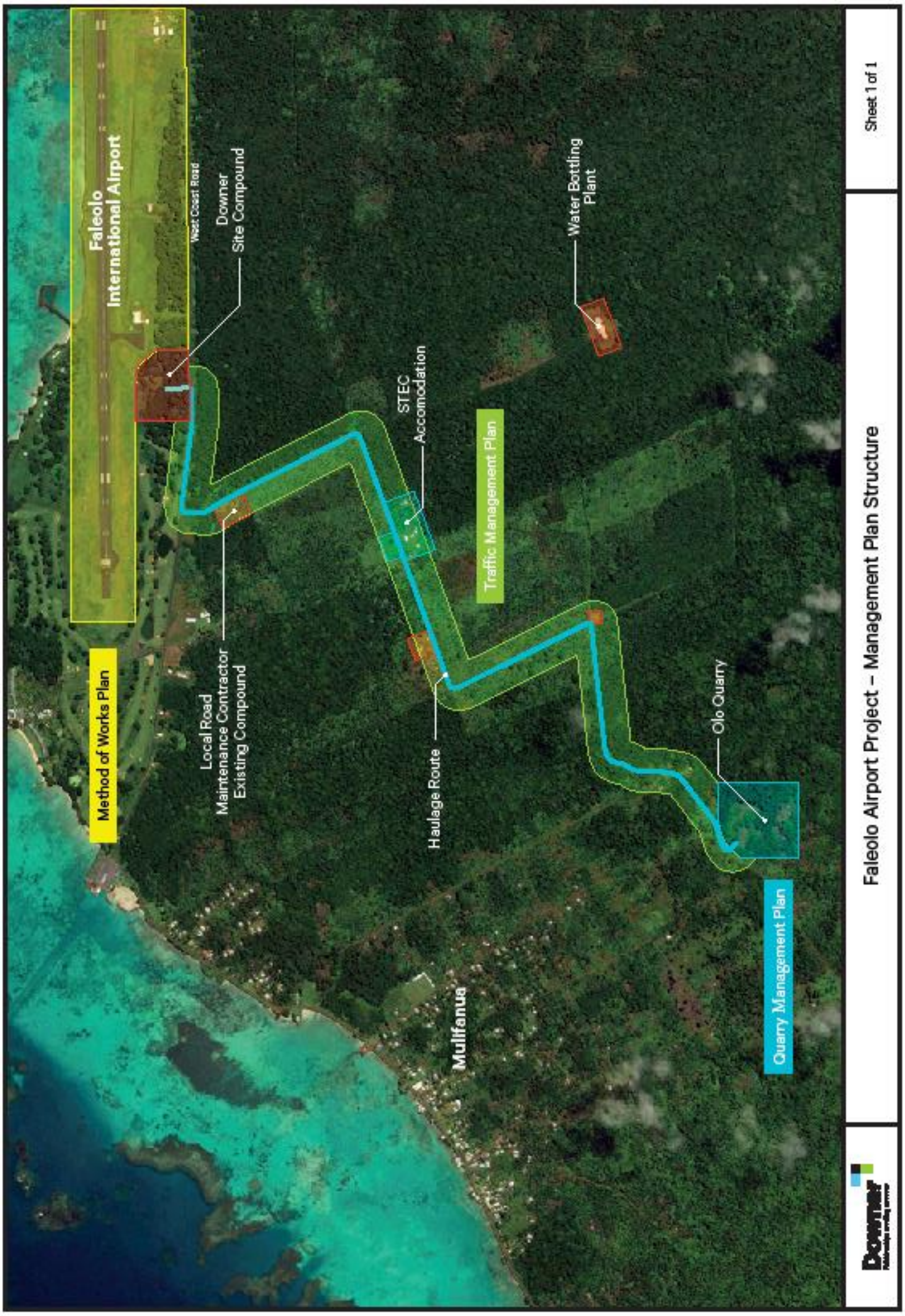
This draft of the CESMP (CESMP3) accompanies the SP 1 (Apron & Taxiways) Design Submission. It is expected that review and acceptance of the SP 1 Design Submission will lead to a review and reissue of the PESMP. The revised PESMP, together with any review comments on this draft of the CESMP, will result in a revision of the CESMP. Thereafter it is expected that the CESMP will be reviewed at six monthly intervals. One of the reviews will coincide with any changes to the PESMP arising from the design of SP 2 (Runway). This is expected to be in third quarter of 2018.

It is intended to "grow" this CESMP and issue revisions/updates as the planning of the Project progresses. These revisions will be driven by such factors as; additional information gained in the design phase, factors arising during Project mobilisation, recognition of the conditions in the Development Consent being sought by the Employer for the Project (but not yet issued), a significant change to the PESMP and improvements resulting from audit and review of the CESMP as the Project work progresses.

It should be finally reviewed in advance of commencing the Runway paving work (Separable Portion 2).

1.3.2 Prime Purpose of this Version of the CESMP – Olo Quarry and Contractor's Laydown Area &Asphalt Plant

This is the third version of the Contractor's Environmental and Social Management Plan (CESMP3) and its main purpose is to provide sufficient information to allow the commencement of earthworks and material extraction at the Olo Quarry and the establishment of the Contractor's Camp (Laydown Area) and Asphalt Plant at the airport. This work is programmed to occur while planning of the remainder of the Project (apron, runway and lighting) is still underway.



2 Project Description

The following information is taken from the PESMP and TR documents. Some details may change as Downer develops its own design and if the PESMP changes significantly. The CESMP will then be revised accordingly to reflect the revised design or amended PESMP.

2.1 Overview of Works

The SAIP works program consists of investments entirely within the existing APW airport boundary and consists of the following primary tasks, allocated under three separate Lots:

Lot 1 - Temporary surface treatments; - **completed by Ott Constructors in 2017**

Lot 2 – Main Runway Works: - **scope of Downer contract and subject of this CESMP**

a) Design and undertake rehabilitation airside pavements, specifically:
   i. Replace failed asphalt surfacing materials;
   ii. Upgrading of existing airport pavements to Code E strength;
   iii. Extend apron areas;
   iv. Rehabilitate and structurally enhance the taxilane;
   v. Rehabilitate and structurally enhance Taxiway A; and
   vi. Upgrade RWY 08 turning node suitable for Code E operations.

b) Upgrade to the airfield drainage system;

c) Installation of civil infrastructure for airfield lighting upgrade;

d) Make redundant the existing, design and then install a new refuelling system;

e) Design and replace all high mast lighting impacted by the new terminal development aerobridges; and

f) Install a new airside road at the proposed terminal frontage;

Lot 3 - Upgrade navigational aids, airfield lighting, ATC communication systems and airfield generator and power system. – **a separate contract but some preparatory work is included in the Downer contract.**

A series of temporary works will be required in order to successfully undertake and complete the main works programmes. This includes the quarrying of aggregate materials to be used for the works, transport of these materials for quarry to the airport site, the establishment of a contractor's laydown area and asphalt plant at the airport. These temporary works are set out under section 2.4 of this CESMP.

2.2 Location of Works

Faleolo International Airport (IATA Code APW) is located on the Northern coast of Upolu Island approximately 20 km west of Apia.

The runway is orientated 08/26 and is 3,000 m long and 45m wide. Flight operations are day and night flight operations are scheduled. The main flight connections are too Fiji, Australia and New Zealand.

A map showing the spatial orientation of key elements of the work is given on the next page. This also shows which of the suite of CESMP documents applies to that particular part.

2.3 Detail of Permanent Works

2.3.1 Lot 2 Design & Rehabilitate Airside Pavements

The design for the pavement areas (Figure 1) are still in development and are still subject to completion by the successful D&B Contractor. Designs as they are known to date (December 2016) are described in this section, however, once the final detailed designs are available they will be updated in the PESMP/CESMP.

Figure 1: APW general existing airport layout (Source: Aerial photography from Google Earth Pro, dated 4 January 2015 via AECOM SAIP IESMP.)

2.3.2 Runway

The runway has varying condition rating levels across its length and width and has been divided into five sections, each subject to different design concepts:

Section 1: Threshold 08 Runway Stopway Area. The 300m length of stopway is not proposed for asphaltic overlay. This area requires surface rejuvenation treatment to assess and mitigate environmental defects.

Section 2: Runway West Side (chainage 0 to 800m from the runway 08 threshold). It is considered that the pavement in this area will require both a mill and fill and an overlay. The final surface layer will have a minimum thickness of 65mm in wheel tracking areas to mitigate shear forces and potential slippage cracking. On the runway shoulders, an unbound pavement construction with a two coat chipseal and sand emulsion surfacing is expected. Runway strip works will be undertaken to match new levels.

Section 3: Runway Central Section (800m to 1500m). It is considered that the pavement in this area will require both a mill and fill and an overlay. This section of pavement is in better condition than other parts of the runway, possibly due to good sub surface drainage. It is a requirement that the final surface layer will have a minimum thickness of 65mm in wheel trafficking areas to mitigate shear forces and potential slippage cracking. On the runway shoulders, an unbound pavement construction with a two coat chipseal and sand emulsion surfacing is expected. Runway strip works will be undertaken to match new levels.

Section 4: Runway East Section (1500m to 2750m). It is considered that this pavement will require both a mill and fill and an overlay. It is considered that the pavement in this area will require both a mill and fill and an overlay. The final surface layer will have a minimum thickness of 65mm in wheel tracking areas to mitigate shear forces

and potential slippage cracking. On the runway shoulders, an unbound pavement construction with a two coat chipseal and sand emulsion surfacing is expected. Runway strip works will be undertaken to match new levels.

Section 5: Runway 26 End Section (2750m to 3000m). It is considered that the pavement in this area will require a mill and fill and an overlay. However, given the aircraft traffic cycling and the likelihood most arrival/departure movements on runway 08 use the Taxiway B, this section is considered to have a reduced number of design movements. The final surface layer will have a minimum thickness of 65mm in wheel tracking areas to mitigate shear forces and potential slippage cracking. On the runway shoulders, an unbound pavement construction with a two coat chipseal and sand emulsion surfacing is expected. Runway strip works will be undertaken to match new levels.

All upgrades to the runway will be consistent with the required specifications for safely accommodating Code E aircraft.

All paint markings will progressively disappear as a consequence of the surfacing works. The Contractor will reinstate the markings throughout the overlay and surfacing of the airfield pavements, appropriate for Code E operations.

2.3.3 Apron

Widening of the apron in front of the new terminal development and an extension to the east is required in order to accommodate three nose-in parking for 2 x Code C stands and 1 x Code E (see Figure 2) stand and Ground Service Equipment (GSE) movements including the passenger boarding bridges (PBB). Initial design estimates require approximately 10,000m² of additional apron pavement area and is to be confirmed in the final design layout plans.

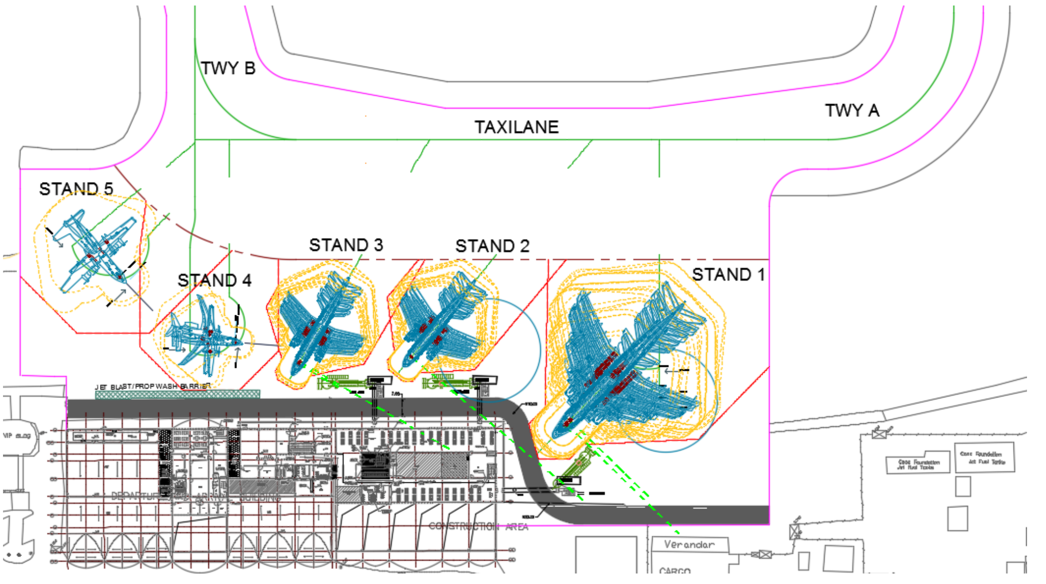


Figure 2: Proposed new configuration of APW apron. (Source: INECO-SMEC Draft Detailed Design Report, July 2016)

A new two-way service road will be provided in front of the new terminal building. It will consist of two lanes of 3.5m width.

2.3.4 Taxiway A and Taxilane

Taxiway A and the Taxilane demonstrate defects and the pavement, or its layering makeup in these areas, may not have the required structural performance for the design aircraft and forecast traffic movements. The Contractor is requested to give due consideration to the incorporation of subsoil drainage, re-use of existing pavement materials, and improved geometrics in their design. This will then form the basis upon which a strengthened pavement profile can be adopted.

The taxiway will also require shoulder design suitable to address jetblast requirements. On the shoulders, an unbound pavement construction with a two coat chipseal and sand emulsion surfacing is expected. Taxiway strip works will be undertaken to match new levels.

2.3.5 Taxiway B

It is considered that this area will require an overlay as a minimum.

2.3.6 RWY 8 Turning Node

The runway 08 end turning node is to be widened to accommodate a code E aircraft. The turning node requires a shoulder design suitable to address jetblast requirements. On the shoulders, an unbound pavement construction with a two coat chipseal and sand emulsion surfacing is expected. Runway strip works will be undertaken to match new levels.

2.3.7 Lot 2: Upgrade to Airfield Drainage Systems

Three elements to the upgrades of the drainage system have been proposed for design to alleviate the various flooding issues (see 3.1.2) that APW is subject to. These are:

a) New link from apron to grass island to easternmost outfall. The current design has identified a need for additional discharge capacity at the eastern end of the runway to improve site drainage. The Contractor is required to install a new sump and connection from the grass island between the taxiways to the swale and outfall as shown in Figure 3. The connection is required to have a minimum standard discharge of $0.35m^3/s$.

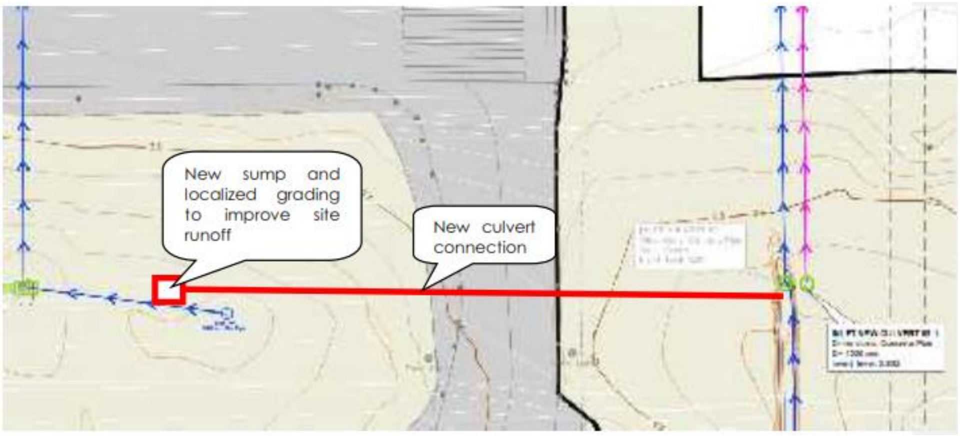


Figure 3: Proposed new connection culvert between existing culverts 8 and 9. (Source: Design and Build Technical Specifications, Dec 2016)

b) A new culverted outfall on eastern RESA and a swale widening. The current design has identified a need for additional discharge capacity at the eastern end of the runway to improve site drainage. The Contractor is required to install a new outfall from the swale. The connection is required to have a minimum standard discharge of 1.83m^3/s. The culvert will require suitable headwall and scour protection at either end. The Contractor is required to install tidal check valves at the end of the proposed and existing outfalls in this location.
c) Apron drainage. The new apron configuration will affect the existing drainage system. Therefore, a drainage assessment shall be done by the Contractor and a new design of apron drainage shall be proposed. Water run off will be directed into the existing drainage systems between taxiway A and B, except for a region of approximately 3,000m2 in front of the new terminal building. As per the current designs, a lot drain is required directly in front of the terminal to capture storm water run off from the airport parking apron. This is to outlet to the west of the apron to existing swale infrastructure.
d) Extension of the culvert coming from the new terminal building to integrate with the drainage under the extended apron area to the east.

2.3.8 **AGL**

Runway Edge Lights: all elevated and inset edge lights will be raised to the new pavement surface level with new ducts to be installed in the shoulder perpendicular to the runway centreline, from the existing bases to a point at least 1m from the pavement edge. This will be designed in coordination with AGL design consultant (see Section 3.2.7.1). The existing cable is to run through the new duct and the existing fitting and transformer to be reinstated.

Threshold 8 lights and REIL: existing threshold lights are to be raised to the new pavement surface levels. A new duct bank will be installed to facilitate the installation of new light bases and fittings for new lights at a later date.

Turning node 08 edge lights: New light base and ducting to be installed for the widened turning node. Ducting also needs installing to connect inset runway edge lighting and new REIL lighting in this area.

Taxiway, Taxilane and Apron: new light bases and ducting to be installed to cater for the new alignment of these pavements. Guard lights are also to be installed. A new duct bank is to be installed crossing underneath Taxiway A and B to accommodate AGL cabling for the airfield.

Threshold 26 lights and REIL: existing threshold lights are to be raised to new pavement surface levels. New ducting is required in the pavement to connect the threshold lights and REIL to a new chamber, both north and south of the runway edge.

2.3.9 **Apron Floodlighting**

The pavement works on the apron area and changes to apron stand configuration will make all five of the current apron floodlights redundant. The location of new floodlights is to be confirmed by the Contractor and the Contractor shall design and install all infrastructure associated with the new floodlighting (ducting, cabling, foundation, columns, mounting, luminaries, Montrose box, circuit boards, etc).

2.3.10 Lot 2: Refuelling system

The improvement and expansion of the apron will require the removal of existing fuel hydrant pits and the suitable redundancy of the existing infrastructure by filling with. The existing piping system will be purged of fuel and infilled with flowable concrete to make redundant. All stands on the apron are to be provided with fuel pits, the existing apron has a fuel network relative to current aircraft stand configuration.

The existing fuel hydrant pits shall be completely demolished and replaced by a new main fuel line, valves, hydrant fuelling lines and other necessary equipment. Four emergency shut downs will also be provided and shall be accessible quickly by ramp personnel within 25-30m of the aircraft stand.

2.3.11 Note on Scope & Climate Change

Throughout the documents there are references to the need to consider the effects of climate change. Prior to the bid documents being prepared extensive design work was undertaken on behalf of the Employer. To provide clear direction on the consideration of climate change effects, a bid clarification was issued during the bid process advising that the Employer's documentation took climate change into account. Hence the parameters provided in the documents to the Contractor already provide for climate change to the satisfaction of the Employer and no further allowance is required to be made by the Contractor.

2.4 Details of Temporary Works

To construct the above permanent works, a number of temporary or facilitating works are required. The significant ones are; reopening Olo Quarry to provide asphalt aggregate and the Contractor's Compound where the asphalt plant, aggregate stockpiles, laydown area for plant and equipment, workshop facility and the contractor's site office will be located. The rational and ambit of these is as follows'

2.4.1 Olo Quarry - Selection

SAIP has not undertaken testing of potential aggregate supplies.

A quarry assessment report prepared for the West Coast Road project identified six basalt quarries in the region.

They were Ulia, Ott, Lalomanu, Le Mafa, Alafua and Saleimoa quarries. Of these sources Lalomanu, Le Mafa and Alafua had ceased operations by 2015.

Further information was provided on the Saleimoa and Alafua quarries in the bid documents, which noted that Saleimoa has been the subject of dust complaints resulting in intervention by PUMA and that rock from Alafua may contain weak particles and that a new Development Consent (with EIA) would be required for it.

Reviewing the history of previous airport works and considering the location of the airfield within the local roading network Downer identified Olo as a further quarry option.

Material from Olo was successfully used to make asphaltic concrete for the previous airport runway resurfacing work in 2000.

The adjacent map shows the location of Olo, Saleimoa and Alafua quarries. It is clear that Olo quarry is by far the closest to Faleolo Airport and by upgrading part of the access route within the quarry owner's property only a very short section

(approx. 200m) of the West Coast Roads needs to be used to get aggregate from the quarry to the Contractors Compound at the airport. The selected quarry access route also avoids passing through any villages. This is by far the shortest haul along the WCR of any of the quarries identified.

Downer has decided to progress Olo Quarry due to it being the best of the quarry options identified through it having very good rock with an access route that minimises use of the West Coast Road. The intended quarry access route also avoids any villages and while it does pass by several houses occupied by the landowners farm workers, standard dust control and traffic management methods will mitigate the effects.

