

Updated Initial Environmental Examination and Environmental Management Plan For New and Upgraded Public Sanitation Facilities

July 2017

VAN: Port Vila Urban Development Project

Prepared by Ministry of Infrastructure and Public Utilities for the Asian Development Bank.

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PORT VILA URBAN DEVELOPMENT PROJECT

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**UPDATED INITIAL ENVIRONMENTAL
EXAMINATION AND ENVIRONMENTAL
MANAGEMENT PLAN FOR
NEW AND UPGRADED PUBLIC SANITATION
FACILITIES (PSF)**

July 2017



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Notice

This report has been:

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 Public Works Department (PWD) – a key Implementing Agency – (IA).
 Department of Environmental Protection CSF Conservation (DEPC) – a key Implementing Agency – (IA).

The specific purpose of the Site Specific Environment Management Plan (SEMP) is a report to describe the process for establishing the environmental impacts and outcomes for the Public Sanitation Facilities (PSF).

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Table of Contents

EXECUTIVE SUMMARY	v
Background	v
Policy, Legal and Administrative Framework	v
Categorization	vi
Project Descriptions and Scope	vi
Operations and Maintenance	vi
Description of Environment (Baseline Conditions)	vii
Environmental Impacts and Mitigation Measures	ix
Information Disclosure, Consultation and Participation	ix
Grievance Redress Mechanism	x
Conclusion and Recommendations	x
1.0 BACKGROUND	1
2.0 POLICY & LEGAL FRAMEWORK	3
3.0 PROJECT DESCRIPTION	4
3.1 Introduction	4
3.2 Scope of Works (Construction) for the PSF	8
3.2.1 Port Vila Fruit and Vegetable Municipal Market PSF	10
3.2.2 Fatumaru Bay PSF	12
3.2.3 Central Hospital PSF	13
3.2.4 Independence Park PSF	13
3.3 PSF Designs	14
3.4 Operations and Maintenance	18
4.0 DESCRIPTION OF ENVIRONMENT (BASELINE CONDITIONS)	19
5.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	21
5.1 Screening of Potential Impacts	21
5.2 Impacts on the Physical Environment	21
5.3 Impacts on the Biological Environment	25
5.4 Impacts on the Socio-economic Environment	26
5.5 Impact Summary	28
6.0 INFORMATION DISCLOSURE, CONSULTATIONS, AND PARTICIPATION	29
6.1 Provincial, Municipal and Public Level Consultations	29
6.2 National Government Level Consultation for the PSF	30
6.3 Project Disclosure	30
6.4 Project Communication Plan	31
7.0 ENVIRONMENTAL MANAGEMENT PLAN (EMP)	32
7.1 Environmental Management	32
7.2 Implementation Arrangements	33
7.3 Grievance Redress Mechanism (GRM)	36
8.0 CONCLUSIONS AND RECOMMENDATIONS	41
9.0 REFERENCES	42
ANNEXES	44
ANNEX 1. Environmental Management Plan	44
ANNEX 2: Septic Tank Dimensions and Volumes of Aerobic Filter (Source: Vanuatu National Building Code) and General Septic System Design Requirements.	58
ANNEX 3. PSF Rapid Environment Assessment (REA) – Sewage Treatment Checklist.	60
ANNEX4 List of Public Workshops, Meeting and Discussion associated with PSF Project.	63
ANNEX 4a. Public Toilet Design Review Meeting	63

ANNEX 4b. Consultation Meeting with President of the Local Restaurants Vendors, Port Vila Fruit and Vegetable Market	65
ANNEX 4c. Port Vila Fruit and Vegetable Mama’s Market Public Toilet Daily operations Management Consultation Meeting	67
ANNEX 4d. Market House Consultation Meeting	71
ANNEX 4e. Consultation Meeting with the Shefa Provincial Government President associated with the Fatamaru bay PSF.	73
ANNEX 4f. Consultation Meetings and visit to the Port Vila Central Hospital associated with the PSF.	74
ANNEX 4g. Consultation Meetings and visit to the Independence Park and the Vanuatu Cricket Association associated with the PSF.	76
ANNEX 4h. List of National Stakeholder Consulted 2011 – 2015.	77