Samoa Water Authority had expressed reservations regarding the use of Olo due to concern that blast vibration could damage two bore holes it has in the vicinity. Downer has considered this concern and by using explosives with low vibration effects believes the bore damage risk is addressed. Downer has undertaken to insert a specialist camera down the Olo bore to record its condition prior to commencing blasting at Olo.

No coronous aggregate is expected to be used for the Project.

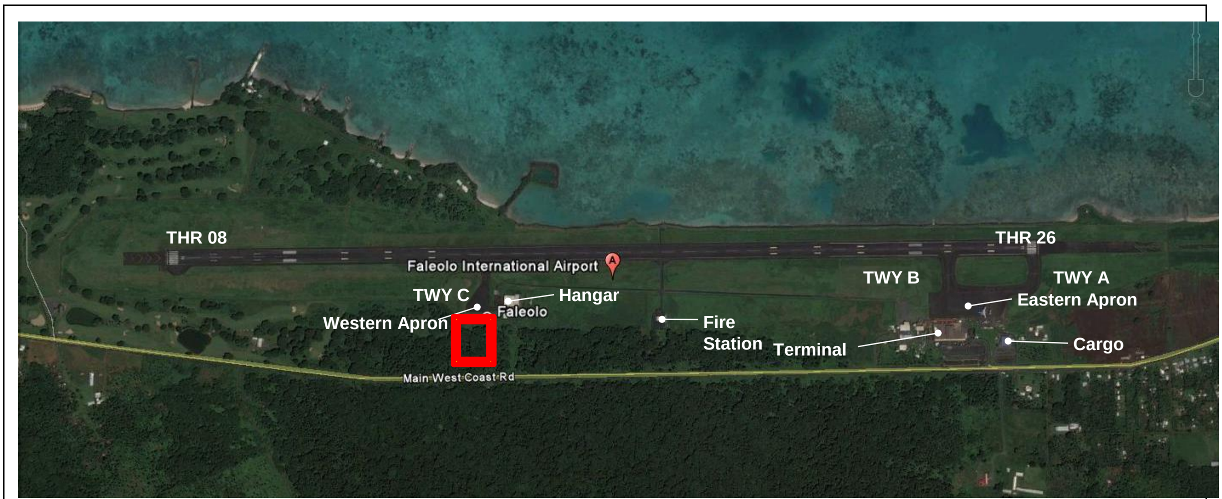


Figure 4: APW general existing airport layout (Source: Aerial photography from Google Earth Pro, dated 4 January 2015 via AECOM SAIP IESMP.).

Contractor's Compound location

2.4.2 **Contractor's Compound**

It is planned to locate the Contractor's Compound or laydown area on the same site as used for the last runway resurfacing work in 2000. This area is approximately 1 hectare in size and located entirely within the airport perimeter fence and has convenient access to the Main West Coast Road and the runway strip. The site was covered in low scrub and was lying idle, with no gardens or productive vegetation within the area. A preliminary inspection shows that much of the hardfill base constructed for the 2000 work is still in place.

This area will include asphalt plant, aggregate stockpiles, plant park, mechanical servicing and repair facility, site laboratory and site office.

An application for a development consent (DC) has been made and granted by PUMA for the laydown area and the asphalt plant. The application included an Environmental Management Plan (EMP) for the area and the operation of the Asphalt Plant and the DC has a set of conditions for the operation of the site. The EMP for the Contractor's Compound and Asphalt Plant forms part of this CESMP.

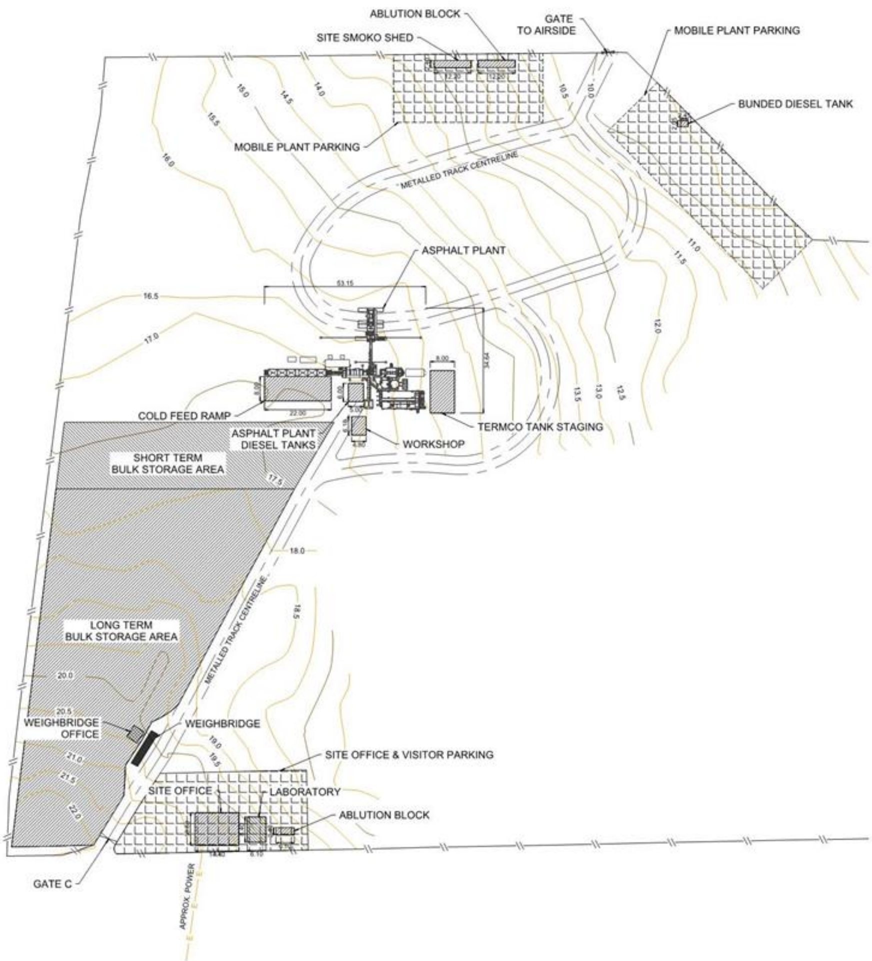


Figure 5: Layout of the Contractor's Compound

3 Sensitive Receptors and Potential Environmental Impacts & Risks

3.1 Zone of Influence and Sensitive Receptors

The Preliminary Integrated Safeguards Assessment identified the following Zone of Influence for the Project.

"The zone of influence encompasses Satapuala to the east and south of the Airport), Samea, Paepaeala, Fuailoloo, and settlements of Olo and Sagafili (all to the south and west of the Airport). While the construction will occur within the boundaries of APW some effects, particularly related to transport of materials and effects that can extend beyond property boundaries (e.g. noise and dust) could affect the neighbouring communities. Consultation and assessment of effects on the communities adjacent to the haul and transport routes for the project (e.g. from port or quarry) will need to be undertaken once the routes have been identified."

"There are three primary schools, one large secondary school and many community churches in the zone of influence. Sheraton Aggie Grey's Lagoon Resort, Le Vasa

Resort, Airport Lounge and the Transit Motel are tourist accommodation venues near the airport."

Within the Zone of Influence we need to be especially concerned with any Sensitive Receptors, which are defined as follows;

"Homes, schools (including pre-schools), churches, and hospitals are categorised as sensitive receptors where people can be more susceptible to the adverse effects of exposure, like to traffic (safety) or noise. Sensitive receptors do not usually include places of business or public open space. Specific consultation should be undertaken with these communities before and during construction activities to ensure impacts are minimised and community safety in ensured. This is particularly important for the transport of materials and equipment to and from APW. Mitigation measures may include construction works or transport during specific hours which do not impact school hours or specific traffic (includes pedestrian) safety management like flag controls and route diversions."

The following Sensitive Receptors are identified within the Faleolo Airport and Olo Quarry (and the access route between) Zone of Influence;

Type	Name	Location	Project Activity
Hospital	Nil		
High School		Not on access route	
Primary Schools		Not on access route	
Churches	VRS	Mulifanua	Blasting
Homes	STEC Workers	Along quarry access	Aggregate haulage

In addition the sections of the fringing reef adjacent to the airport and the aquifers in the Olo area have been identified as sensitive environments (see Sec 7.8).

3.2 Potential Environmental Impacts & Risks – Identified Environmental Issues

Distilling the Project permanent works and temporary work outlined above produces a number of salient work activities for which the environmental issues arising are tabulated below. In addition the prime document containing the intended mitigation measures for the identified environmental issues is also given.

Work Activity [Scale]	Environmental Hazards/Impacts/Issues [Concerns to be Mitigated]	Mitigation Measures Detail [Prime Document]
Quarry Aggregate [98,000 tonne]	Vegetation clearing Loss of habitat/agricultural land Ground disturbance/soil erosion Noise – workers/residents (traffic) Air emissions – dust & fumes	Quarry Management Plan

	Blast vibration (effect on bores holes) Water use Water contamination Hydrocarbons storage (fuel, oil etc) Hazardous materials storage/spills Waste – overburden/contaminated materials/domestic rubbish Site facilities/ablutions etc	
Transport Aggregate [4.6 km total with 200 m along West Coast Road]	Vehicle movements/speed Load security Vehicle noise Dust Damage to haul route pavements List any sensitive receptors and particular mitigation measures proposed Operating hours Effect on residents/pedestrians	Traffic Management Plan
Runway Earthworks [Modest]	Soil erosion, sedimentation, water runoff etc Dust – workers/airport operations Revegetation	Method of Works Plan (MOWP) and CESMP
Asphalt Plant & A/C Manufacture [Major]	Suitable site Noise – workers/adjacent occupiers Site security – fence/guards Air emissions – dust & fumes Materials (hazardous & inert) storage Heated bitumen/product Waste management Orderly & tidy site/housekeeping etc	CCEMP
Solid Waste	Sanitary hazards Improper disposal risks Exposure to hazardous materials	Waste Management Plan
Install New & Remove Redundant Fuel Systems	Design yet to be finalised	Method of Works Plan (MOWP) and CESMP

Airfield Drainage Upgrade [Moderate scale civil works with minor concrete volumes]	Design yet to be finalised	Method of Works Plan (MOWP) and CESMP
Paving Work [Major]	Details yet to be finalised	Method of Works Plan (MOWP) and CESMP
Line Marking [Major]	Hazardous materials (principally used for clean-up. Most paint is waterborne)	Method of Works Plan (MOWP) and CESMP
Imported Material	Biosecurity/quarantine issues	CESMP
Overall	Occupational Health & Safety	Safety Management Plan
Overall	Social impacts, HIV/AIDS, effect on adjacent communities, local businesses & employment	CESMP

This Table is sometimes referred to as the Environmental Hazards (Aspects & Impacts) Register. A source reference and mitigation measure reference will be given for additional items added to the list

The environmental & social issues or concerns identified above are addressed by the Mitigation Measures given in App 3. This is the key element of the overall CESMP and succinctly shows how Downer intends to address the issues and concerns that have been identified for the Project to date. App 3 is sometimes referenced as the Environmental Management Implementation Plan (EMIP aka Contractors Environmental Work Plan).

NB Social issues are addressed in Section 10 below.

3.3 Schedule of Dates

Key programme dates and phase durations are as follows;

Start Date	Event/Task	Finish Date
	Tender Close	
21 Nov 17	Letter of Acceptance Issued	
28 Feb 18	Contract Commencement	

5 March 18	Access to Site Granted	
15 Jan 18	Design - Separable Portion 1 (SP1) – Taxiways & Apron	2 May 18
1 Feb 18	Design SP 2 - Runway	1 Aug 18
10 Feb18	Re open & Develop Olo Quarry	19 March 18
April 18	Produce Aggregate at Olo Quarry	Nov 18
30 Jan 18	Materials Procurement & Plant Mobilisation	26 Sept 18
19 Mar 18	Set up, Test, Commission & Trial Asphalt Plant	21 June 18
28 May 18	Construct – SP1 – Stage 1 – Apron Extension	11 July 18
12 July 18	Construct SP1 – Stage 2 – Central Apron	9 Aug 18
2 Aug 18	Construct SP 1 – Stage 3 – Taxiway A & Taxilane	24 Sept 18
25 Sept 18	Construct SP 1 – Stage 4 – Taxiway B & Apron West	21 Nov 18
4 Feb 19	Construct SP 2 – Threshold 08 & Stopway 26	29 Mar 19
March 19	Cease Production & Start Rehabilitation – Olo Quarry	May 19
1 Apr 19	Construct SP 2 - Runway	8 July 19
29 Jul 19	Completion	
	Defects Notification	

4 Objectives

The objective of this CESMP is to provide clear information, resources and direction so that any negative environmental and social issues identified in the PESMP, and any additional issues identified subsequently are all documented in the CESMP and successfully mitigated.

This end result is informed by the source documents listed in the following two sub-sections;

4.1.1 Scope Objective

The Technical Requirements states that "the objective of this contract requires the Contractor to undertake the design and construction of pavement surfacing and infrastructure rehabilitations/upgrade at APW achieving the required design standards and defect liability periods accordingly.

The works are to be prioritised in the following order:

- Separable Portion 1 - Apron and Taxiways
- Separable Portion 2 - Runway

The main objectives of this contract are to:

(i) Value engineer the existing design and then prepare; a detail design, technical specification, management plans and program of works for the upgrade of Faleolo International Airport.

(ii) To work in coordination with ongoing terminal development works and designs undertaken by third parties for the airfield lighting and air bridge passenger conveyance.

(iii) To execute the Faleolo International Airport pavements civil works contract."

4.1.2 **Environmental Objectives**

The hierarchy of environmental objectives, in increasing level of importance, is;

1) Comply with applicable international conventions and obligations, including

- United Nations Framework Convention on Climate Change 1992;
- Kyoto Protocol to the Framework Convention on Climate Change 2005;
- Convention on Biological Diversity 1992;
- Nagoya Protocol;
- Vienna Convention for the Protection of the Ozone Layer 1985;
- Montreal Protocol on Substances that Deplete the Ozone Layer 1987;
- United Nations Convention to Combat Desertification 1994;
- Convention on the Protection of World Heritage and Natural Heritage 1972;
- Convention on the Prior Informed Consent Procedure for Hazardous Chemicals and Pesticides in International Trade;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- Convention on Persistent Organic Pollutants;
- Convention of Wetlands of International Importance;
- Convention on Migratory Species of Wild Animals;
- Conventional on International Trade in Endangered Species of Wild Fauna;
- United Nations Convention on the Law of the Sea;
- Cartagena Protocol on Biosafety to the Convention of Biological Diversity;
- International Treaty on Plant and Genetic Resources for Food and Agriculture;
- Minamata Convention;
- Plant Protection Agreement for the South East Asia & Pacific Region; and
- Strategic Approach to International Chemicals Management.

2) Comply with World Bank Policies

3) Comply with Samoan laws, regulations & codes (in particular the suite of Codes of Environmental Practice (COEP) especially COEP 3 – Consultation, COEP 8 – Quarry Development & Operations, COEP 13 – Earthworks)

4) Ensure PESMP forms the basis of the CESMP

5) Formulate effective measures to mitigate identified environmental impacts.

The Downer Environmental Sustainability Policy is provided in App 2.

4.1.3 Social Objectives

It is contended that the key Project social objectives are;

- Undertake effective consultation
- Mitigate potential social impacts
- Effectively execute construction with low impact on local communities

These points are précised in the next three sections.

4.1.4 Consultation

Samoa Code of Environmental Practice (COEP) 3 details how consultation should be undertaken. Key points are;

The basic principles of consultation, which should be applied to all development projects, are as follows:

- At the earliest opportunity, a community should be advised of potential projects and how the community can receive information about, and become involved with, such projects.
- The intentions/objectives of the consultation should be clearly and openly stated.
- Stakeholders and affected communities should have timely and meaningful inputs to, and participation in, any phases or aspects of projects that directly affect them and all inputs should be treated equitably and with respect.
- Consultation should be a two-way process, there should be an exchange of information where both the proponent and the affected communities should put forward their points of view and to consider other perspectives.
- Consultation is best undertaken at early stages in and throughout the decision making process or at least on going communication after a decision has been made.
- All parties do not have to agree to a proposal, however as a result of undertaking consultation at least points of difference will become clearer or more specific.

Project proponents must comply with the requirements of the Planning and Urban Management (Environment Impact Assessment) Regulations 2007 as they pertain to consultation during the environmental impact assessment process.

Details of how consultation will be undertaken for the Project are given in Section 12.

4.1.5 Social Impact Matters

Awareness sessions will be organised to provide Project staff and local communities with information intended to mitigate the issues of HIV/AIDS transmission, Gender Based Violence, and Child Exploitation & Abuse. Details are provided in Section 10 below.

To forestall inadvertent offence in local communities a Cultural Familiarisation is also provided for expats new to Samoa.

Employment of local labour will not be ad hoc and will be on a transparent merit basis to avoid opportunistic labour migration to the Faleolo area and cause accommodation and social stresses within local communities.

4.1.6 Expeditious & Low Impact Construction

Achieving project completion with minimal impact on local communities through the implementation of effective mitigation measures on time and within budget will be the best project outcome for all parties.

5 Environmental Management Roles and Responsibilities

Identifying the roles and responsibilities required to address and manage Project environmental issues, and then allocating these to appropriately trained, experienced and competent personnel with the various parties involved in the Project is a key requirement for overall success.

5.1 On Behalf of the Employer

The roles and responsibilities for agencies acting on behalf of the Employer include;

5.1.1 SAA PST

- Acts on behalf of the client and works closely with SAA and all contracted parties to ensure that SAIP objectives are delivered in a compliant manner consistent with client and SAA requirements.
- Conducting quarterly safeguard audits with the Client's Consulting Engineer's environmental specialist and other staff
- Responsible for working with SAA and Client's Consulting Engineer (and contractors where appropriate for CESMP) to implement consultation plans for the SAIP upgrade works.
- Monitors and manages of complaints/incidents logged via the GRM mechanism on www.saip.ws.
- During the construction phase, PST receives reporting from the Client's Consulting Engineer and shares these reports with the SAA, Ministry of Works, Transport & Infrastructure (MWTI)I, Planning and Urban Management Agency (PUMA,to comply with permit monitoring requirements) and TFSU.
- PST is responsible for managing recurring instances of non-compliance by the contractor as they are reported by the Client's Consulting Engineer and all instances of non-compliance by the Client's Consulting Engineer. PST will conduct their own quarterly on-site audit of construction works, to supervise CESMP and PESMP implementation.

5.1.2 TFSU

- TFSU Safeguard Specialist is a technical advisor to SAA PST:
    - Field queries and provide clarification/guidance on contractual and bank processes
    - Provides support to PST on any safeguard issue
    - Bridge temporary capacity gaps
    - Assist Lyon and SAA with WB review process
    - Review monthly and quarterly reports for safeguard consistency and compliance
    - On an as-needed basis
    - Periodic audits
- Safeguard development for PAIP: PESMP, Sub-plans & CESMP, SPD, Workshops and training as required

5.1.3 LYON Safeguard Responsibilities

5.1.3.1 General Duties:

- Day to day oversight, including safeguard compliance as per the PESMP.
- Scheduled monitoring for compliance with CESMP and providing results of that monitoring in monthly reports to PST.
- Resource team with suitably qualified and experienced safeguards specialist (SS) with commitments to in-country supervision.
- Manage instances of non-compliance and escalate recurring instances (SS to support this process).
- Role within GRM process – receive direct complaints and submit to SAA PST for processing.
- Ensure all LYON and Downer project staff have undertaken the GBV/CAE training and signed codes of conduct

5.1.3.2 One-off Responsibilities:

- Approve (with MWTI) the location for storage of excess clean fill materials not used in project timeframe.
- Approve location of any temporary project facilities: asphalt plant, waste storage, sanitary facilities, etc.
- Provide contractor with NTC following NOL.
- Review and approve site operations at any pre-existing quarries.
- Confirm all necessary bio-security and quarantine clearances.
- During the Detailed Design/Preconstruction Mobilisation Stage undertake baseline water quality monitoring at select bores within 100m of works.

5.1.3.3 Safeguard Specialist:

- review CESMP to for compliance with PESMP, national laws and DC conditions;
- review OHSMP against PESMP requirements, SAA Standards and Samoan law;
- manage review of contractor safeguard documents to NOL stage;
- review and approve ESHS aspects of MOW;
- update PESMP to reflect significant changes in design;
- develop Supervision Engineer monitoring plan, checklist, responsibilities and schedule. Consider training needs; and
- review and advise Engineer on ESHS risks and impacts of any changes to project design and implications on compliance. Identifying which of these changes triggers an update to the CESMP or PESMP.

It is expected that these agencies will coordinate to allocate the duties of their respective personnel so that these roles and responsibilities are comprehensively covered.