Lists of Figures, Tables & Plates

Figure 1: Location Map for the 4 PSF	5
Figure 2: Location of the PSF at the PVFVMM	6
Figure 3: Location of the PSF at Independence Park.	7
Figure 4: Location of the PSF at Fatamaru Bay.	8
Figure 5: Proposed septic tank system at PVFVMM (extract from Vanuatu National Building Code 2000).	11
Figure 6: Proposed wastewater arrangements at the PVFVMM.	12
Figure 7: Layout Drawing for the PSF at PVFVMM.	15
Figure 8: Layout Drawing for the PSF at Fatamaru Bay	16
Figure 9: Layout Drawing for the PSF at Independence Park.	17
Figure 10: General Grievance Mechanism Flow Chart for the PVUDP	37
Table 1: Project Improvements to Multi-Purpose and Multi User PSF.	4
Table 2: Summary of each Project site’s amenities.	9
Table 3: Public usage daily estimate of use for the three new PSF.	18
Table 4: EMP Mitigation Table (EmiT)	44
Table 5: EMP Monitoring Table (EMoT)	54
Plate 1: Locations of the existing PVFVMM sanitation facility.	10
Plate 2. Locations of the proposed new PVFVMM sanitation facility within the market.	11
Plate 3: Fatamaru Bay PSF Site Location	12
Plate 4: Central Hospital PSF Site Location	13
Plate 5: Independence Park PSF Site Location	14

Abbreviations

ADB	Asian Development Bank	IEE	Initial Environmental Examination
BCSF	Bouffa Septage Treatment Plant	IP	Indigenous People
CBD	Central Business District	IR	Involuntary Resettlement
CEMP	Construction Environmental Management Plan	Km	Kilometres
CEWP	Construction Environmental Work Plan	m	Metres
CGPS	Community Gender Participation Specialist	MFEM	Ministry of Finance CSF Economic Management
CLO	Community Liaison Officer	MIPU	Ministry of Infrastructure and Public Lands
CPS	Country Partnership Strategy	MSMP	Materials and Spoil Management Plan
CSF	Communal Sanitation Facility	NES	National Environmental Specialist
DEPC	Department of Environment Protection and Conservation	NGO	Non-Government Organisation
DFAT	Department of Foreign Affairs and Trade – Australian Government	NSPA	North Sub-Project Area
DSC	Design Supervision Consultant	OH&S	Occupational Health and Safety
DSCD	Design Supervision CSF Capacity Development	PAA	Priorities & Action Agenda
EA	Executing Agency	PPE	Personal Protective Equipment
EMCA	Environmental Management & Conservation Act	PSF	Public Sanitation Facilities
EMMP	Environmental Management and Monitoring Plan	PVMC	Port Vila Municipal Council
EMP	Environmental Management Plan	PVUDP	Port Vila Urban Development Project
ENSO	El-Nino Southern Oscillation	PWD	Public Works Department
ESO	Environment and Safety Officer	REA	Rapid Environmental Assessment
ERLI	Environmental Risk and Likely Impact	RMF	Risk Management Framework
ERMF	Environmental Risk Management Framework	SEMP	Specific Environmental Management Plan
GRM	Grievance Redress Mechanism	SPC	Shefa Provincial Council
HSCSFE	Health, Safety and Environment	SPS	Safeguard Policy Statement
HSP	Health and Safety Plan	SSPA	South Sub-Project Area
HSO	Health & Safety Officer	UNELCO	Union Electrique du Vanuatu Limited.
IA	Implementing Agency	VPMU	Vanuatu Project Management Unit
		VSDP	Vanuatu Society for Disabled People

EXECUTIVE SUMMARY

Background

The Asian Development Bank (ADB) using Australian Aid (DFAT) funds are assisting the Government of Vanuatu (GoV) to improve urban infrastructure and services in Port Vila urban area and the peri-urban areas. The objectives of the Port Vila Urban Development Project (PVUDP) includes:

- Improvement to the Road Network and associated infrastructure such as footpaths, street lighting and signage boards;
- Improvement of the drainage system;
- Construction of a sludge treatment plant;
- **Construction of new multi-purpose multi-user Communal Sanitation Facilities (CSF); and Refurbishment of existing and new Public Sanitation Facilities (PSF);**
- Building hygiene awareness program among communities with greater Port Vila Urban area;
- Capacity development for the Government Agencies to handle Project Management in roads, drainage and sanitation; and
- Prepare regulations for the collection and treating of septic tanks sludge

The overall PVUDP will cover improvements to 13 km of roads, 4.5 km of improved drainage including sediment and pollutants traps at strategic points, handling flood prone areas, the construction of a septage sludge collection and disposal system/s, **the refurbishment of existing and the construction of new communal and Public Sanitation Facilities (PSF)**, and provide hygiene and health education to the community.