5.2 On Behalf of the Contractor

5.2.1 Overall Responsibilities of the Contractor or any Sub-contractors

The Contractor has responsibility to:

- Prepare and have cleared by the Employer's Engineer the CESMP in accordance with the PESMP.
- Carry out the APW upgrade works in accordance with the CESMP.
- Conduct daily and weekly safeguard inspections of the works to ensure compliance and reporting the results of these inspections to the Employer's Engineer.
- Proactively update the CESMP as construction methodology or other features change.
- Provide meaningful input and direction into community consultations on the draft CESMP.
- Advise the Employer's Engineer of any changes to works or methods that are outside the scope of the PESMP for updating.
- Post all notifications specified in the PESMP/CESMP at the site entrance.
- Report all environmental and OH&S incidents to the Employer's Engineer for any action.
- Inform personnel and any sub-contractors of the contents of the CESMP, including and organise inductions appropriate to their role in the Project [NB such inductions will include HIV/AIDS, GBV & CAE as well as the more "traditional" environmental, health and safety matters].
- Adopt and apply the GRM and participate in its ongoing functions.

5.2.2 Individual Responsibility of Downer Employees

All Downer employees and sub-contractors have a responsibility to identify and report environmental hazards within the workplace to their immediate supervisor. Their responsibilities will be communicated to them during the site induction. Furthermore all employees have additional responsibility for monitoring the practices of our subcontractors in terms of environmental or social impacts.

All hazards are to be reported to the immediate Supervisor or Manager, who will arrange necessary action to eliminate, isolate or minimise the hazard.

All employees shall participate in the Job START process (see App 4) and attend toolbox talks to discuss the worksite environmental hazards and changes.

All employees have a responsibility to perform their activities in conformance with the Site Induction, applicable Method Statements, Job START procedure, Codes of Conduct and training.

5.2.3 Role-Specific Responsibilities of Downer's Project Employees

The table below defines who is responsible for each of the tasks described. Each task has an owner, the first listed in the following table, who is primarily accountable for that task being completed in full to the required standard and timetable and recorded appropriately. In many cases that person is assisted by others.

Environmental Tasks	Role/Responsibility
Setting Environmental Objectives and targets – Nationally. Setting Environmental Objectives and targets – Contract.	General Manager (GM) Project Manager (PM)
Prepare the CESMP & submit it for Engineer approval	Safeguards Specialist/PM
Periodically review and update the CESMP	Safeguards Specialist (SS)
Conduct site visits, inspections (both routine & unplanned), audits and reviews of work sites and report compliance with the CESMP.	Health & Safety Manager (HSM)/SS/PM
Attend and participate in weekly toolbox meetings.	All Staff
Be familiar with: • Environmental legislation • Project scope & work activities • This CESMP • World Bank & Company Environmental Procedures	Project Manager / Safeguards Specialist
Ensure that the water management and erosion environmental mitigation measures eg silt fences & sediment retention ponds etc are regularly maintained, Also that prompt responses are made to adverse weather warnings & conditions. The ESR has autonomy to act.	SS/Environmental Site Representative (ESR)
Ensure all staff are inducted & conversant with these requirements. Post appropriate notices on information boards and at contractor's compound entrance.	Project Manager / Safeguards Specialist/Site Supervisor

Take appropriate action to prevent unsafe working practices.	All Staff
Ensure all Sub-contractors comply with defined requirements.	Site Supervisor
Identify and report environmental hazards within the workplace and maintain the significant hazard control plan.	OHS/Site Supervisor/SS
Prepare emergency procedures in conjunction with the Project Manager.	HSM/SSr
Provide meaningful input & direction to community consultations	SS/PM
Adopt and participate in GRM.	SS/PM
Report and Investigate environmental incidents or near misses & report with recommendations for prevention	HSM/SS/PM/Site Supervisor

5.2.4 **Key Personnel**

The key Downer personnel for this Project are;

Position	Abrev	Name
General Manager - Projects	GM	Steve Delaney
Project Manager – Faleolo Airport	PM	Peter Murr
Construction Manager – Mobilisation & Design Phase	CM-MD	Marty Craill
Construction Manager – Physical Works	CM-PW	Doug Forsyth
Health & Safety Manager (aka Occupational Health & Safety Officer)	HSM	Steve Christiansen
Safeguards Specialist	SS	Craig Smart
Supervisor	Super	Bryan McConkey
Environmental Site Representative	ESR	TBC
Site Engineer	SE	Aimee Pene
Quantity Surveyor	QS	Bruce Wilson

6 Inspections, Audits, Monitoring & Reports

6.1 Inspections on Behalf of the Contractor

6.1.1 Types

Two basic types of inspection are intended;

- Routine – carried out on a scheduled cycle – generally weekly or monthly
- Unplanned – random or in anticipation of/response to some event eg prior to forecast severe weather or after severe weather has passed.

6.1.2 Frequency

It is intended that most elements will be inspected at least once per week. NB this inspection is not the same as and is in addition to the daily checks made by personnel such as asphalt plant operators etc.

6.1.3 Personnel

All inspections will be conducted by somebody suitably experienced and trained. Ideally they will not be involved in the day to day activity of the area/operation being inspected but will provide a "fresh set of eyes" more likely to observe matters overlooked by the personnel engaged in the activity. While having this "outside view" is desirable it may not always be practicable. The Health & Safety Manager will be responsible for scheduling inspections and seeing that they are conducted and results reported. It is anticipated that the HSM will personally conduct many of the inspections but from time to time may delegate the actual inspection function to other suitably trained personnel.

6.1.4 Documentation

The prime document for conducting and documenting inspections is the Site Compliance Assessment (SCA) given in App 5. This includes traffic management, environmental, plant & equipment, site facilities and site safety elements. While not all these elements will be present at all the sites when inspected eg traffic management will not be a germane factor for an airfield lighting site, the inspection format determines a compliance rate for comparison and tracking purposes.

6.1.5 Submission

The occurrence and findings of most inspections will be contained in the Weekly or Monthly Reports. Some inspection matters may be contained in the sequentially numbered Project correspondence provided under the name of the Project Manager.

6.1.6 Records

In common with other Project records the CESMP records will be predominantly electronic. Downer have decided to use the Aconex system for Project communications and document control, meaning relevant documents will be accessible via each stakeholder's individual account. Documents can also be copied onto the office server and held in the structured folders to facilitate internal use by non Aconex account holders. The HSM will have the responsibility for properly keeping and distributing CESMP records.

Where a hardcopy document is generated the original will be held in the office files, with a copy provided to the person responsible for the area inspected.

A further copy may be retained by the person doing the inspection. Inspections on Behalf of the Employer

The PESMP (as detailed in the App C Monitoring Plan) generally provides for Weekly Inspections by the Employer's Engineer for all listed parameters. The inspection format is not detailed and Joint Inspections are not specifically noted but Downer will be ready to participate in Joint Inspections should such be desired. A format similar to the quarterly Audit noted in Section 6.6 (and App 6) could be used.

6.2 Reports on Behalf of the Contractor

Downer will provide two series of reports. They are;

6.2.1 Weekly Report

The TR requests the following: "For the Period the Contractor is established on site(s), weekly progress reports are to be prepared by the Contractor and submitted to the Employer's Engineer. The weekly reports shall be submitted for each completed or partially completed week. Reporting shall continue until the Contractor has completed all work that is known to be outstanding at the date stated in the Certificate of Practical Completion of the Contract Works. Each report shall include:

(a) Summary of locations and description of work activity carried out during the previous week, including an estimate of the progress achieved on major work items in line with the items set out in the payment schedule;

(b) Issues requiring follow-up by the Employer's Engineer or his representatives;

(c) Forward Weekly Programme;

(d) Any other information agreed between the Contractor and Employer's Engineer. "

Downer intends the Weekly Report to be a concise document (a few pages of narrative with an up dated "Look Ahead" programme plus photos of salient work activities). With regard to environmental and social matters the weekly report will;

- Advise how many routine and/or unplanned inspections were carried out.
- Note any adverse findings found by above.
- Advise any environmental incidents (spills, unauthorised discharges etc).
- Note action taken with regard to above.
- Advise any complaints or grievances made (from GRM).
- Advise any environmental NCRs raised.
- Advise any community consultation conducted.
- Note any inductions/training occurring including environmental, HIV/AIDS, GBV/CAE, cultural awareness etc.

The Report will be provided each Monday and cover the preceding calendar week (Mon to Sat).

6.2.2 **Monthly Report**

This report is a very significant document. The TR requests the following; "The Contractor shall prepare monthly progress reports of the Design-Build Services during the Design-Build Period to Practical Completion and submit six copies of the reports to the Employer's Engineer. The first report shall cover the period up to the end of the calendar month after that in which the Design-Build Starting Date occurred and reports shall be submitted monthly thereafter, each no later than 14 days after the last day of the month to which it applies.

The Design-Build Services monthly reports shall include the following information:

(e) photographs and detailed descriptions of progress, including each stage of design, procurement, manufacture, construction, testing and commissioning;

(f) Gantt charts showing the status of Design-Build Documents, purchase orders, manufacture and construction;

(g) Occupational health and safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations;

(h) Financial management, including a monthly progress claim, and a schedule showing the status of all claims (extra contractual or variations) which the Contractor considers to be (or may be) a Variation to the Contract Price. The format of the schedule is to be agreed between the Contractor and the Employer's Engineer and shall include an updated forecast of monthly cashflow and updated estimate of the final Contract Price;

(i) detailed records of the Contractor's Personnel and Contractor's Equipment (Design-Build) on the Site

(j) Risk management activity, including as a minimum:

- A list of Extreme level risks with treatment progress update;
- A brief report detailing the past month's risk management activity, to include: risks identified, impacted, closed or where there has been a change in risk level (current or target);
- Issues identified as requiring Employer notification;
- A copy of the current project Risk Adjusted Programme;
- A copy of the current Risk Register.

- o all monitoring and testing results including all non-conformances, corrective action reports and quality plan statements issued;

(k) percentage completion achieved compared with the planned percentage completion for each activity; and

(l) where any activity is behind in the scheduled completion, comments and likely consequences and a description of the corrective action being taken.

- o results of CESMP weekly monitoring inspections for implementation compliance, including details of non-compliance and any remedial actions taken.

(m) Training for OHS, HIV/AIDs, GBV and CAE"

It is expected that the Contractor's Monthly Report will inform the Engineer's Monthly Report

6.2.3 **Special Reports**

Some events or circumstance may require a separate report dealing solely with the matter concerned and provided outside the Weekly or Monthly Report scope and cycle. The need for such will be as mutually agreed or as advised to the Contractor by the Engineer.

Storm events, serious incidents or accidents, personnel matters, malicious damage, particularly crucial or contentious community consultation may be events requiring a Special Report.

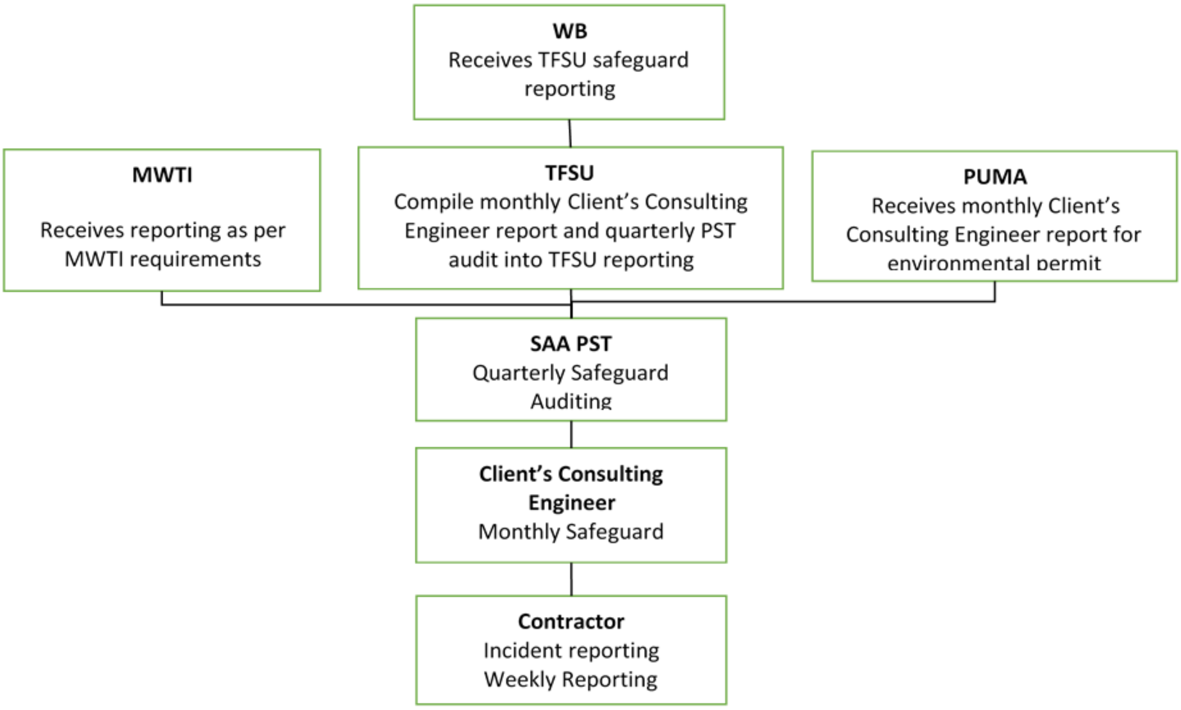
6.3 Reports on Behalf of the Employer

The PESMP requests the following; "Throughout the construction period, the Employer's Engineer will include results of their weekly PESMP monitoring, along with the details of any incidents reported by the Contractor, in a monthly report for submission to the SAA PST who is responsible for submitting these monthly progress reports to the World Bank through the PAIP TFSU. The format of the monthly report has yet to be agreed with all agencies but is expected to include the following:

- Description and results of environmental monitoring activities undertaken during the month;
- Status of implementation of relevant environmental mitigation measures pertaining to the works;
- Key environmental problems encountered and actions taken to rectify problems;
- Summary of non-compliance notifications issued to the Contractor during the month, actions taken and non-compliances closed out;
- Summary of complaints received, actions taken and complaints closed out;
- Key environmental and social issues to be addressed in the coming month;
- Training records;
- Health and Safety Indicators;

- Summary of consultation / stakeholder engagement undertaken;
- Copies of environmental inspection reports; and
- Summary of reported incidents, actions taken and recommendations for follow up."

The Safeguard Reporting responsibilities given in the PESMP are;



6.4 Use of Standard Procedures – Integrated Management System

In accordance with Downer's Integrated Management System the same general procedure is used for quality, safety and environmental matters. Information on hazard identification, non-conformance, corrective action and document control procedures are given in Section 14 of this document onward.

6.5 Audits

Generally conducted quarterly by SAA PST on behalf of the Employer, it is expected that a format similar to App D of the PESMP will be used. This is included as CESMP App 6. Any actions required will be advised to the Contractor by the Engineer.

6.6 Monitoring

Monitoring by the contractor is described in Section 6.1 Inspections, above. This is applied to the Environmental Mitigation Measures detailed in App 3 using the SCA form given in App 5

Monitoring of the effectiveness of the Mitigation Measures implemented by the Contractor will be undertaken, on behalf of the Employer, by the responsible agencies as shown in the Monitoring Plan given in App 7.

6.7 In-country Visits by Safeguards Specialists

The Safeguard Specialists of the various agencies involved in the contract do not all normally reside in Samoa. The following Schedule of In-country Visits is intended to foster coordination of their work and an understanding of what particular visits expect to achieve.

Specialist's Name	Agency	Date Arrive	Date Depart	Visit Purpose/Goals
Iain Haggarty	LYON	31/1/18	3/2/18	Safeguards Training, Initial introductions
Iain Haggarty	LYON	18/3/18	23/3/18	Confirm Safeguards Documents, Quarry Plan
Iain Haggarty	LYON	April 2018	May 2018	1st Audit - Quarry
Craig Smart	Downer	4 June	8 June	Second Training Round

7 Emergency Contacts and Procedures

7.1 Emergency Contacts

The contact details for key Downer personnel, airport and outside emergency services who may be involved in responding to and managing environmental emergencies are given in App 8. A copy of this information will be posted in prominent locations on site.

7.2 Recommended Responses to Potential Emergencies

Recommended actions to be taken in the event of the following are given in App 9;

- Fire/explosion
- Earthquake/Tsunami
- Severe Storm/Cyclone

7.3 Spill Response

The spill response procedure is given in App 10. A briefing on the application of this will be included in the environmental induction.

7.4 Fuel and Hazardous Substance Spills

Any occurrence will be dealt with as follows;

1. Positively identify the material and then refer to Safety Data Sheet (SDS) information located in the Dangerous Goods or smoko room for Emergency Procedure Guides.
2. Assess whether or not you can safely deal with the spill. Do not under any circumstances attempt to contain any spills containing acids as these fumes are extremely dangerous. Immediately evacuate the building and call the Fire Service on 111 with details of the product and size of spill.
3. If safe to approach the spilled material, follow spill response chart/procedure and site spill response plan.
4. If not, activate the alarms and follow the evacuation procedure.

If large quantities of fuel, or a hazardous or unknown chemical is spilt:

1. Call the fire service (NB Aviation Fire within airport perimeter and Civil Fire outside) and advise the nature of the spill and the quantity involved.
2. If there is a possible risk to people, evacuate the area, ensuring that people remain upwind and the spill area is closed to public access, as per information in the Emergency Procedure Guides.
3. Remove all sources of ignition to prevent an explosion of flammable vapours.
4. Only attempt to contain a spill if you have been trained in spill clean-up for the substance involved and have the proper protective equipment to do so. Otherwise, do not approach or come into contact with the substance.
5. If safe to do so, reposition leaking containers to prevent further leakage.
6. If there is a possibility of the spill entering the drainage system, or causing an environmental problem, create a temporary bund around any drainage sumps and contact the Regional Council.
7. Should a diesel spill exceed the capabilities of local expertise, then the Fire Service should be rung.

7.5 Kerosene, Diesel, Turpentine and Oil Spills

1. Cordon off area and remove all sources of ignition.
2. **Do not use metal tools**
3. **Contain the spill**
4. **Do not use water to wash down the area**
5. Use squeegees etc to concentrate the volume of the spill.
6. Mop up, pump, skim (or otherwise remove) as much product as possible and place in leak-proof containers (usually drums).
7. Seal containers and arrange for disposal as per normal waste disposal procedures.
8. Sprinkle sand over the area (if required)

7.6 Categories of Spills

All spills will be categorised by the Site Supervisor.

Type 1 A minor spillage within the boundaries of the site that has been, or is able to be, cleaned up by staff from the company involved and no damage to the environment has occurred.

Site Supervisor will - Initiate and oversee clean-up and Notify Construction Manager and Safeguards Specialist/Environmental Site Representative.

Type 2 A spillage that has flowed off-site or has the potential to leave the site (this includes vapours of flammable liquids), or the company staff are not able to clean up the spill and its effects safely.

Site Supervisor will notify: –

- Construction Manager
- Aviation Fire Service/Civil Fire Service (depending on location)
- Aviation Security Service –
- Safeguards Specialist/Environmental Site Representative
- Relevant environmental agencies

In all cases the Safeguards Specialist/Environmental Site Representative will report the occurrence and clean up actions to the Engineer.

7.7 Emergency Drills

Emergency Procedures will be regularly tested by way of drills and the NCR/OFI system used to follow up any identified actions.

7.8 Sensitive Environments

While all environments have value there are two particularly sensitive environments associated with the Project. They are:

- Ocean fringing the runway – especially coral's sensitivity to sediment discharges from works.
- Aquifer in vicinity of Olo Quarry – effect of blast vibration on bore hole and contaminant infiltration to aquifer.

Spills or discharges into either of these will need immediate response and complete rectification.

8 Potential Environmental Impacts and Risks

Potential environmental hazards/impacts/issues will be identified through the following four key inputs.

8.1 From Initial Scope

The environmental hazards/impacts distilled from the scope of work, provided in the PESMP and/or TR and tabulated in Section 3 are also listed in App 3. This is the First Key Input to formulating the Mitigation Measures applicable to the works.

8.2 From Development Consents Etc Gained Since Award

In the course of the work additional environmental requirements may arise from the issue of further approvals, such as Development Consents (whether gained by the Employer or Contractor) and any such environmental requirements or consent conditions that have an environmental impact need to be added to the mitigation measures.

The environmental implications of consents gained since contract award are listed in the following table.

Development Consent Tittle	Issue Date	Consent Condition	Environmental Hazard/Impact	Mitigation Document
Olo Quarry Clearing	Feb 18	Total of 52 conditions	Various	QMP
Contractor's Compound	March 18	Total of 38 conditions	Various	Specific CCEMP for site

Items identified above will be added to the CESMP or appropriate sub plans by way of periodic revision of the document. This is the Second Key Input to the list of Mitigation Measures.

8.3 From the Final Design of the Physical Works

When completed and approved the Contractor's Final Design will provide the actual scope of physical works to be undertaken. This will vary from the initial scope and involve different materials and/or work activities to those envisaged during early planning, eg extent of subsoil drainage and use of bitumen treated basecourse (BTB). This is the Third Key Input to the list of Mitigation Measures.

8.4 From Experience Gained During Application of the CESMP

The outcome of inspections, feedback received, inputs from NCR/OFI processes (see Section 14), the GRM etc may lead to additional items being identified for inclusion in a revision of the CESMP. This is the Fourth Key Input to the list of Mitigation Measures.

In rare cases some environmental concerns identified in the PESMP may not eventuate in practice and the item may drop out of the table.

9 Environmental Management Measures

Having identified the hazards/impacts/issues by the four inputs detailed above it is then necessary to determine which management measures will be adopted to mitigate the hazards/impacts given in App 3. This is the Fifth Key Input to the Mitigation Measures presentation and completes the exercise.

The information produced by Sections 8 & 9 combine to produce Appendix 3 – which is the heart of the CESMP – a summary of identified hazards together with the mitigation measures intended to address the hazard concerned.

This version of the CESMP (CESMP3) is provided as part of the SP 1 (Apron & Taxiway) Design Submission and provides detailed mitigation measures for the work included in that submission.
The SP 1 Design Submission includes the final detailed designs for the;

- Apron & taxiway
- Fuel line

- Minor earthworks & pavement construction
- Drainage (within SP 1)
- AGL (within SP 1)

Further mitigation measures are contained in the QMP & CCEMP sub-plans.
The detailed design for SP 2 (Runway) is not yet complete and the CESMP (including sections 8 & 9) will be updated for inclusion in the SP 2 Design Submission.

10 Social Impacts

The PESMP identifies a number of possible social implications arising from the Project. They include;

10.1 Occupational Health & Safety

Downer's intended management of this is detailed in the Occupational Health & Safety Management sub-plan (OHSMP or more simply Safety Management Plan - SMP). The SMP will be administered and maintained by the Occupational Health & Safety Manager (aka Health & Safety Manager).

The BoQ provides a Provisional Sum to fund a range of health and safety costs as well as those for several related matters. These include:

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

Downer is AS/NZS 4801:2001 Health & Safety Accredited and details of how Downer will address the OHS requirements for the Project and implement the required process and procedures are given in the Safety Management Plan (aka Occupational Health & Safety Management Plan) – provided as a separate document.

10.2 HIV/AIDS, Gender Based Violence, and Child Abuse and Exploitation

Mandatory training sessions for all employees (including managers) to reinforce their awareness and understanding of HIV/AIDS GBV & CAE issues will be held before commencing major work. There will be refresher training at two monthly intervals as

the Project progresses. The format of the refresher has yet to be fully determined (toolbox talk and external provider alternating two monthly intervals is one possibly).

Managers will 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 and procedures followed 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 civil works, including monitoring and reporting.

Some community outreach, based on 'Zone of Influence" and radius from Faleolo , will also be undertaken. Details yet to be finalised.

10.2.1 HIV-AIDS Prevention

This training will be provided by the Samoa Family Health Association. It is expected that the training preparation, delivery and attendance costs will be met by one of the PS items in the BoQ.

10.2.2 GBV/CAE Awareness

This training will be provided by the Ministry of Women. It is expected that the training preparation, delivery and attendance costs will be met by one of the PS items in the BoQ.

10.3 Community Health & Safety

Communities may be impacted by either or both of the following broad divisions of potential Project effects;

10.3.1 Work Activities

Consideration needs to be given to the possibility that, in addition to their effect on immediate neighbours, certain Project work activities may affect communities that are some distance from where the work is being carried out. The effects to be considered include;

- Traffic
- Noise
- Dust

Initial consultation to ascertain community concerns on these issues has been undertaken. The general community concerns to these impacts and the mitigation measures proposed are given in Appendix 3 – Mitigation Measures.

These mitigation measures are also reflected in specific management plans that form the suite of CESMP documents (ie QMP, TMP, WMP, EMP for the Contractors Camp and Laydown area).

Further consultation with communities will continue throughout the length of the project to ensure that impacts are managed and minimised.

10.3.2 **Personnel Issues**

To raise awareness of the issues that could arise with Project personnel in the community, as well as facilitate adherence to the required behaviour standards, all personnel working on the Project will sign the following Codes of Conduct (CoC);

- Individual Gender Based Violence CoC
- Individual Child Abuse & Exploitation CoC
- Environmental, Social, Health & Safety CoC
- Downer Corporate CoC

Copies of these are provided in App 11.

These CoCs are linked to each employees Employment Contract which means that concerns and/or infringements can be addressed in the employment situation. This will not override notification to relevant authorities and the course of law.

The Project Manager will also have a position specific GBV/CAR CoC to sign.

All Project personnel will be subject to Samoan employment law. No children under the age of 18 will be employed on construction work or in a physically demanding role.

10.4 Labour Influx

It is anticipated that the peak Project workforce will approximately comprise;

Location	Expatriate	Local
Quarry	5	12
Airport	24	55
Approx. Total	30	70

Downer do not intend to establish an accommodation camp for workers and plan to accommodate expatriate personnel in existing hotel/motel type accommodation in reasonable proximity to the airport.

Local personnel are expected to reside in their normal accommodation. To mitigate against accommodation pressure in the immediate Faleolo area worker transport assistance may be given for the Apia – Faleolo corridor.

10.4.1 **Expatriate Labour**

Project staff recruited from overseas will require an appropriate visa. The visa application process requires a medical report. In addition overseas staff will undergo a cultural familiarisation as part of their Project induction training.

The familiarisation induction will be delivered by an approved service provider selected from a list provided by the Engineer.

10.4.2 Samoan Labour

Local workers will be engaged through a formal Employment Contract.

To avoid internal opportunist migration, the employment of casual labour through ad hoc process on site will be avoided.

10.5 General Social Impact Mitigation

It is intended to provide regular information on the progress of the Project and inform adjacent communities and the general public of forthcoming works. This will be done by media releases to local press and radio, and well as in person consultation and leaflet drops in relevant communities.

Regular community meetings and consultation will take place over the length of the project to inform and ensure impacts and nuisance and minimised and managed.

A variety of modern construction plant is available in Samoa and suitable items, such as hydraulic excavators, trucks and loaders will be engaged on plant hire or a subcontract basis in the course of the work. Fuel will be supplied by local firm PPS and security contractors will be engaged locally as required.

11 Induction(s) and Training

Within this CESMP document a number of topics have been identified for inclusion in an "induction". They include;

- Environmental Issues & Mitigations
- GBV/CAE
- HIV/AIDS
- Application of Codes of Conduct to Employment
- Cultural Familiarisation
- Hazard Identification & Control
- Manager & Worker Responsibilities
- Recommended Reponses to Potential Emergencies (Spills, Fire etc)
- First Aid/Emergency Services
- Audits, Inspections & Reports
- Etc

All the training and induction is indicated to take at least two days. To ensure the induction session is effective careful attention will need to be paid to the capacity of the inductees to cope with and understand the material presented. To foster engagement of the attendees and their retention of the information provided it is suggested that the material be broken up into a series of presentations (max length half a day).

It is expected that induction/training preparation, delivery and attendance costs will be meet by the relevant PS items in the BoQ.

A record will be kept of Inductions held and the personnel attending.

12 Consultation & Stakeholder Engagement

The last round of community consultation was conducted in 2013 and an update as the Project ramps up is clearly indicated. Consultation and stakeholder activities will be conducted in accordance with the provisions of COEP 3.
Further public consultation will take place prior to works commencing.

To foster two-way communication, Downer intends to have a community contact in each defined community who can pass back concerns or alert Downer to "developments".

12.1 Groups Identified for Consultation

Suggested groups to consult with and generally inform about the broad detail as well as the appropriate specific detail of the Project are;

- Adjacent villages/communities
- Adjacent businesses (especially nearby accommodation/tourist ventures)
- Olo quarry
    - STEC Managers
    - Communities with hearing distance of the Olo site (blasting)
- Olo quarry haul route
    - STEC Managers
    - STEC farm workers
    - Other access route users
    - NB route does not pass any schools, hospitals, churches or closely settled communities
- SAA staff
- Other airport workers
- GoS agencies (LTA, MWTI, MNRE etc etc)

All consultations will be documented as follows:

- Manner in which notification of the consultation was announced: media(s) used, date(s), description or copy of the announcement.
- Date(s) and location(s) consultation(s) was (were) held.
- Invitation and attendance lists. (Name, Organization or Occupation, Telephone/Fax/e-mail number/address (home and/or office).
- Meeting agenda/ program/ schedule including list of presenters and discussion topics.
- Summary meeting minutes (comments, questions and response by presenters), actions and decisions.
- Manner in which the results of the consultation were communicated to attendees.

12.1.1 Consultation: Identified Receptors, Key Points & Programme

Consultation with residents in the STEC houses along the quarry access route and representatives of the Mulifanua community have been undertaken. The consultation programme and key issues are given in the following table.
As the issues very predominantly related to Olo Quarry the details of the consultation feedback are contained in a revision of the Olo QMP.

Faleolo Airport: Outline Consultation Programme: Olo Quarry & Access Route Phase

Project Activity	Receptor/Target Group(s)	Key Messages	Contact Method	Time/Place
Quarry Specifically commencement of extraction work	Nearby Communities espec Mulifanua Residents in STEC houses	Blasting warning system Noise/dust mitigation Water bore protection Planned rehabilitation GRM	Meeting in community. Contact via Village Council Residents meeting at a convenient location along access route.	Mid March Parallel information provided to churches for noticeboard etc
Aggregate haulage Specifically commencement of access route upgrade works and commencement of aggregate haulage	Residents in STEC houses Nearby Communities espec Mulifanua Main Coast Road users	Route to be used. Upgrade, monitoring & maintenance TMP provisions Traffic speed, truck loading, noise, dust, GRM	Residents meeting at a convenient location along access route. Contact via STEC Meeting in community Contact via Info to LTA, media	In parallel with Quarry above, or standalone late March Also provide info to churches Late April
Contractor's compound development & asphalt plant assembly	Airport personnel, SCG, Main Coast Road users	Location & purpose Worker safety & environmental protection	Airport noticeboards General media Community notices Info to LTA, media	Early April
Commence airside construction work/asphalt trials	Airport personnel, SCG	Programme & scope	Airport noticeboards & general media	Mid May

With further material to be added as project planning develops

12.2 Providing Information to Wider Communities

A Project Information Brochure (PIB) will be prepared containing information on Project; scope, programme, contact details, the GRM and the information available on the GRM web site.

The assistance of SAA PST/Supervision Engineer in translating the text into Samoan will be sought. Contact will be established with local press and radio outlets so that information can be disseminated through a variety of channels.

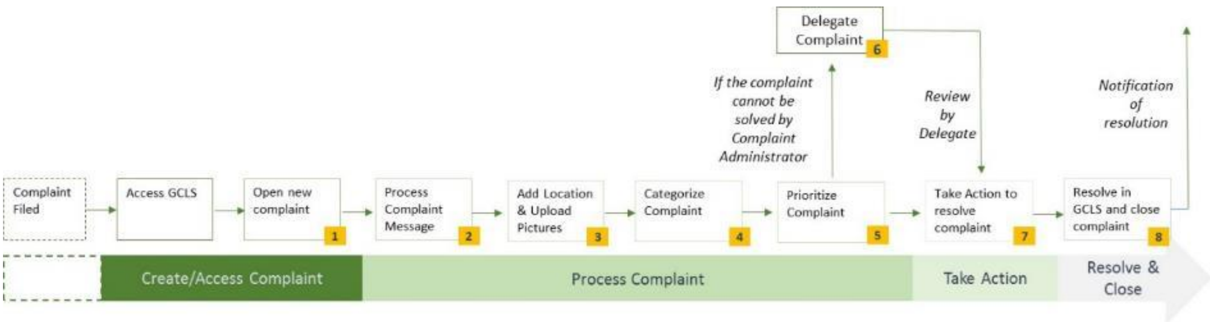
Key milestone dates such as commencement of quarry operations and use of the quarry haul route will be given advance publicity. This will be done by way of newspaper public notice, press or radio article, leaflet drop (small areas), information to community leaders/pastors etc for passing on. Site signage including on public roads around the sites (eg warnings to road users of blasting, heavy vehicles etc).

A sign at the gate to the Contractors Compound and entrance to the quarry will advise Contractor and Project contact details, and outline how the GRM works. The sign will also provide relevant warning and site activity information.

13 Grievance Redress Mechanism (GRM)

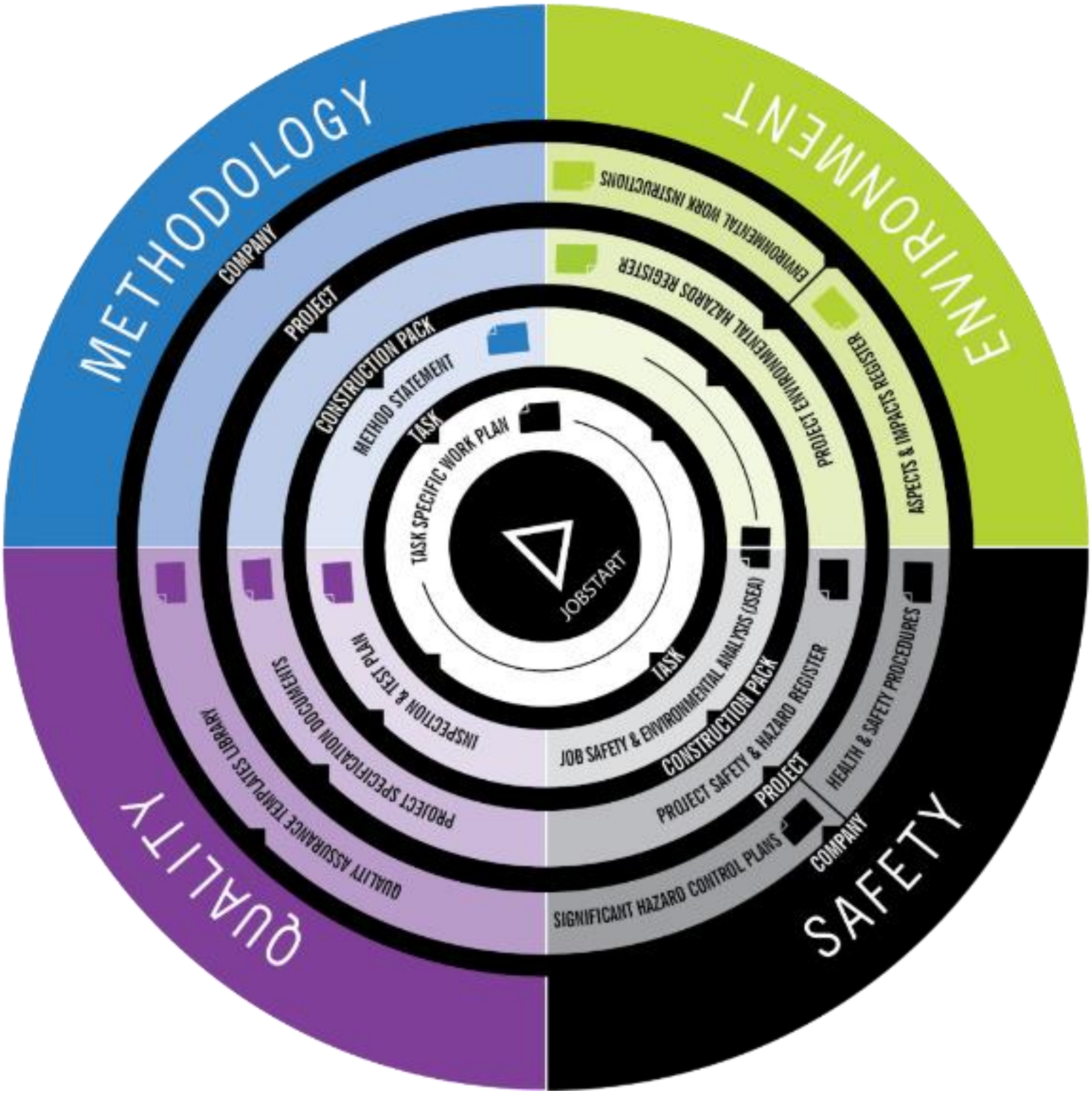
This offers remedies appropriate to the scale of grievance. The existence of the GRM and information on how it can be accessed and how it works will be included in any consultation undertaken by Downer and in the Project Information Brochure (PIB). Issues may be logged with the SAA PST, Contractors and/or Employers Engineer by telephone, e-mail, project web site or letter. The database itself will be maintained by SAA PST.

All issues must be acknowledged within 24 hours and are addressed in the following manner.



14 Integrated Planning for Safety, Quality and Environmental Protection

Downer operates an Integrated Management System conforming to AS/NZS ISO 9001:2008, AS/NZS ISO 14001:2004 and AS/NZS 4810:2001 (being the respective Quality, Environment and Health & Safety standards). The integrated process of planning for safety, quality and environmental protection is described below. This is outlined here with the environmental planning aspects of this process discussed in more detail in later sections.



14.1 Construction Packaging

The construction work will be broken down into logical packages to allow for airside operations, efficient delivery and management. Every aspect of the project is to be covered by an internally approved Construction Package prior to the relevant site work starting.

This Construction Packaging will be reviewed and augmented periodically to ensure adequate coverage for upcoming activities and adequate "look ahead" to provide time for planning without delay to physical progress.

A Method Statement will be created for each Construction Package.

14.2 Method Statement

Method Statements detailing how a particular Construction Package will be executed in accordance with the drawings and specification to meet quality, budget and programme requirements whist mitigating safety and environmental hazards will be developed by the following process;

A Construction Package with a Draft Method Statement is created using the following sequence

1. The Construction sequence is described as a detailed list of steps.
2. Compulsory inspection and testing tasks are added.
3. Risks to product quality are identified, assessed and any resulting additional Inspection and Testing tasks are added.
4. Environmental Hazards are identified, assessed and controls added.
5. Health and Safety Hazards are identified, assessed and controls added

The Draft Method Statement is then reviewed in full by a workshop process including;

- Construction Methodology check
- Quality Assurance Activities check
- Environmental Hazard Analysis and Control Plan check
- Health and Safety Hazard Analysis and Control Plan check

Revisions to the Draft Method Statement to produce a Preliminary Methos Statement will be agreed at the conclusion of the workshop.

After appropriate training, checking and review the Method Statement will be approved for use.

14.3 Job START Briefing

Prior to the start of each shift each crew will be given a Job Start Briefing that will cover all Construction Packages that are relevant to the audience. The Approved Method Statement(s) will be used as the reference information for that briefing.

The briefing will include discussion of safety, quality and environmental protection aspects of the activities to be undertaken in that shift.

- Team members will have the opportunity to improve the hazard control elements of the plan
- All team members will sign on to the Job Start plan before they commence work.
- the work will then be performed in accordance with the Job Start Briefing, and the Approved Method Statement

The Job START Briefing will be held immediately prior to work being undertaken as another opportunity to recognise discrepancies between the plan and the reality on the day. The Job Safety Analysis (JSA) process undertaken at this time will adapt the plan for minor changes. However if the discrepancies are significant this may lead to the Construction Package being placed on hold until the Method Statement can be revised to better reflect the hazards present.

14.4 Supervision

The Site Supervisor will regularly monitor the work of staff to make sure the works are being performed in keeping with the Approved Method Statement. This monitoring is independent of the formal site safety inspection programme.

14.5 Toolbox Talks

Weekly Toolbox talks will be undertaken with the workforce. These are intend to inform workgroups safety matters. Some of these talks will be focused on specific environmental topics. This topic may be selected to allow the entire environmental system on site to be progressively covered over a series of meeting or may be selected in response to the results of site safety monitoring identifying a short-fall in behaviour. The topic may also be selected to focus on hazard management particularly relevant to upcoming work.

The talk will be attended by all available personnel and a record kept of the topics discussed and attendance.

14.6 Meetings

Meetings are held at various levels within this contract at which the topic of environmental management will always be included on the agenda.

Monthly meetings and weekly Toolbox Talks will be routinely scheduled. Both will include discussion of environmental matters arising in the course of the contract.

In addition Job Start Briefing will include discussion of environmental management.

All meetings are a healthy forum where feedback on hazards, incidents, concerns and good ideas are discussed, debated and appropriate actions determined.

14.7 Hazard Identification, Risk Rating & Control

The Job START form is used to manage both safety and environmental hazards. All hazards identified (whether advised by the Employer or determined by the Contractor – eg see Environmental Hazard Register in Section 3.4 above) are listed, the risk of each established and control actions prioritised and allocated. An example is given in App 4.

Immediate environmental concerns are to be dealt with as a matter of priority commensurate with the hazard posed.

14.8 Non-conformance and Opportunity for Improvement

In accordance with our Environment Accreditation Downer has procedures for; defining environmental responsibility and authority for handling and investigating non-conformance, taking action to mitigate any harms caused, and for initiating and completing corrective and preventative action

The systems used are:

- *EMSR1* Environmental Incident Reporting and Investigation Procedure
- *SPM06* Controlling Non-conformance
- *SPM07* Taking Corrective Action
- *ST05* NCR/OFI Form
- *ST06* NCR Flowchart

Any corrective or preventative action taken to eliminate the causes of actual and potential non-conformance shall be appropriate to the magnitude of problems and commensurate with the environmental harm encountered.

A concern/request shall be noted on an Event Report Pad. Where the concern/ request is raised verbally the receiving supervisor or manager must translate this in to an event report. Examples of the NCR/OFI form is given in App 12.

Once a concern/ request has been raised (and if the problem has not been dealt with immediately) the NCR/OFI management process must consider the concern/ request in a timely manner. The person raising the request is to be given a written response to his/her concern/ request detailing the actions taken or intended; including any reasons for not carrying out their requested action.