There are four (4) recommended and approved PSF sites consisting of three (3) new and one (1) refurbished facilities. The four PSF sites include; (i) Vila Central Hospital (3 small facility refurbishments and up grades located within the old outpatients building), (ii) a new facility within the Port Vila Main Fruit and Vegetable Municipal Market (relocation of the existing facility), (iii) a new facility for the Cricket and Sport ground at Independence Park, and (iv) a new facility at Fatumaru Bay. Access and amenities for the use of disable persons has been incorporated into the design for each of the PSF. The recommended sites are in the Port Vila municipality area and are all on government land.

This report details the environmental assessment and potential environmental impacts that may result from the proposed improvements and rehabilitation of the PSF and provides a detailed Site Environmental Management Plan (SEMP) that outlines specific actions for the preconstruction, construction and operational components of the project that will be required to be delivered to ensure minimal environmental impacts will arise from the project.

The Port Vila community in general has a need to improve the ability to hygienically and effectively manage public sanitation. The rehabilitation of Port Vila Public Sanitation Facilities (PSF) matches these needs in a cost effective and practical solution.

Policy, Legal and Administrative Framework

The project shall comply with requirements of the Vanuatu Environmental Management and Conservation (EMCA) Act 2010 and the Environmental Impact Assessment Regulations 2011 that requires that for all major infrastructure development projects, a development clearance and development consent (and other permits) must be obtained from the DEPC before any work can commence. The development consent application must include an environment assessment and an EMMP.

This SEMP as part of the PVUDP Initial Environmental Examination (IEE) is intended to comply with the requirements of a Preliminary Environmental Assessment (PEA) as required

under GoV regulations and meets the requirements of the ADB for Category B projects as described in the ADB's Safeguard Policy Statement (SPS).

The objectives of this SEMP (PEA) are to: (i) assess the existing environmental conditions; (ii) identify potential environmental impacts; (iii) evaluate and determine the significance of the impacts; (iv) develop an EMP detailing mitigation measures, monitoring activities, reporting requirements, institutional responsibilities to address adverse environmental impacts; (v) carry-out public consultations to document any issues/concerns and (vi) to ensure that such concerns are addressed in the project design.

Categorization

The PSF subcomponent project was separately categorized, through the ADB Rapid Environmental Assessment (REA) for the Sewage Treatment checklist, as environment **Category B**. This SEMP refers directly to the PVUDP work required within the sub-component that falls under Output 2: *Government has improved the sanitation system in greater Port Vila*.

Project Descriptions and Scope

The PSF subproject sites are located within the urban areas of Port Vila and as such, the terrestrial environment has been highly modified, all of which are within the populated residential areas of Port Vila and border the Central Business District (CBD). There are no terrestrial habitats associated with the proposed project sites as these have been significantly modified for government infrastructures developments over a long period of time.

The project sites were chosen through extensive consultations with government and public stakeholders using the following criteria; (i) the availability of land for new facilities including support from within various government bodies specifically the Port Vila Municipal Council (PVMC) and the Ministry of Lands; (ii) a facility body that was willing and able to maintain and operate the facility with opening hours that could be considered reasonable to serve the majority of users; and (iii) an area which receives a large number of people either passing through or remaining within the vicinity of the proposed toilet facility.

The project's activities will include the refurbishment of one existing public sanitation facility (includes three separate units and excludes any work on septic and soakaway systems) and the construction of three new facilities with sanitary ware, septic systems, tap and water outlets. The size of the facility and their number of toilets, showers and wash areas have followed normal planning requirements and has been dictated by the number of people each facility is expected to serve. The design considered provisions for disabled and the elderly with mobility requirements. At each site, conventional septic systems and absorption pits have been designed and appropriately sized for the anticipated inflows estimated at each facility.

All construction-phase activities will consist of primarily clearing and removal of old equipment and minor excavation to deploy new equipment. All construction activities will be carried out according to international best practices intended to avoid and minimize adverse environmental impacts and based on the information presented herein through the Environmental Management and Monitoring Plans (EMMPs). These plans present the likely impacts caused by the construction and operational phases of the project and outline best practices mitigation measures to manage and lessen the impacts of these activities. These activities will be detailed in the construction companies Construction Environmental Management Plan (CEMP).

Operations and Maintenance

The on-going operation and maintenance of the facilities has been considered during the design process and lengthy dialogue has been undertaken to finalise ownership of these activities. The Central Hospital Management Committee, the Port Vila Municipal Council (PVMC), the Vanuatu Cricket Association and the Shefa Municipal Council will managed and operated the Central Hospital (3 small PSF), Port Vila Main Fruit and Vegetable Municipal

Market (PVFVMM), Independence Park and Fatumaru Bay PSF's, respectively. Public willingness to operate and maintain the facilities is required to ensure the longevity of these facilities. A public community consultation initiative has been undertaken to understand public perception and past experience and willingness to undertake operation and maintenance activities. At all sites there were active public representation and support to ensure the ongoing care to these facilities. Public and community stakeholder discussions will continue throughout the duration of the project to ensure information is exchanged and constructive dialogue is maintained with all stakeholders.