The Project Manager is responsible to ensure assessment and follow-up reviews on the effectiveness of corrective and preventive actions taken are carried out and the outcomes documented, communicated and implemented.

15 Implementing Environmental Hazard Mitigation Measures on Site

Having identified the Project's environmental hazards/impacts and determined the appropriate mitigation measures to control them, the next step is to implement the Mitigation Measures. The following sections detail how this will be done on site.

15.1 Environmental Site Representative

Downer's initial Environmental Representative is the Safeguards Specialist. As site activities ramp up other appointments will be made.

The Environmental Representatives will:

- Advise measures to be taken in the interest of Environmental management.
- Inspect sites to identify hazards and report the findings with recommendations for minimisation, isolation or elimination.
- Have autonomy to intervene if environmental hazards are not being properly addressed
- Investigate environmental incidents & report with recommendations for prevention.
- Supervise and monitor implementation of this Plan.
- Carry out random site inspections and report to the Project Manager.
- Assist employees in completing Environmental incident reports.

The ESRs details will be shown on the site OH&S noticeboard.

If appropriate to the work being undertaken, the Project Manager may appoint additional Environmental Site Representatives from the Subcontractor workforce.

15.2 Site Environmental Inspections

As stated in Section 6.1 environmental inspections will be undertaken using the SCA system. This will focus on the proper functioning of the site systems for hazard management and site emergency procedures.

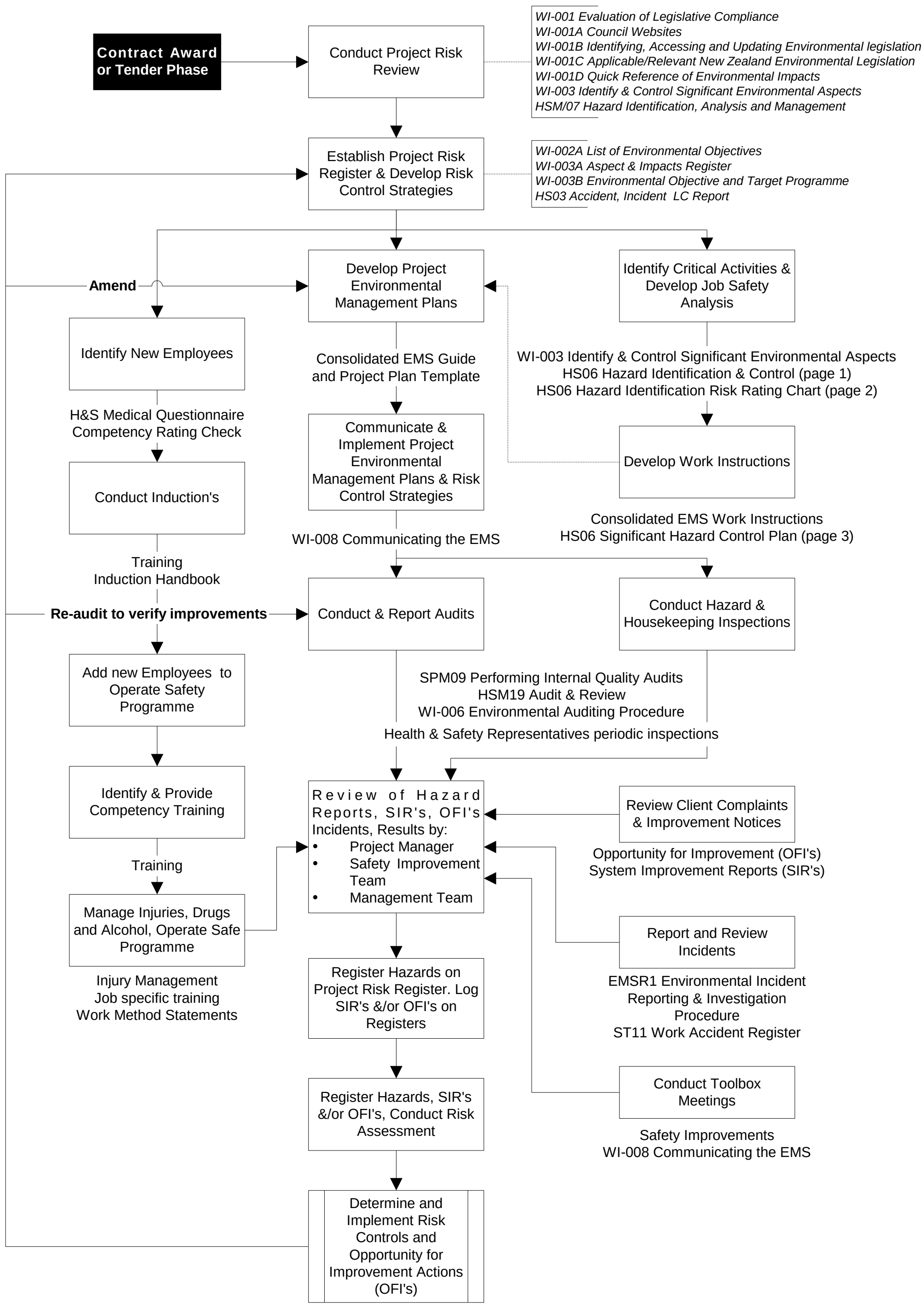
Downer inspections will include coverage of Subcontractor Activities.

15.3 Environmental Training

All people involved with the project should receive relevant environmental training to ensure they understand their responsibilities when implementing the CESMP.

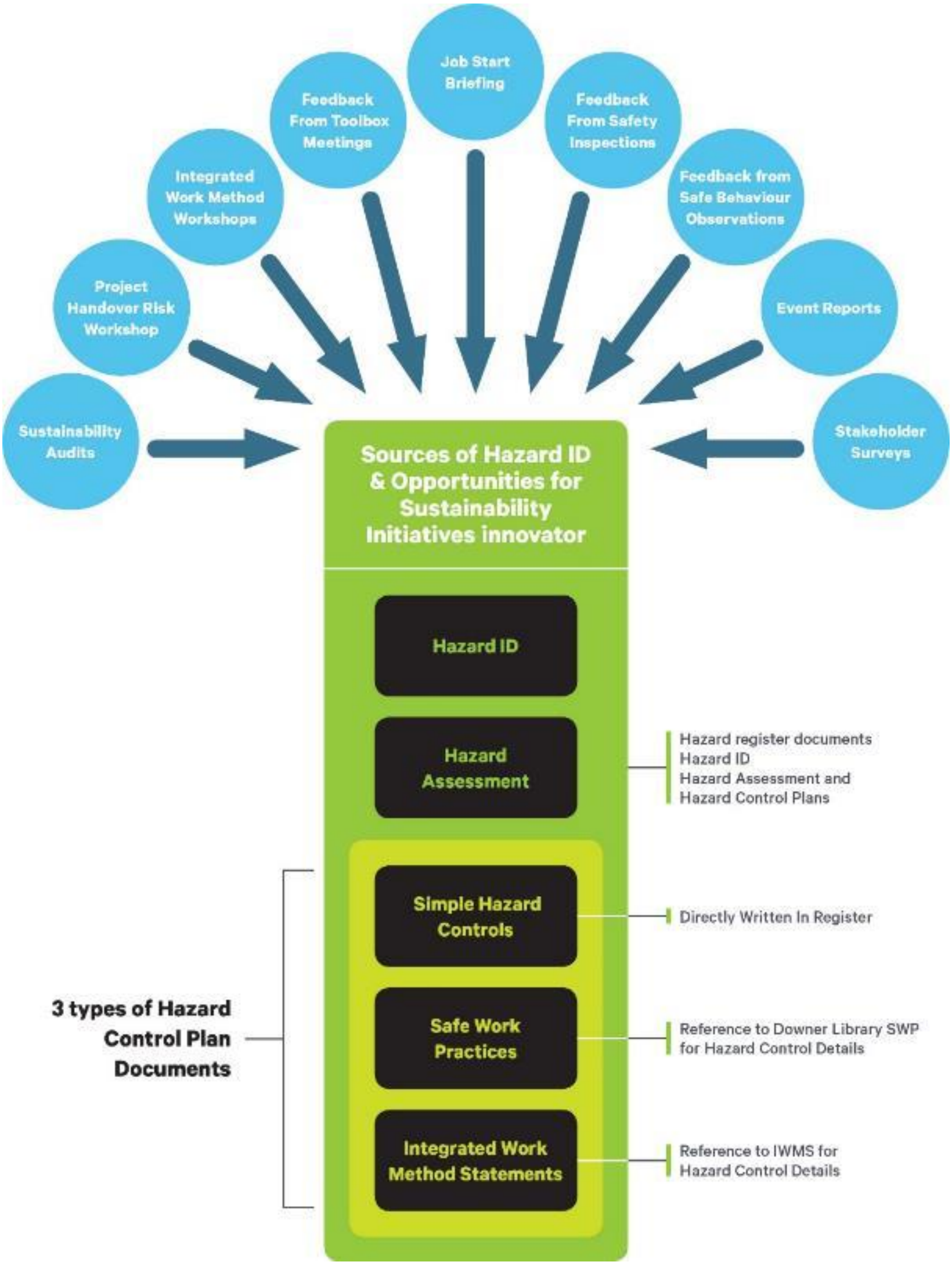
People to be trained include those at the site/s of all project activities and operations, including contractors, subcontractors and visitors. The training will be tailored to the role of the individual in the Project.

Below: The Integrated Management System applied to Environmental Management.



15.4 Identification of Environmental Aspects and Impacts

The diagram below describes the Hazard Management Process. The majority of this process is embedded in the integrated process for planning Safety, Quality and Environmental Protection, explained in an earlier section. Those elements are not discussed again here, whereas elements unique to Environmental Planning are explained below.



- Prior to contract commencement the information gained from the tender documentation and the Project Handover Risk Workshop will be used to establish an initial Environmental Hazard (Aspects and Impacts) Register. The first draft of this document is provided by the Table in Section 3.4 above. This register will be expanded as the Project develops and will list all identified environmental hazards, assessing their relative significance and nominating task specific or site-wide hazard controls.

- A Method Statement will then be prepared for each Construction Package and shall include a specific environmental hazard analysis to identify and manage further hazards. The Environmental Hazard (Aspects and Impacts) Register will be revised as needed.

- Prior to each shift the Job Start Briefing process will include a Job Environmental Analysis which may identify further hazards and controls. The Environmental Hazard Register will be revised as needed.
- Every person working on the site will be told in the site induction to report new environmental hazards to their manager as soon as possible. These new hazards will be tracked through the event reporting system and if significant through the NCR/OFI system.

In these ways the Environmental Hazard Register will become the master reference point for the further Method Statement creation and Job Start Briefings.

All aspects of the project which have been identified as having potential to cause significant environmental harm will have detailed hazard control actions included in the related method statements.

The key elements of the Hazard Register will be displayed on the Site Hazard Board to assist with visitor briefings and the Job Start briefing process.

15.5 Erosion and Sediment Control Plan (ESCP)

Where required an Erosion and Sediment Control Plan will be prepared by a suitably experienced person to detail the measures intended to mitigate the effects of runoff from disturbed ground etc. The Erosion and Sediment Controls layout drawing(s) will be kept on site, and any necessary actions will be covered in the Daily Job Start briefing process.

The ESCP is the heart of the Mitigation Measures intended for earthworks, quarry extraction operations and to mitigate the location of site facilities such as offices and the asphalt plant. The ESCP for the quarry is contained in the QMP and the EMP for the Contractor’s Compound and Asphalt Plant.

15.6 Hazard Control Plan Guidance

Downer has resources available to assist with development of control plans for commonly encountered Environmental Hazards such as;

- Erosion and Sediment
- Hazardous Substances

Resources for commonly encountered requirements in relation to these hazards are available in the “Green Pages” – see example in App 13 or Significant Hazard Control Plans – see App 14.

16 Personnel

16.1 Site Environmental Induction

The Site Environmental Induction will include the following content to ensure the workforce is aware of the Site Environmental Management system and can fulfil their responsibilities;

Site specific induction topics will include:

- Role and contents of the CESMP
- Downer Environmental Policy
- Environmental Aspects (Hazards) and Controls
- Job Start Procedure
- Environmental Emergency Equipment Location
- Accident/ incident/ spill reporting and procedures

All personnel, including subcontractors, will attend the induction prior to commencing work on this contract.

A signed induction/training register will be kept in the site office.

16.2 Training and Competency

Suitable induction training and ongoing programmes of Environmental training will be maintained to ensure the affected employees and subcontractors are aware of:

- The importance of conformance with the environmental policy and procedures and with the requirements of the CESMP and company procedures.
- The significant environmental hazards, actual or potential, of their work activities and the environmental benefits of improved personal performance
- Their roles and responsibilities in achieving conformance with the environmental policy, company procedures and this CESMP.
- The potential consequences of departure from specified operating procedures.

The competency of staff is to be assessed based on training records, and known track record. Any need for training is to be identified by the Site Supervisor at the point they approve each Construction Package Method Statement and needs fulfilled prior to the work being undertaken, or alternative staff/resources employed.

- A competency records will be maintained.
- Subcontractors will also be required to provide evidence of competency. Where a sub-contractor cannot supply formal evidence of competency related to significant environmental hazards, then onsite training will be carried against either established work instructions or in the absence of these, established Significant Hazard Control Plans.
- Supervisors will undertake reviews of all personnel, in the event where it is believed a person(s) require additional training to perform a task they will be supervised until they are signed off (on competency register) as being fully competent. Or their role will be modified to a position of suitable competence.

16.3 Staff Disciplinary Procedures

Disciplinary procedures are outlined in the Company's policy and procedure manuals. These are adopted for use on this contract.

Any employee or sub-contractor who commits a serious breach of Development Consents and Permits including the CESMP requirements may be liable to summary dismissal/cancellation of contract and Downer will pursue the subcontractor for losses incurred as a result of the breach(s).

16.4 Staff Recognition

Exemplary safety or environmental behaviour will be regularly recognised at both a site-wide and individual level. Nominees for individual recognition will be sought from the workforce and management team.

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17 Materials

17.1 Hazardous Materials

At the time of ordering, Safety Data Sheets shall be sought from all suppliers for purchases of all hazardous substances, this is to ascertain special precautions that are necessary for the use of those items, including any exposure monitoring requirements.

All proposed purchases of hazardous substances shall be approved by a suitably qualified employee prior to purchase. Equipment and spillage management materials shall be available prior to delivery of the hazardous material.

Any required environmental mitigation measures such as bunds, spill kits, secure or hazardous goods storage etc should be in place, "prior to use or operation" of any plant, equipment, materials and chemical substances requiring such measures.

Hazardous materials shall be stored appropriately to ensure compliance with applicable legislation and the manufacturer's recommendations. Disposal of any hazardous materials shall be in accordance with the Waste Management Sub-plan of the CESMP.

17.2 Hazardous Substances and Waste Management

Any dangerous and hazardous substances stored on site will be listed in the Hazardous Substances Register (with details of the hazard classes and approximate volumes stored) – see App 15.

Any waste produced from site activities will be handled and disposed of in accordance with the Waste Management Plan.

18 Subcontractor Controls

Prior to engaging Subcontractors they will supply previous Environmental records, and their current environmental systems will be reviewed to establish reasonable grounds to believe they are competent. In addition all subcontractors will be contractually bound to comply with all Downer site environmental requirements including the Job Start Briefing process.

Prior to commencing work on site, Sub-contractors will be required to provide a register identifying staff competency levels and training received.

Sub-contractors will be inducted onto site, notified of the known environmental aspects on site, the emergency procedures and site environmental plans. They will be responsible for doing the same to their subcontractors and labour hire personnel. Site

Management, HSR`s and employees all share responsibility for monitoring the environmental awareness practices of our subcontractors.

Subcontractor work is included in site environmental inspection activities.

Appendix 1: AS/NZS ISO 14001:2004 Accreditation

Telarc.
The Mark of Success

This is to certify that

Downer New Zealand Limited

130 Kerrs Road Wiri Auckland

having been assessed by Telarc SAI Limited and having been found to operate a management system conforming to

AS/NZS ISO 14001:2004

is hereby designated

Telarc Registered NO. 86

for the following goods and services

The operation of an environmental management system to control the aspects and impacts associated with the Design, Construction, Maintenance, Operation and Asset Management of infrastructure through four operational communities (Infrastructure Services, Technology Solutions, Projects and Products) across various locations throughout New Zealand, where infrastructure covers:

- Transport Infrastructure (Includes: Road/Rail/Ports/Airports)
- Utilities Infrastructure (Includes: Power/Gas/Water/Telecommunications)
- Parks and Reserves (Includes: Open Space Management)
- Buildings (Includes Structures and associated Facilities)
- Building Materials Manufacture (Bitumen, Aggregate and Asphalt)

Certificate Issued:	8 September 2016	Original Registration:	2 December 2004
Current Registration:	8 September 2016	Expiry Date:	14 September 2018

Chairperson
David Done

Chief Executive
Philip Cryer

Telarc. Registered
Environment ISO 14001

JAS-ANZ

IAF
MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

Registered by Telarc SAI Limited [illegible] and subject to the Telarc SAI Limited Terms and Conditions for Certification. [illegible] JAS-ANZ register at [illegible]. The certificate and its associated schedules remain the property of Telarc SAI Limited and must be returned if registration is withdrawn.

Telarc.
The Mark of Success

This is to certify that

Downer New Zealand Limited

130 Kerrs Road Wiri Auckland

having been assessed by Telarc SAI Limited and having been found to operate an integrated management system conforming to

AS/NZS ISO 9001:2008, AS/NZS ISO 14001: 2004, and AS/NZS 4801: 2001
is hereby designated

Telarc Registered

Quality No. 1773
Environment No. 86
Health & Safety No. 46

for the goods and services detailed on the schedule to this certificate.

Certificate Issued:	12 September 2016	Original Registration:	15 May 2006
Current Registration:	8 September 2016	Expiry Date:	14 September 2018

Chairperson
David Bone

Chief Executive
Philip Cryer

Telarc. Registered — Health & Safety AS/NZS 4801
Telarc. Registered — Quality ISO 9001
Telarc. Registered — Environment ISO 14001
JAS-ANZ

Registered by Telarc SAI Limited [illegible]

Appendix 2: Downer Environmental Sustainability Policy

ENVIRONMENTAL SUSTAINABILITY POLICY

Downer is a leading provider of services to customers in global markets including Transportation, Mining, Energy and Industrial Engineering, Utilities, Communications and Facilities.

Our goal is to...

- minimise the short and long term impact of our activities on the environment and local communities through responsible environmental sustainable management within design, planning, delivery, construction, manufacturing and operation;
- promote a positive culture through implementing initiatives that foster sustainable innovation; and
- optimise our products and services to relentlessly improve our environmental sustainability performance and improve the sustainable use of natural resources.

Our commitment is to...

- comply with relevant environmental legislation, and appropriate industry guidelines, standards and requirements specified by our customers and regulatory agencies;
- strive for and implement responsible work practices that minimise the impact on local communities;
- implement and maintain the environmental management system in accordance with the International Standard AS/NZS ISO 14001 and integrate the requirements throughout the overarching operational systems;
- establish, monitor and review environmental sustainability objectives and targets to achieve continual improvement of our environmental sustainability performance;
- implement effective controls to identify, evaluate and mitigate adverse environmental risk of our work activities;
- take all practical steps to prevent pollution and protect biodiversity and ecosystems;
- drive innovation to address climate change mitigation and adaptation through reducing our energy and greenhouse gas emissions intensity;
- procure goods and services to minimise environmental risk and maximise environmental sustainable opportunities and benefits for the total life cycle;
- evaluate the performance, effectiveness and compliance of our environmental management systems through regular audits and reviews;
- provide ongoing education, training and encouragement to our workforce, contractors and suppliers in understanding their responsibilities for the implementation of environmental sustainability principles and practices; and
- communicate this policy and make it publically available.

Grant Fenn CEO and Managing Director	**Steve Killeen** CEO New Zealand	**Sergio Cinerari** CEO Infrastructure Services
David Overall CEO Mining	**Brendan Petersen** CEO Engineering, Construction & Maintenance	**Michael Miller** CEO Rail

Downer EDI Limited
ABN 97 003 872 848

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Appendix 3: Mitigation Measures

Issue 1 – 14 Feb 18

Environmental Management Implementation Plan [Contractors Environmental Work Plan]

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
DETAILED DESIGN/ PRE-CONSTRUCTION MOBILISATION STAGE					
Road traffic safety [From port to airport (delivery of equipment/ materials) To and from the construction lay down area and the quarries]	The bid documents will require a Traffic Management Plan (TMP) to be developed by Contractor, to include signage, flag operators, personnel protective equipment (e.g. high visibility vest), and specific actions (e.g. regulating working hours for haul trucks, installation of speed bumps and prohibition of engine braking) to be implemented around sensitive receptors (e.g. residential dwellings, schools, hospital). TMP to include vehicle and pedestrian traffic. Include transport of materials and equipment to construction lay down area (likely to be located at the airport) in the TMP e.g. covering of loads, maximum speed, designated travel times and notification of police and other required departments (e.g. hospital and schools).	Safeguards Specialist	SCA Weekly	Traffic Management Plan	Samoa Airport Authority Project Support Team (SAA PST)
Aviation traffic safety [Operational airports]	Each investment within an operational airport is to have a Methods of Works Plan (MOWP) which is to be included in all bid and contract documents. The Contractors are to develop a Safety Management Plan as an addendum to the MOWP. The MOWP will include details of site works scheduling around known flight timetables and procedures for emergency response for all workers.	Design Consultant & Construction Manager Physical Works		Method of Works Plan (MOWP)	SAA PST
Soil erosion	Minimize erosion and design erosion protection measures according to international good practice standards, including	Safeguards Specialist	SCA Weekly	CESMP	SAA PST

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	incorporation of effective drainage systems (soakage pits) and consideration of surface flow paths. Wherever feasible, schedule excavation works for the dry season months (May to October) Develop Contingency Plan for works to allow for anticipated construction start date during the wet season. Contingency Plan must detail soil erosion prevention measures in event of storm or heavy rain event. Works should be in accordance with Codes of Environmental Practice (COEP) 11 and 13, and the conditions of any Development Consents granted during the course of the work.	with Design Consultant & Construction Manager	After major weather events		SAA PST SAA PST/PUMA
Dust / Odours / Air Pollution	Identify and locate waste disposal sites, stockpile sites and equipment (e.g. asphalt plant) at least 300 to 500 m downwind of any settlements or inhabited areas and 150 m away from any water bodies, streams or rivers, to minimize impacts on the environment and nearby population. The CESMP should include a provision for quarry dust control; all equipment including crushers, aggregate processors, generators etc. should / if possible, be located in the quarry pit to minimize dust emissions. Works should be in compliance with COEP 8.	Safeguards Specialist & Quarry Manager & Construction Manager	SCA Weekly or Quarry Weekly Inspection If at quarry site	CESMP & Quarry Management Plan	Employer's Engineer / PUMA

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	Ensure all equipment is serviced and issued with warrant of fitness (as required). Any machinery deemed to be polluting the air must be replaced (or fixed) on instruction by the Employer's Engineer and/or the PUMA.				
Water and soil pollution	Soakage pits should not be installed directly into a shallow aquifer. Minimise risk to groundwater and surrounding soil by developing a spill response plan and provide training to all contract workers on how to implement the spill response plan. Precautions should be in place to prevent wastewater and hazardous substances or materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), Ensure bunded areas and hard stands are allocated at construction lay down areas for the storage of fuel, lubricants and other potential substances required for the project. Water tight bunds to be able to contain 110% of volumes being stored or 25% if total volume greater than 1,000 L. Ensure wash down areas with respective collection and treatment systems are designated within the contractor's compound and quarry (e.g. settling pond or tank and concrete slurry treatment) prior to works commencing. Sanitation treatment system (e.g. removal of waste to landfill, compost or proprietary treatment system) is approved by the Employer's Engineer prior to implementation.	Design Consultants Contractor	SCA Weekly or Quarry Weekly Inspection If at quarry site	CESMP & Quarry Management Plan	SAA PST Employer's Engineer

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	Employer's Engineer to undertake groundwater monitoring prior to any site establishment or construction activities at bores within 100 m of APW (to be coordinated with SWA and bore owner) to determine base line conditions. Measure depth to groundwater and analyse samples for concentrations of pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with SWA or DC conditions.	Employer's Engineer Contractor [Bores near Olo Quarry]	Sample Prior to Work Start Sample Prior to Work Start	PSEMP Quarry Management Plan	SAA PST / SWA
Water supply	The Contractors will ensure adequate supply of water for construction and personnel which does not adversely affect local community's water supply.	Construction Manager		Commercial Supply Agreement with SWA	Employer's Engineer & SWA
Sourcing aggregate material	Ensure aggregate is sourced from approved/ permitted quarry sources and are operating in accordance with Samoa law. Prior to any quarries being selected for the SAIP project, public consultation will be completed with any affected parties relating to new or re-opened quarry sites. Should it be identified that a new quarry site will be required for the SAIP project, the requirements of the World Bank Involuntary Resettlement Operational Policy (OP 4.12) will need to be implemented. Under Samoan law a Development Consent is required prior to the commencement of any new quarry enterprise. Consenting requirements will need Contractors to include provision for quarry specific plans including environmental management, health and safety and rehabilitation. All quarry	Project Manager & Safeguards Specialist	Quarry Weekly Inspection	Quarry Management Plan	Employer's Engineer & PUMA /MNRE

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	development and operations must be in compliance with COEP 8				
Solid waste generation	Solid waste includes: • General waste (i.e. office type waste, household waste (from any workers camps), lightweight packaging materials). • Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled). • Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste). • Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled). • Hazardous waste (i.e. asbestos, waste oil etc.) The Contractor will develop a Solid Waste Management Plan (SWMP) to be submitted as part of the CESMP for clearance by the WB. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. The SWMP should, as a minimum make provisions for the following: • Describe the solid waste streams generated by the works along with estimated quantities. • Develop a plan for safe storage and handling of waste stored on the project site as per the stipulations in this PESMP.	Safeguards Specialist	Weekly SCA	Solid Waste Management Plan	Employer's Engineer

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	• Identify approved service providers for collection and disposal of waste and stipulate conditions of carriage. • Detail the approved disposal methods along with appropriate permissions. • General waste and septic waste water can be disposed of at Tafaigata Landfill, subject to MNRE SWM Department approval. • Contractor shall determine whether any quantities of hazardous waste materials generated by the project are suitable to be handled at the Tafaigata incinerator and obtain any permissions necessary. • Contractor shall determine an MNRE approved site for the disposal of organic biodegradable waste in a suitable facility which is equipped to safely handle this type of waste. • Recyclable waste may be supplied to a local receiver licensed to process such waste. • Contractor to identify shipping route and licensed disposal facilities for all exported waste. • Contractor to identify any export permits or conditions for export of waste. • Identify those persons responsible for implementing and monitoring the SWMP. All other waste is to be disposed of OFFSHORE in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant				

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	laws. Evidence will need to be supplied to the Employer's Engineer of proper disposal of waste at the final location. The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries. Disused material will be generated (from the temporary repair works, the final pavement works, and potentially from the civil works for airfield lighting and NAVAIDS) in the form of asphalt millings concrete rubble and surplus materials from excavations. Most of the clean fill material can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and basecourse material) for general use by SAA or PWD and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the Ministry of Works, Transport and Infrastructure (MWTI) to be stored for future use by the Ministry. This location shall also be subject to approval by the Employer's Engineer. These materials shall be removed from the site area and safely disposed of in compliance with any local requirements at the Employer's nominated disposal site(s) and/or disposed of at the Contractor's quarry site(s), before the start of the defects liability period. Unless otherwise instructed by the Employer's Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and the country.				
Hazardous substances	Where possible fuel shall be obtained from local commercially available sources. Prior arrangement regarding quantity and	Construction Manager &	SCA Weekly	CESMP	SAA PST

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	type will need to be organised by the contractor. All fuel to be stored in self-bunded containers In all SAIP project locations, fuel should only be stored in designated areas that are designed to store and facilitate operations associated with it (e.g. re-fuelling). Spill Response Plan to be developed by Contractor. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This spill response plan should be applicable to all SAIP project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase. Identify suitable area for hardstand and bunded storage areas as per section 8. All empty asphalt or bitumen drums will be removed offshore and either returned to supplier or disposed of in a legally approved facility outside Samoa.	Safety Officer			
Fuel Storage (permanent and fixed installations)	For all new permanent or fixed fuel storage installations: • Accidental Tank overfill alarm to warn of spill during unattended tank filling • All fuel system components to have tamperproof devices such as locks.	Design Engineer	Engineer's Review	Design Report	SAA PST

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
[PC1 and associated diesel genset fuel tanks]	• Fuel line to be adequately protected and supported to prevent rupture due to vibrational cracking, joint failure, corrosion. • Engine fire protection shall cause immediate fuel shut off to assist in fire extinguishing and stop fuel spill. • Smallest fuel tank(s) to be installed that meet ICAO operational requirements for genset endurance time. This limits the maximum quantity of fuel that can be split. • Engines to be enclosed in containment bath. • Fuel tanks to be double walled or double skinned.				
Importation of equipment and materials	The Contractor is to arrange for their vehicles and machinery to be thoroughly cleaned of all contamination prior to shipping (e.g. soil, rocks, plant material, seeds, etc). Items shipped inside containers must also have the inside of the container thoroughly cleaned of all previous cargo residues, including dunnage. Obtain import permits and quarantine certification prior to export from country of origin. Certificate of fumigation and verification of source (or proof that material is free of contamination) to be submitted to Quarantine Inspectors and approved by the Employer's Engineer prior to delivery to site.	Project Manager	SCA Weekly	CESMP	Employer's Engineer
Community grievances	Ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public are fully aware of the SAIP works Consultation should include all aspects of the project including the airport site, quarries and transport routes. Consultation shall include raising awareness of the project GRM, how to complain and how complaints will be managed. Consultations shall be carried out in line with COEP 3.	Employer's Engineer Safeguards Specialist	Monthly Report or Each Instance If High Profile	CESMP	SAA PST & TFSU

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	Advertise, maintain and operate a grievance response mechanism, including publishing statistics on resolutions, at www.saip.ws.	SAA PST		GRM	TFSU
Airport concessionaires / local business grievances [Airport]	Ensure that local businesses and airport commissionaires are included in the public consultation and disclosure communication process. Regular communication should be made with affected parties to ensure that they are fully aware of the proposed program of works and how to complain and how complaints will be managed.	Employer's Engineer		-	SAA PST & TFSU
CONSTRUCTION STAGE					
		MANAGER ACTIONING MITIGATION MEASURES	**MONITORING METHOD & FREQUENCY**	**DOCUMENT OR PLAN REFERENCE**	**SUPERVISING AGENCY**
Traffic (vehicle and pedestrian) and construction safety [Route from quarries and port to airport]	Implement the traffic management plan (TMP) to ensure smooth traffic flow and safety for workers, passing vehicles and pedestrian traffic. Where appropriate, employ flag operators on the road to prevent traffic accidents. The workers shall have relevant safety equipment and training.	Construction Manager & Supervisor	SCA Weekly	Traffic Management Plan	Employer's Engineer

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	The TMP should prohibit the use of engine breaking close to and through communities and inhabited areas, it should also regulate the working hours for the haul trucks.				
Soil erosion	Minimise time and size of ground disturbing activities to workable size at any one time. Earthworks to be in accordance with COEP 13; ensure sediment traps are in place prior to works commencing. Vegetation to be removed manually, strictly no use of herbicides/ pesticides. Division bunding or other similar methods to be used for large areas of vegetation clearance and around excavations. Keep construction vehicles on defined tracks. Re-vegetate disturbed areas that are not being paved as soon as practicable (loosen ground; apply topsoil; seed or plant as necessary). No land disturbance should occur directly adjacent or in the receiving marine environment which is located approximately 100 m north of APW.	Construction Manager & Supervisor & Quarry Manager	SCA Weekly Or Quarry Weekly Inspection	CESMP & Quarry Management Plan	Employer's Engineer
Waste disposal	Ensure all construction waste material is re-used, recycled, returned to supplier, or packed up for transport to approved disposal site or out of country depending on accepted waste streams at each facility (see Section 8.9).	Safeguards Specialist & Construction Manager	SCA Weekly	Solid Waste Management Plan	Employer's Engineer

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	Ensure all general waste (as defined in section 3.4.7) is disposed of at the Tafaigata Landfill Ensure areas for waste collection, recycling and off-site disposal are clearly marked/sign posted. Segregate waste to avoid cross contamination, such as with contaminated material (hazardous substance). Install waste collection facilities at construction lay down area to allow for collection and packing of waste. Strictly no dumping of rubbish. Include awareness training in general environmental training. If access to airport facilities is not available, workers must be provided with a sanitary system to prevent fouling of surrounding soils. Sanitary system must be of sufficient size for the number of workers and must take into account the disposal situation at Tafaigata landfill. Some hazardous waste may be eligible for incineration at Tafaigata landfill. All other hazardous waste is to be disposed of offshore in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Employer's Engineer of proper disposal of waste at the final location.				

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	With the approval of the Employer's Engineer, organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities, preferably at Tafaigata landfill or other such suitable facilities which do not lead to FOD generation or allow for leachate to reach soils or groundwater. Disused Material (millings, excavation materials, concrete rubble) can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and basecourse material) for general use by SAA or PWD and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the Ministry of Works, Transport and Infrastructure (MWTI) to be stored for future use by the Ministry. This location shall also be subject to approval by the Employer's Engineer. All surplus material from excavations shall be removed from the site area and safely disposed of in compliance with any local requirements at the Employer's nominated disposal site(s) and/or disposed of at the Contractor's quarry site(s), before the start of the defects liability period. Unless otherwise instructed by the Employer's Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and the country There is no reticulated sewer network on the island, septic tanks are utilised. The Contractor is responsible for the collection and treatment of the septic waste. Temporary toilets and disposal or treatment of wastewater will need to be in accordance with the PUMA and SAA advice (for example construction and training in use of compositing toilet facilities).				

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Water and soil pollution	Hydrocarbons (lubricants / fuel) shall be collected and recycled, or disposed of according to Samoan regulations (incinerated or removed from country – see section 8.2). Spill response kits available at all locations where fuel is stored. Spill response plan training completed for all construction workers. Precautions should be in place to prevent wastewater and hazardous substances / materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), however should an incident occur, the Contractor must have a spill response plan must be in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This spill response plan should be applicable to all SAIP project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase. Zones for preliminary accumulation of waste should be designated in areas that will cause no damage to the vegetation cover or leach into groundwater or surface water (e.g. within construction lay down area on hard surface). Excavations are bunded to prevent ingress of water runoff and clean water diversion (e.g. sand bags, clay bund, or shallow trenches) are used to direct overland flow away from active	Safeguards Specialist & Construction Manager & Supervisor & Quarry Manager	SCA Weekly Or Quarry Weekly Inspection	CESMP & Quarry Management Plan	Employer's Engineer & PUMA/MNRE

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	work and storage areas. Soakage pits should not be installed directly into a shallow aquifer. Hydrocarbon impacted soil may be identified. Any material excavated which has a PID reading of 10 ppm shall be treated as contaminated fill and, should the soil be unsuitable for incineration at Tafaigata landfill, it must be disposed of internationally at an approved facility able to handle contaminated fill. Any course of action must be approved of by the Employer's Engineer and the SWD of PUMA, if appropriate. Minimise areas cleared of vegetation and stabilise slopes to prevent erosion. Cleared areas will be promptly revegetated. Works should be in accordance with COEP 7. Regular cleaning of access points to prevent dirt build-up on roads. Control overland drainage to prevent channelling and sediment transport by diverting flows away from exposed areas. Sediment laden runoff from excavations or stockpiles must be directed to a settling area or collected for dust suppression provided the runoff is not contaminated with any chemicals (e.g. fuel). Discharges of treated wash water are to occur to land only, at least 500m from any bore used for potable water at a rate not exceeding 20mm/day or the infiltration rate of the ground (i.e. no ponding or runoff).				

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	If required by MNRE and bore owner (SWA), during construction activities, sample groundwater at potable bores within 100 m of APW (to be coordinated with MNRE, SWA and PUMA) to indicate whether construction activities have adversely affected groundwater quality. Measure depth to groundwater and analyse samples for concentrations of pH, electrical conductivity, TPH (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with MNRE and PUMA.				
Generation of dust	Use closed/covered trucks for transportation of construction materials. Any vehicle which is overloaded (exceed designed load limit) or is not covered properly shall be refused entry to the construction lay down area or material shall be refused delivery (if not to the construction lay down area). Cover or wet down stockpiles containing fine material (e.g. sand and topsoil) when not actively being used. Wetting of stockpiles is allowed but due to freshwater constraints should be kept to a minimum. All surfaces should be constructed to their final design solution as quickly as practicable. Keep work areas clean with regular sweeping.	Construction Manager & Supervisor & Cartage Subcontractor	SCA Weekly	Traffic Management Plan	Employer's Engineer

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	Only small areas should be cleared of vegetation at any one time and re-vegetation should occur as soon as practicable. Dust masks and personnel protective equipment must be available for workers during dust generating activities (e.g. pavement milling). Manage speed of transportation trucks on unsealed roads, particularly when passing through settlements.				
Noise and vibration disturbances	Minimise nuisance from noise, especially closer to residential areas and sensitive receptors, through establishment and communication to affected parties of working hours, including night works and avoid increase of noise and number of work equipment at outside of advertised hours. Advertise working hours at the site entrance. If possible, use noise barriers / screens or mounds to shield sensitive receptors. It's likely that work at APW will be completed at night, this will require approval by the SAA PST and early notice to affected peoples provided and then again at least one week prior to schedule works starting. Work on Sunday is restricted. The contractor is to determine what time Saturday night works are required to end and what time early hour Monday morning works can commence. Working during the day on Sunday is likely to only be approved in emergency situations.	Construction Manager & Paving Supervisor	SCA Weekly	CESMP	Employer's Engineer, SAA PST & PUMA

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	For works outside normal hours, approval must be obtained from SAA/MNRE and residents within 100 m of APW must be notified 5 days before works take place. Regularly check and maintain machinery, equipment and vehicle conditions to ensure appropriate use of mufflers, etc. Workers in the vicinity of sources of high noise shall wear necessary protection gear rated for the situation they are being used. Signage to outline complaints procedure (GRM) and contact details of recipient of complaints (e.g. phone number, physical address and email). The WB/IFC EHS Guidelines[1] Section 1.7 – Noise Management shall be applied. Noise impacts should not exceed the levels at the closest residential or other sensitive social receptors for one hour LAeq of 55 dBA between the hours of 0700-2200 or 45 dBA outside of these hours for night works, or result in a maximum increase in background noise levels of 3dB at the nearest receptor location off site. The nearest sensitive receptors are expected to change as the work moves along the pavements and will be determined the closest residences to the active works and to the construction camps and/or asphalt plant.				

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Accident risks/Impacts on traffic safety	Arrange necessary measures for pedestrian and passer-by safety and all means of transportation safety (e.g. establish protection zones, by-pass these areas during transportation of materials, etc.) Relevant safety elements such as guardrails, road signs and delineators, pavement markings, barricades and beams, warning lights shall be installed. In some cases a flag operator or traffic control supervisor could be engaged around the specific work site.	Construction Manager	SCA Weekly	Traffic Management Plan	Employer's Engineer
Loss of archaeological artefacts or sites	Chance Find procedure to be followed as per Section 8.1 Work to stop in specific location of unearthed artefacts or site. Fence the area to limit access and notify The Museum of Samoa, SAA PST and Employer's Engineer immediately for instruction to proceed.	Construction Contractors	Each Instance Special Report	CESMP	The Museum of Samoa / SAA / Employer's Engineer
Landscape degradation	Contractor to include provision for construction lay down area rehabilitation following the completion of the construction phase. Restoration of quarries to be completed in accordance with quarry permit and COEP 8. Restoration of landscape after completion of rehabilitation works; restore the vegetation cover in accordance with the surrounding landscape and any required design (e.g. grass land or shrubs).	Construction Manager & Quarry Manager	SCA Weekly or Quarry Weekly Inspection	CESMP & Quarry Management Plan	SAA PST/ Employer's Engineer / PUMA

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	Use plant species characteristic for the landscape in the course of restoration of the vegetation cover. Should the removal of mature trees be necessary for operational safety, determine whether OP4.12 would be triggered and ensure all appropriate measures and permissions are in place before removal of trees.				
Hazardous substances and safety and pollution	Store and handle hazardous substances self-bunded tanks or drums. With the Employer's Engineer's permission may alternatively be store in bunded, hard stand or designated areas only. Bunded areas to drain to an oil water separator which will need to be constructed or a mobile proprietary unit imported specifically for use on the SAIP. Bunds to contain 110% of total volume required to be stored or 25% of total volume if total volume is over 1,000 L. Provide hazard specific personnel protective equipment to workers directly involved in handling hazardous substances (e.g. chemical or heat resistant clothing, gloves). Complete list, including safety data sheets (SDS) for each hazardous substances stored or used shall be accessible at all times. Signage to be posted in storage areas identifying all chemicals present. Precautions should be in place to prevent wastewater and hazardous substances / materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during	Construction Manager & Safety Officer	SCA Weekly	CESMP	Employer's Engineer

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	firefighting), however should an incident occur, the Contractors spill response plan must be in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This spill response plan should be applicable to all SAIP project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase. Spill kits and training of use to be provided to all workers during toolbox meetings. Spill kits to contain PPE for the spill clean-up (e.g. appropriate gloves [nitrile] and overalls), material to contain the spill and absorbent pads, and a heavy duty rubbish bag to collect absorbent pads or material. Waste oil to be collected and removed abroad to an approved facility (for disposal or cleaning) at completion of works.				
Loss of biodiversity	If during course of construction work, particularly vegetation clearance and excavations any bird, reptile or mammal species is identified as being potentially impacted (e.g. nesting bird in area of proposed vegetation clearance) work is to stop in the specific location of the find and the MNRE, PUMA and SAA PST be notified immediately for instruction to proceed.	Construction Manager	Each Instance Special Report	CESMP	Employer's Engineer / SAA PST / PUMA
Health and safety	Fully implement OHS requirements in PESMP Code of Practice. Have safety officer with suitable qualifications available at all times during construction.	Safety Officer & Construction Manager	SCA Weekly	CESMP & Quarry Management Plan	Employer's Engineer / SAA PST

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	Ensure all workers have undergone suitable induction training on OHS with regular training over course of project. Prepare site specific safety plans specifying responsibilities and authorities. Health and safety documentation to include all areas of the project (e.g. airport, quarries and transport routes). Ensure all occupational health and safety requirements are in place on construction sites and in work camps. Construction lay down areas to be fenced to prevent access by unauthorised personnel. First aid training to be provided as required to site workers with basic first aid services to be provided by Contractor e.g. stretcher, vehicle transport to hospital. Provide education on basic hygiene practices to minimize spread of diseases. Increase workers' HIV/AIDS and sexually transmitted disease (STD) awareness, including information on methods of transmission and protection measures. Prohibit usage of drugs and alcohol on construction sites and undertake regular alcohol testing. Install lights and cautionary signs in hazardous areas.				

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	Enhance safety and inspection procedures. Ensure use of PPE and consider providing for on-site storage of workers allocated PPE.				
Damage to assets and infrastructure	Maintain high standard of site supervision and vehicle and plant operation to reduce risks of damage to water, power and telecommunication lines. Prepare procedures for rapid notification to the responsible authority (SAA and service providers). As a result of SAIP construction activities any damage to assets or infrastructure (including public roads) must be reported to the SAA and rectified at the expense of the Contractors. Provide assistance with reinstatement, in the event of any disruption.	Construction Manager	Each Instance Special Report	CESMP	Employer's Engineer / SAA PST
Community grievances	Maintain the grievance response mechanism at www.saip.ws. Ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public are fully aware of the SAIP project program of activities and the GRM process. Consultation should include all aspects of the project including the airport site, quarries and transport routes. (see section 6). All consultations will be in line with COEP 3. Signage should be used in public areas around the SAIP project sites advising the complaints procedure and contact details of	SAA PST Employer's Engineer	Monthly	CESMP	TFSU SAA PST

POTENTIAL NEGATIVE IMPACT [LOCATION]	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	MANAGER ACTIONING MITIGATION MEASURES	CONTRACTORS INSPECTION METHOD & FREQUENCY	DOCUMENT OR PLAN REFERENCE	SUPERVISING AGENCY
	key project individuals responsible for responding to issues raised.	Safeguards Specialist			Employer's Engineer
Airport concessionaires / local business grievances {Airport}	Ensure that local businesses and airport commissionaires are included in the public consultation and disclosure communication process throughout the construction phase. Regular communication should be made with affected parties to ensure that they are fully aware of the proposed program of works and the GRM. Signage should be used in public areas around the vicinity of APW advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised.	Employer's Engineer Safeguards Specialist		CESMP	SAA PST Employer's Engineer

Appendix 4: Job START

JobSTART Form

Contract: ______________________ **Job No:** ______________ **Contract Manager:** ______________
Site(s): ____
(*List any plant parks, dump or borrow sites*)

Site TMP requirements:
TMP Number: ______________
STMS for site: ______________

Plan(s) Attached: SWMS ☐ Crew Briefing Plan ☐ ☐ ☐ ☐

Stop (step back and look) ⇨ **T**hink (through the task) ⇨ **A**ssess (the hazards and risks) ⇨ **R**eview (and document the findings) ⇨ **T**alk (it through with the team)

1. What can harm me? 2. What can harm others? 3. What can harm the environment?	Potential Consequences 1 – 6 (see next page)	Likelihood Of Event: Certain, Likely, Possible, Unlikely, Rare	Risk Rating Before Controls: A, B, C, D (see next page)	RISK CONTROLS (How can we reduce the risk of personal and/ or environmental harm here?) Eliminate the hazard, or Minimise the risk	Residual Risk Rating: A, B, C, D (see next page)	PERSON or TEAM RESPONSIBLE	COMPLETED BY: Initials	COMPLETED BY: Date
If there is a change on site that may create a new hazard, or increased residual risk rating, this form must be reviewed, then updated if required. Any new hazards must be communicated and signed off by the work team. Examples of change include changes in plant/equipment, work methods, scope and site conditions.								

JobSTART Form

Risk Rating Chart

LIKELIHOOD					Risk Assessment Matrix
Rare Less than 1% chance	**Unlikely** Greater than 1% chance	**Possible** Greater than 10% chance	**Likely** Greater than 50% chance	**Almost** certain Over 90% chance	**Consequences**
B	B	A	A	A	**6 – Catastrophic** *Examples:* **Multiple fatalities** Significant irreversible effects to 10's of people Very serious long term environmental impact
C	B	B	A	A	**5 – Extreme** *Examples:* **Single fatality** Severe irreversible effects to one or more persons Serious medium-term environmental impact
C	C	B	B	A	**4 – Severe** *Examples: Moderate irreversible* ***disability*** *to one or more persons* *Moderate short term environmental impact*
D	C	C	B	B	**3 – High** *Examples:* **Hospitalisation** required Medium term impairment to one or more persons Minor effects on environment
D	D	C	C	B	**2 – Medium** *Examples:* Reversible disability requiring **medical treatment** Limited environmental damage to a minimal area
D	D	D	C	C	**1 – Low** *Examples:* No treatment or minor **first aid** only Small environmental impact

RESIDUAL RISK LEVEL	ACTION REQUIRED
A	• Immediately cease the activity • Take action to reduce residual risk to C or below
B	• Take action to reduce residual risk to C or below • Introduce controls to reduce likelihood and/ or consequence of incident
C	• Take action to reduce risk further if practicable • Closely supervise and monitor the effectiveness of existing risk controls
D	Monitor the effectiveness of risk controls. Reduce the risk further if practicable.

Prepared By:	Approved By:	Date:
Signed by Workers and Visitors on site		

Ask your Supervisor or Manager for appropriate control methods or Hazard Control plans. Controls are to be reviewed and amended at least daily **and if the scope of work changes**.
Attach other sheets if necessary.
During course of work, add any new work group member, subcontractor or visitor to site. Ensure they are briefed and inducted on this hazard information

Appendix 5: Site Compliance Assessment

SITE COMPLIANCE ASSESSMENT

Contract **Faleolo International Airport**

Project Manager Inspection Date Time

MANAGEMENT	Compliance	Non Compliance	Comments
Are the CESMP & Quality Management Plan on site?			
Are Job START/Tool Box Meetings being held at designated intervals?			
Is the Site Supervisor on site? Who?			
Are the Emergency Contacts and Emergency Responses sheets on site and visible?			
Have all employees been Inducted as to Site Safety and Hazards?			
Have subcontractors been inducted as to Site Safety and Hazards?			
Are there relevant safety analysis and work instructions on site?			
TRAFFIC MANAGEMENT	**Compliance**	**Non Compliance**	**Comments**
Has a Traffic Management Plan been established?			
Is site laid out in accordance with the TMP? Is it effective?			
Is a person in charge of Traffic Management? Who?			
Are signs & cones etc clean and in good condition?			
Are unnecessary traffic controls removed at the end of each shift?			
Are traffic routes clearly and properly defined?			
Is the pavement maintained & clear of potholes, loose metal & debris?			
Are signs & provisions for pedestrians clear?			

ENVIRONMENTAL MGMT			
Has the CESMP been approved & briefed to staff?			
Is a copy of the Erosion & Sediment Control Plan, inc layout diagrams, on site?			
Are silt fences, sediment/grit traps, diversion drains etc in correct ESCP location and maintained?			
Any noise or dust nuisance?			
Replanting and restoration work done as required?			
Are all containers labelled & without leaks?			
Hazardous materials stored in safe & appropriate manner? Bunds & signs?			
Spill kits present? Any visible spills?			
Are MSDS sheets available?			
WORK SITE	**Compliance**	**Non Compliance**	**Comments**
Tidy & free of trip hazards, obstacles & clutter? Good housekeeping?			
Pedestrian ways clearly indicated and accessible?			
Are safety barriers& warning signs erected where necessary?			
If working at night, is adequate lighting provided?			
Buoyancy aids/life jackets provided wher working adjacent to water?			
PERSONNEL	**Compliance**	**Non Compliance**	**Comments**
Have site staff been briefed and inducted on CESMP?			
Is high visibility clothing provided & being worn?			
Is adequate Personal Protective Equipment & clothing provided?			
Is the PPE provided being worn?			
Workers trained in work underway?			

VEHICLES	Compliance	Non Compliance	Comments
Do all vehicles have current WoF/CoF/road worthiness?			
Are vehicles painted in high visibility colours?			
Are vehicles clean and tidy?			
Are vehicles and plant not in use parked away from work area?			
FACILITIES	***Compliance***	***Non Compliance***	***Comments***
Are the site office/smoko sheds clean and tidy?			
Is there a toilet on site, and is it clean, maintained, and emptied?			
Is there a first – aid kit available and in a known location?			
Is there a fire extinguisher available, certified and in a known location?			
Is there fresh drinking water available on site?			
Are there hand washing cleaning materials on site?			
Is waste/rubbish being collected, stored & disposed of as per the with the Waste Management Plan			
OTHER	**Compliance**	**Non Compliance**	**Comments**

FORMULA

Use the following to calculate compliance rate:

No. of complying items = ___ x 100 = ___% Compliance rate as a percentage

No. of relevant items checked

INSPECTED BY

Name:

Signed: Date:

NON COMPLIANT ITEMS HAVE BEEN RECTIFIED

Name:

Signed: Date:

……………………………………………………….. ………………………………..

Appendix 6: Quarterly SAA PST Audit

Location:	
Auditor:	
Audit Date/Time (Start):	
Audit Date/Time (Finish):	

Environmental Issue:	Inspection areas:	Requirements met?
1.0 Construction Phase		
1.1 Soil Erosion	- Silt fences and diversion drains in place - Replanting and restoration work completed	Yes ☐ No ☐ If No, details:
1.2 Waste accumulation and Disposal Agreements	- Good housekeeping around the work sites - Waste collected in defined area on impermeable ground or containers - Separation of waste into (i) Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled); (ii) Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste; (iii) Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled) and, (iv) Hazardous waste (i.e. asbestos, waste oil etc.) - Hazardous waste stored in safe and appropriate manner. - Waste management plan in place and operating for proper disposal	Yes ☐ No ☐ If No, details:

Environmental Issue:	Inspection areas:	Requirements met?
1.3 Soil and Water Pollution	- Appropriate spill response plan/kit in place for waste area - No visible spills on soil or uncovered ground - Drainage and soakage systems clear and fit for purpose -	Yes □ No □ If No, details:
1.4 Dust and Materials Transport	- Stockpiles covered or kept wet when not in use - Visual inspection of ambient dust conditions on site and at nearby sensitive locations - Truck transports are covered - No evidence of aggregate spills on haulage route	Yes □ No □ If No, details:
1.5 Noise	- Workers wearing ear protection as required - Noise level maximum of 45dB between 2200-0700 - Noise monitoring results by Employer's Engineer confirm acceptable noise levels	Yes □ No □ If No, details:
1.6 Air Pollution	- Equipment operating without excessive emissions - Bitumen and asphalt plant emissions move away from nearby communities	Yes □ No □ If No, details:
1.7 Fuel, Oil and Bitumen Storage	- Substances stored in self-bunded vessels or within bund on impermeable surface - Spill kit complete and accessible - Spill training completed - No evidence of spills on the ground	Yes □ No □ If No, details:

Environmental Issue:	Inspection areas:	Requirements met?
1.8 Traffic Management Plan Implementation	- Traffic Management Plan (TMP) under effective implementation	Yes ☐ No ☐ If No, details:
1.9 Occupational Health and Safety	- Workers have access to, and using appropriate, PPE for the task. - All workers have undergone appropriate OHS training - Proper briefing of staff before undertaking work activities	Yes ☐ No ☐ If No, details:
1.10 Community / Airport Concessionaires / Local Business Safety	- Public signage of complaints procedure - Signs and fences restrict or direct pedestrians and public where appropriate.	Yes ☐ No ☐ If No, details:
1.11 Materials Supply	- Quarry establishment and operations in fully compliance with Code of Practice - All quarries licensed to supply materials - All imported materials with appropriate biosecurity clearances	Yes ☐ No ☐ If No, details:

Environmental Issue:	Inspection areas:	Requirements met?
1.12 Asphalt Plant	- Asphalt plant established on pre-approved sites - Asphalt plant noise levels managed efficiently - Secure fencing correctly installed at asphalt plant - Asphalt plant not causing excessive odours at nearby communities - Notification of asphalt plan noise generating operation times publically displayed - Asphalt plant in clean and orderly condition	Yes ☐ No ☐ If No, details:
1.13 Lay Down Area	- Laydown areas established on pre-approved sites - Laydown areas dust levels managed efficiently - Traffic management plan correctly implemented at laydown site - Water run off management systems operating correctly - Dust management effectively implemented - PPE present and correctly used	Yes ☐ No ☐ If No, details:

Environmental Issue:	Inspection areas:	Requirements met?
1.14 Workers Camp (if applicable)	- Camp established in accordance with Code of Practice in PESMP Annex G. - Septic system cleaned and fully operational. - Waste stored in an appropriate location in a clean and tidy manner, segregated by waste type. - Workers living and recreational areas clean and properly equipped. - OHS, HIV/AIDS, GBV and other information available	Yes ☐ No ☐ If No, details:

Actions Required:

Issue No.	Action Required? By Whom?	Date Action Required?

Signoff

Signature: Date:

....

..................................Appendix C: Monitoring Plan

Appendix 7: PESMP Monitoring Plan (App C) Providing Information on Frequency, Responsibility, Parameters & Document Content.

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
DETAILED DESIGN/ PRE-CONSTRUCTION PHASE				
Traffic safety	CESMP documents	Ensure TMP established for project.	Prior to commencing civil works	Employer's Engineer
Aviation safety	Design documents	MOWP complete with details of flight schedules and emergency procedures.	Prior to commencing civil works	Employer's Engineer with inputs from SAA
OHS Plan	Design documents	Ensure safety plan established for project	Prior to commencing civil works	Employer's Engineer
Workers Camp Plan	Design documents	Ensure plan following WB/IFS Guidelines established for any workers camp	Prior to mobilization	Employer's Engineer
Soil erosion	CESMP documents	Ensure Contingency Plan is completed and approved. Storm event management and soil erosion prevention measures to be included.	Prior to sign off of final designs	Design Consultant
Water supply	CESMP documents	Suggested water source and supply network to be included in designs	Prior to commencing civil works	Employer's Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Stormwater management	CESMP documents	Proposed stormwater management / drainage design (e.g. use of oil-water separator) to consider impacts on hydrology, receiving environments and also contamination risk	Prior to commencing civil works	Employer's Engineer
Quarry operations	Quarry	Upon confirmation of which quarries are to supply aggregate verify quarry operations to ensure any required permits or approvals are in place. Ensure TMP is included in procurement documentation for transport of materials from the quarries to the airport.	Prior to commencing civil works	Employer's Engineer
Importation of equipment and materials	Importation permits	Approval to import material and equipment is given prior to material and equipment leaving country of origin.	Contractor to organize prior to export from country of origin.	Employer's Engineer
CONSTRUCTION PHASE				
Agreement for waste disposal	Construction Contractor's records	Permits and/or agreements with local waste disposal providers (e.g. Tafaigata Landfill) and	Documentation viewed prior to construction works starting	Employer's Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		licensed recycling operators. Inspection of disposal sites.	Weekly as applicable to schedule of works.	
Soil erosion	Areas of exposed soil and earth moving	Inspections at sites to ensure silt fences, diversion drains etc. are constructed as needed. Inspection to ensure replanting and restoration work completed.	Weekly inspection as applicable to schedule of works and after site restoration.	Employer's Engineer
Waste disposal	At construction and quarry sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill (Tafaigata Landfill), removal from Samoa if required, recycling or returning to supplier. Inspections to ensure waste streams are sorted for re-use, recycling or waste to landfill.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Water and soil pollution	At construction sites	Ensure all storage tanks are self bunded. Inspection of sites to ensure waste collection in defined area; spill response plan in place and workers trained at all SAIP locations. Complete spill kits available where hazardous substances sorted and handled. All results from groundwater sampling are submitted to MRNE, owner (SWA) and PUMA with remedial action points if background/baseline conditions are exceeded. Any encounters with potentially or confirmed contaminated soil (based on PID readings) are reported to SAA / PUMA.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	Employer's Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Inspect soakage pits siting directly above any underlying aquifer (if present).		
Dust	At construction sites, quarries and adjacent sensitive receptors	Site inspections. Regular visual inspections to ensure stockpiles are covered when not in use and trucks transporting material are covered and not overloaded.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer
Noise	At work sites and two residential sensitive receptors close to active work are and a control site	Site inspections to ensure workers wearing appropriate PPE when required. Measurement of noise level (one hour LAeg) at closest social receptors (residences) to active work sites, construction camps and lay down areas not to exceed 45dB between 2200-0700 or 3dBA above background.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		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 Employer's Engineer.		
Air pollution	At work sites	Site inspections to ensure equipment and machinery operating without excessive emissions. If an issue is reported the contractor is responsible for replacing or fixing the equipment to the satisfaction of Employer's Engineer. Bitumen and asphalt processes plants to be located away from closest communities	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer
Storage of fuel, oil, bitumen, etc.	At work sites and construction camp. Contractors training log.	Regular site inspections to ensure material is stored within bunded area and spill response training for workers completed. Visual inspection of spill kit for	Weekly as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		completeness and accessibility. Checking that staff are trained on use of spill kits.		
Vehicle and pedestrian safety	At and near work sites	Regular inspections to check that TMP is implemented correctly (e.g. flags and diversions in place) and workers wearing appropriate PPE.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer
Construction workers and staff safety (personal protective equipment)	At work sites	Inspections to ensure workers have access to and are wearing (when required) appropriate personnel protective equipment (e.g. for handling hazardous materials). Code of Practice in PESMP implemented.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer
Community / airport concessionaires / local business safety	At work sites	Inspections to ensure signs and fences restricting access are in place and pedestrian diversion routes clearly marked (whether for access to a building or home or particular route).	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer
Community grievances	At all locations	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	SAA

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Airport concessionaires / local business grievances	At and near APW work sites	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	At and near APE work sites
Materials supply	Quarry and work sites	Evidence that trucks are not overloaded and loads are covered e.g. complaints register, evidence of debris on the road.	Weekly visual inspection as applicable to schedule of works and on receipt of any complaints.	Employer's Engineer
OPERATION (Recommended for Consideration by SAA)				
Accidents with hazardous materials or wastes	Airport sites	Accident report.	Immediately after accident	MWIT
Drainage system operational with reduced flooding incidences	Runway	Clean out of soakage pits documented and inspection of grass swales after mowing shows grass height in swale is higher than surrounds.	Soakage pit – after storm events to clear blockages and annually to remove sediment. After grass mowing.	SAA
Waste disposal	Airport sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill (Tafaigata Landfill), removal from Samoa as hazardous, recycling or returning to supplier.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	SAA / PUMA

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Inspections to ensure waste streams are sorted for re-use, recycling or waste to landfill.		
Water and soil pollution	Airport sites	Inspection of sites to ensure waste collection in defined area; spill response plan in place and workers trained at all SAIP locations. Complete spill kits available where hazardous substances sorted and handled. Inspection drains on site to ensure no blockages present or maintenance required.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	SAA
Storage of fuel, oil, bitumen, etc.	Airport sites SAA training log.	Regular site inspections to ensure material is stored within bunded areas and spill response training for SAA workers up to date. Visual inspection of spill kit for completeness and accessibility.	Weekly as applicable to schedule of works and on receipt of any complaints.	SAA

Appendix 8: Emergency Contacts
A copy of this information should be posted in a prominent location on site.

SAMOA FIRE & EMERGENCY SERVICE:

FIRE: **911**

AMBULANCE: **911**

HOSPITAL: **Tupua Tamasese Memorial Ph 21 212**

POLICE: **911**

DOCTOR: **Faleolo Medical Centre -**

MEDIVAC **+61 2 9372 2468** **Membership No: 12ACM000176**

REMEMBER – WHEN CONTACTING EMERGENCY SERVICES GIVE PRECISE SITE LOCATION AND HAVE SOMEBODY WAIT ON THE ROAD TO DIRECT THEM TO THE INCIDENT SITE.

UTILITY SERVICES CONTACTS

Utility	Company	Prime Contact	Alternate Contact
Power	EPC	65 500 (all hours)	www.epc.ws
Water	SWA	77 59157 (all hours)	
Telephone	BlueSky Samoa Tel	67 788	
Telephone	Digicel Samoa	77 20 000	

KEY PERSONNEL (May 2018)

Title	Name	Mobile	R/T
Project Manager	Peter Murr	770 5001	
Construction Manager	Marty Craill	770 5002	
Safeguards Specialist	Craig Smart	+678 5585003	
Supervisor	Bryan McConkey	777 2228	

DESIGNATED ASSEMBLY POINTS

Contractor's Airport Compound

In office car park or at entrance to asphalt plant.

Tsunami High Ground Assembly Points

High ground adjacent to THR 08 or inside gate from Contractor's Airport Compound to West Coast Road.

Appendix 9: Recommended Responses to Potential Emergencies

A copy of this information should be posted in a prominent location on site.

FIRE/EXPLOSION

Action in the event of a fire should be, if possible, attempt to prevent small fires from developing into larger ones. As a rule paper/fabric/wood fires can be extinguished with water. **ALL ELECTRICAL FIRES MUST BE EXTINGUISHED WITH DRY POWDER or CO_2**

If you are attempting to control a fire ensure some other staff member carries out the fire procedure as given below. They should:

- Raise the alarm immediately, warn any nearby personnel and (if functional) operate the nearest fire alarm.
- Ensure that the fire service (if available) is notified. Clearly state the location and nature of the emergency.
- Potentially dangerous machinery and fuel sources should be shut down if it is safe to do so. Leave lights on.
- Leave immediately by the nearest safe exit route. Move quickly but DO NOT RUN.
- Report to the designated **assembly point**.
- Stay at the assembly point until the “All Clear” is given by the Safety Officer.
- Only if it is safe to do so should any attempt to fight the fire be made.

DO NOT ATTEMPT TO PUT OUT A FIRE IF IT INVOLVES PERSONAL RISK

CHEMICAL SPILL

If large quantities of fuel, or a hazardous or unknown chemical is spilt:

- Call the fire service and advise the nature of the spill and the quantity involved.
- If there is a possible risk to people, evacuate the area, ensuring that people remain upwind and the spill area is closed to public access by roping or taping off the area. Post warning signs.
- Remove all sources of ignition to prevent an explosion of flammable vapours.
- Only attempt to contain a spill if you have been trained in spill cleanup for the substance involved and have the proper equipment to do so. Otherwise, do not approach or come into contact with the substance.
- If safe to do so, reposition leaking containers to prevent further leakage.
- Refer to Emergency Spill Response Flowchart in Environmental Plan

EARTHQUAKE/TSUNAMI

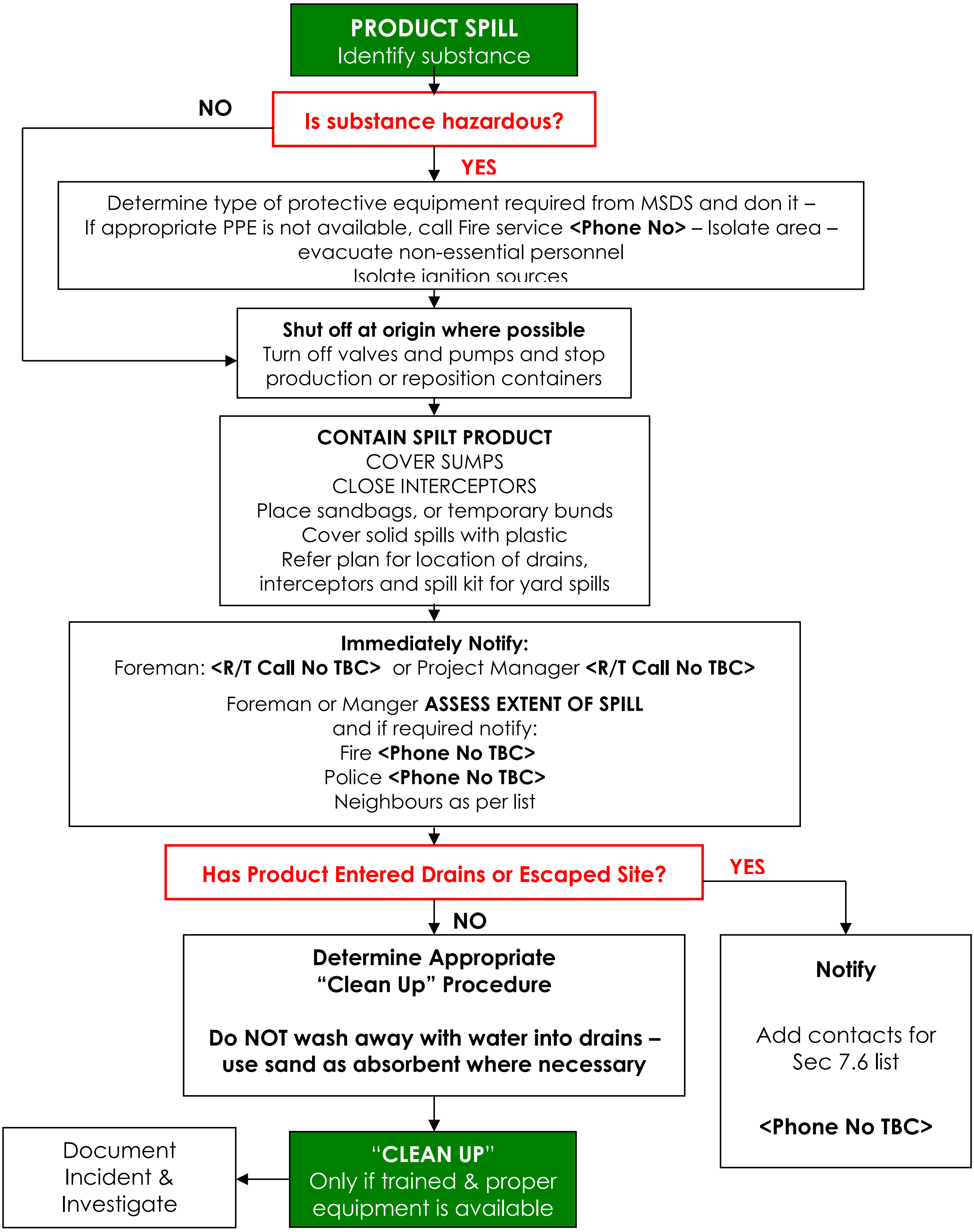
At the first signs of an earthquake:

- If outside, stay away from buildings and power lines. If indoors, stay indoors
- Take cover under any substantial item of furniture, such as a desk, counter work table, or in a doorway and hold on firmly.
- Stay away from glass doors and windows, tall shelves, light fixtures and objects that might fall.
- Turn off power, water and gas at the mains
- The GKD site is adjacent to the harbour and at risk from a tsunami. Follow PV escape routes.

SEVERE WIND OR STORM

- Open a window on the side of the building AWAY from the wind – this will help relieve the pressure on the roof.
- Put tape across very large windows to stop them shattering.
- Don’t go driving unless absolutely necessary.
- Listen to the nearest operating radio station for information.

Appendix 10: Emergency Spill & Runoff Procedure



Appendix 11: GBV/VAC/CAE & ESHS Codes of Conduct

1. Code of Conduct for Gender Based Violence (GBV) and Violence Against Children (VAC)

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 SAIP 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 consent5 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.
- 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.

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[5] **Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained 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.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
- Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
- Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

The project has established a 'GBV and CAE Compliance Team' (GCCT) which is comprised of representatives from SAA, 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: ________________________________

2. Code of Conduct for workers in regard to ESHS

SAMOA AVIATION INVESTMENT PROGRAMME (SAIP) - Individual Environmental, Social, Health & Safety Code of Conduct

Application

This Code of Conduct applies to all Downer personnel (both salaried and hourly paid) and the personnel of any subcontractor engaged by Downer to work on SAIP.

I, _______________________________(print name), acknowledge that adherence to this Code of Conduct is a condition of my employment and agree that while working on the SAIP project, I will:

1. Comply with the applicable laws, rules, and regulations of Samoa
2. Comply with applicable health and safety requirements (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
3. Not use illegal substances
4. Not-discriminate against any person (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction)
5. Interact respectfully and without discrimination with community members
6. Abide by the rules established for conduct within any workers accommodation with regard to other workers and visitors to the camp (including any time restrictions on visiting hours)
7. Respect local customs such as the Sunday rest day law (when work duties allow), observe the conservative dress code in public areas, governance structure of local communities and any other customs as identified by the Employer.
8. Abide by the provisions of Gender Based Violence and Child Protection Code of Conduct(GBV/CPCoC) regarding sexual harassment (for example prohibiting use of language or behaviour, in particular towards women or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
9. Abide by the provisions of the GBV/CPCoC regarding violence or exploitation (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favours or other forms of humiliating, degrading or exploitative behaviour)
10. Abide by the provisions of GBV/CPCoC regarding protection of children (including prohibitions against abuse, defilement, or otherwise unacceptable behaviour with children, limiting interactions with children, and ensuring their safety in project areas)
11. Comply with sanitation requirements (for example, use specified sanitary facilities provided by my employer and not open areas)
12. Avoid conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favours, are not provided to any person with whom there is a financial, family, or personal connection)
13. Respect reasonable work instructions (including regarding environmental and social norms)
14. Protect and properly use of any project property (for example, to prohibit theft, carelessness or waste)
15. Have a duty to report violations of this Code
16. Will not retaliate against workers who report violations of the Code, if that report is made in good faith.

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. In accordance with procedural fairness and local laws disciplinary actions may 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.*

I also understand that violations of this Code of Conduct can result in serious consequences, up to and including dismissal, with immediate referral to legal authorities when warranted.

I have received a copy of this Code of Conduct

I have had the terms of this Code of Conduct explained to me

Name: ________________________________ (print)

Signature: ________________________________

Position: ________________________________

Date: ________________________________

Notes on Codes of Conduct

1) The following Codes of Conduct will apply to this Project;

1) Downer New Zealand Employment Code of Conduct & Corporate Standards (document PPM25 – Feb 2011) – all Downer personnel

2) ESHS Code of Conduct (the immediately above document) – all Downer & subcontractor personnel

3) Gender Based Violence and Child Protection Code of Conduct (the first document above being an extract SAIP Draft "SAIP Codes of Conduct and Action Plan to Prevent GBV and CAE") - all Downer & subcontractor personnel.

NB Appendix B to PCC, Child Protection Code of Conduct provides an alternative in regard to children but the more comprehensive document is included for completeness.

If there is any ambiguity or discrepancy in or between these documents in regards to Code of Conduct obligations or requirements, then the higher or more onerous obligation or requirement shall prevail unless otherwise instructed in writing by the Engineer (ref PCC Cl 1.5 (c)

2) Introduction into Conditions of Employment

As part of its recruitment/engagement process Downer requires all its employees to sign the standard Downer New Zealand Code of Conduct & Corporate Standards (PPM25 – Feb 2011), this is a non-negotiable requirement for employment with Downer. The SAIP Individual Environment, Social, Health & Safety & Health Code of Conduct (as detailed above) and the SAIP Individual Gender Based Violence and Child Protection Code of Conduct (also as detailed above), collectively known as the SAIP Codes of Conduct, will have the status of Annexures to the standard Downer Code of Conduct. For subcontractors the SAIP Codes of Conduct will be annexures to their Subcontract Agreement with Downer.

3) Implementation & Training

All Downer personnel and subcontractors engaged on SIAP will undergo a Project Induction. This will include a detailed briefing on the contents of the SAIP Codes of Conduct and the consequences of any breaches.

Adherence to the SAIP Codes of Conduct will be reinforced as part of the formal monthly training (minimum of 0.5 days per month for all staff).

4) Monitoring & Breaches

Adherence to the SAIP Codes of Conduct will be monitored by Downer in association with routine health, safety and employee behaviour observations and any breaches observed, or complaints received that involve breaches, of the Codes of Conduct will be investigated in accordance with defined employment principles, and appropriate disciplinary action (which may range from providing a warning to termination) taken.

The Monthly Report will provide comment on the implementation of the SAIP Codes of Conduct and Action Plan to Prevent Gender Based Violence as Well as Child Abuse/Exploitation.

Appendix 12: NCR/OFI Form

Non Conformance and Opportunity for Improvement form

1. PROJECT NAME:	NCR ☐ OFI ☐ No.(from Project Register):
Project No:	Issued To:
Location(s):	Originator:
2. Sector Zero Harm - Safety ☐ Quality ☐ Environmental ☐	Plant / Vehicle- Type Plant No. Registration Owner ☐Downer ☐Hire ☐Sub Contractor ☐
Maintenance - Construction ☐ Pavement ☐	Civil Projects - Utilities New ☐ Utilities Existing ☐ Structures ☐ Roading ☐
Surfacing - Asphalt ☐ Chip seal ☐	TELCO ☐ FM ☐ Rail ☐
OSM Mowing ☐ Horticulture ☐ Playground ☐ Cleaning ☐ Building Maintenance ☐	Traffic Services Road Marking ☐ Traffic Management ☐ Sign Maintenance ☐ Lighting

3. Scope Damage ☐ Rework ☐ Waste ☐ Customer Complaint ☐ Legal ☐

Audit ☐ Downer (Internal) ☐Client (External) ☐Subcontractor ☐ Supplier/ Manufacturer ☐ Audit Report No.

4. Category of Situation or Opportunity Observation ☐ Improvement opportunity ☐ Non-Conformance ☐ Preventive ☐ Other ☐

5. Risk Rating Major ☐ Minor ☐ Remedial Cost(Estimates Only): $
Root Cause Analysis required ☐ Remedial Cost Category ☐ 1 ☐ 2 ☐ 3 ☐ 4 *Refer reverse side of form*

6. Description of Situation or Opportunity [To be completed by the originator] Time Date

7. Action Taken to Correct Situation

8. People Notified Downer Manager Time Date
Regulatory Authorities Required Yes ☐ No ☐ Department Officer Contacted
Time Date Contacted By Phone / Fax / Letter No.

9. Reason For Occurrence Lack of Training ☐ Technical Failure ☐ Responsibility not Allocated ☐ No Procedure ☐
Procedure not followed ☐ Inadequate Monitoring ☐ Communication ☐ Equipment Failure ☐ Material Failure ☐
Test equipment out of calibration ☐ No Document Control -Use of wrong revision Drawing ☐

10. Documentation relevant to Situation or Opportunity Client Conditions of Contract ☐ Specification ☐
AS/NZS Standard ☐ National Standard ☐ Drawing ☐ Code of practice ☐
Document Title Document Number Revision Clause / Page

11. Corrective / Preventive Action(s) (Short and Long Term) [To be completed by the responsible person]

	By Who	By When	Date Closed

12. Verification Action (s) (To check effectiveness of the actions above)[To be completed by the responsible person]

	By Who	By When	Date Closed

13. Client Acceptance Approved: Yes: ☐ No: ☐ Not Applicable ☐
Client Representative: Position Title: Signature: Date Accepted:

14. Close Out Corrective, Preventive, Verifications Addressed ☐ NCR /OFI Not Accepted ☐

Name: Date	Reason for not closing out NCR /OFI and action
Signed: ____________ (Responsible Person)	
Remedial Cost (actual): $	

15. DISTRIBUTION Responsible Person ☐ Originator ☐ Project File ☐ Client (If applicable) ☐ HSE Administrator (Q-Pulse) ☐

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 Warning: Printed documents are UNCONTROLLED Commercial in Confidence

Appendix 13: "Green Page" Environmental Resource Example

Use this Green Page for:
How to install silt fences

Background

- Silt fences are used to minimise the risk of silt and sediment from earthworks getting into waterways

Why is silt and sediment a problem?

- Sediment can harm plants and animals and their habitat
- Insects, shellfish, and fish help to maintain good water quality in streams and estuaries
  - sediment affects their vision, digestion, gills, and oxygen intake

What works cause sediment problems?

- Earthworks
- Removal of growth
- Quarrying
- Building activities
- Road construction
- Trenching
- Once the natural ground cover (grass, trees etc) is disturbed there is 2000 times as much sediment likely to pollute waterways on a rainy day

1 Before you begin

Know:

- Where any drains are
- Where any catchpits are
- Where any waterways are
- Which direction water will run off the work site
- Where silt fences need to be erected

1.1 What you'll need

Documentation	Materials	Plant / Equipment
▪ Job specification ▪ Company Environment Plan ▪ Council Resource Consent (as required) ▪ Work Procedure Instruction ▪ Local authority environmental standards ▪ Service plans for the site area	▪ Geotextile fabric ▪ Steel standards or timber posts at least 1m long ▪ Wood screws (for fabric joint at wooden post) ▪ Fencing wire ▪ Wire joiners	▪ Heavy hammer ▪ Stanley knife ▪ Screwdriver ▪ Wire cutters ▪ Shovel ▪ Small excavator (depending on size and location of work)

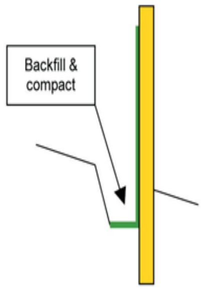
1.2 Special things for the job

Health and Safety	Traffic Management	Environment
▪ Complete a Job START and sign ▪ Correct Personal Protective Equipment (PPE)	▪ Always work within an approved Traffic Management Plan (TMP)	▪ Check environmental controls like silt fences every day

2 Doing the job

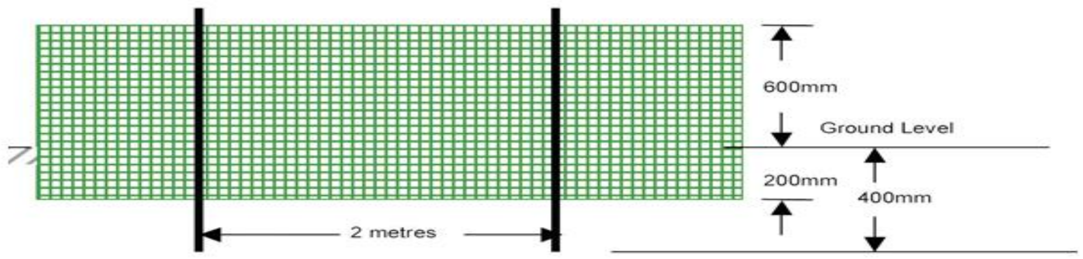
Follow these steps to complete this task.

Step	Actions	

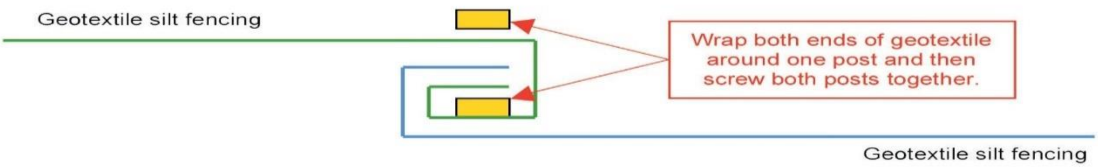
1
Site preparation
	▪ Mark out the line for the silt fence
	▪ Check for underground services
	  ▪ obtain plans and look for visual indicators on site
	▪ Excavate a trench
	  ▪ 200mm deep and 200mm wide along the line of the silt fence
	▪ Slope back the uphill side of trench
		
		
		Geotextile across bottom of trench and up post

1
Site preparation
Continued
	▪ Drive steel standards or timber posts in (at least 400mm below ground surface) against the downhill side of trench
	  ▪ standards or posts are to be at 2 metre gaps (unless the approved design allows greater spacings)
	▪ Attach the geotextile to the standards or posts so that it goes across the bottom of the trench and up the standard or post
	  ▪ the geotextile must be at least 200mm in the ground (in trench) and
	  ▪ at least 600mm above the normal ground surface
	▪ Compact backfill (over the geotextile) in the trench	

Step	Actions



Posts at 2m gaps, 400mm deep
Geotextile 600mm above ground, 200mm below



How to join lengths of geotextile silt fencing

Step	Actions

2
Inspections
	▪ Carry out regular (at least daily) inspections to ensure:
	  ▪ the silt fence is stopping silt and
	  ▪ sediment is not passing through or around it
	▪ Carry out special inspections during and after heavy rainfalls
	▪ Install extra silt fences uphill where there is high volume or fast run-off of water
	▪ Repair any damaged or failed silt fence
	▪ Record your findings
	
	Record daily inspections

Step	Actions	
3 **Environmental damage**	▪ Any silt discharge to waterways must be contained to prevent further damage ▪ Contract Manager must report the discharge immediately to the Zero Harm Adviser who will arrange for any further reporting ▪ Take photographs of cause of the problem and record the damage done ▪ Repair silt fences at once	 **Silt discharge to waterway contained**

Basic PPE Required

Appendix 14: Significant Hazard Control Plan Template

SIGNIFICANT HAZARD CONTROL PLAN

Department: ________________Date: ______________ Register #____________

Item/Process/Area: ____

Risk Rating : __________MSDS No: ___________MS, WI or JSEA No:__________

Action (Yes or No)		1. Eliminate		2. Isolate		3. Minimise

Hazard Controls:

CONTROL METHOD BY DATE **ACTION REQUIRED** **BY WHOM**

1.
2.
3.
4.
5.
6.

Additional Information:

Medical Research Data :
....

Technology Available :
....

Reason For Methods Used:

____

____

____

Health Monitoring Required	**Yes / No**		
Type of Monitoring			
Frequency			
Review Date		**By Whom:**	

Appendix 15: Hazardous Substance Register

HAZARDOUS SUBSTANCE REGISTER

			LOCATION: **DATE:**		
Name of Chemical, Substance or Gas	**Trade Name**	**Hazard Class**	**Qty**	**Form** (See Below)	**Type of Container. (Drum, Tank, Bottle etc.)**
Petrol – container of fuel for small engines			20 litres	L	Safe (red) containers

Form: Compressed Gas (CS), Solid (S), Liquid (L), Powder (P), Crystal (C), Granular (G)