In addition, World Vision, a Non-Government Organization (NGO) has been involved in the development and delivery of the PSF workshops and training programs at the Port Vila Fruit and Vegetable Market public users and market vendors through their "Wan Smol Bag" community sub contract projects. The delivery of these educational and awareness activities has ensured that the investment in these facilities are complemented with a community understanding of safe hygiene practices and the facilities' maintenance.

Description of Environment (Baseline Conditions)

All PSFs are located within the urban community areas of Port Vila and as such are located on highly modified land that has been significantly cleared of natural vegetation and supports different levels of construction activities. The site location areas of influence do not include freshwater streams or rivers, are not associated with any terrestrial protected or conservation areas, sites of cultural, customary or heritage sites nor are they associated with or support any terrestrial ecological or biological (flora or fauna) endemic, endangered or significant biodiversity.

Vila Central Hospital – The three existing facilities to be refurbished are all located within the old outpatients building and include the maternal/antenatal health clinic, the maternity ward and the maternity ward extension. The immediate site is a busy hospital compound. The key sensitive receptors will be the patients and staff working within the hospital building during construction and operation of the works as well as the general public and hospital staff within the hospital grounds in the vicinity of the works which could be used for minor and temporary storage of construction materials and/or demolition waste.

Central Market PSF– The site of the proposed new PSF is located on the northern and landward side of the adjacent Lini Highway within the market lease area. The new PSF will replace the existing PSF on the west side of the market adjacent to the seawall. The existing PSF including septic tank is in poor condition and will be demolished. The footprint of the proposed new PSF is currently partly occupied by the temporary mamas handicraft market due to be relocated to the new Vanuatu Tourism Infrastructure Project (VTIP) handicraft market pavilion.

The site can be characterised as a highly disturbed urban coastal environment. Key sensitive receptors include i) the site itself, ii) the temporary mamas handicraft market to be at least partially demolished to make way for the facility; iii) the site of a proposed new shopping and residential development on the northern side of the site iv) the recently constructed seafront park public amenity v) a relatively large heritage tree used for shade juxtaposed to the footpath and site footprint; vi) the natural ground water system that discharges into the nearby marine environment vii) the marine environment on the western side of the Central Market viii) pedestrians and road traffic within the CBD accessing the various amenities; and ix) shops and other small businesses immediately across the road from the site.

Noise levels are moderately high during business hours in the vicinity of the site, mainly from traffic (no data available). Ambient air quality in the vicinity is affected to some extent by dust and vehicle emissions from road traffic especially during business hours, although the extent and significance of such impact is unknown due to lack of available data.. Currently air quality in the vicinity is temporarily exacerbated to some extent due to surrounding construction activity associated with the seafront park.

The PVUDP Water Quality Monitoring Final Report was submitted to VPMU in June 2017. The findings of this report with respect to existing freshwater and marine water quality around the CBD and Fatumaru Bay are presented below:

- Parts of the stormwater system in the CBD are contaminated with sewage and there is widespread presence of faecal indicator bacteria in the harbour. Comparison with UNEP monitoring data from 1987 shows a significant increase in concentrations of faecal bacteria in Port Vila waters
- The existing high concentration of coliform bacteria in the harbour suggest that there is a steady and concentrated recharge of these bacteria into the marine system. The source of this recharge is the stormwater drains and possible diffuse source migration from numerous septic leach fields along the coast.
- Sewage ingress to the harbor via the storm water system appears to be a minor contributor to the contamination inputs. It is vitally important that the quality of groundwater flows to the harbor be systematically assessed to determine the associated contamination impacts on marine water quality and facilitate planning of corrective measures such as clustered sewage infrastructure to prevent ongoing groundwater and marine contamination.
- There is a potential health risk to humans who consume seafood from the harbor waters due to the ability of animals and particularly shellfish, to accumulate some human pathogenic bacteria.

Fatumaru Bay –The PSF site is located along the waterfront public walkway about 50m south of Chantilly’s Resort. The walkway has recently been upgraded under the VTIP. The site is immediately adjacent to the Lini highway on its eastern edge and is about 15 m from Fatumaru Bay shoreline to the west. The walkway is well used by the public and tourists and includes new sitting out and children’s play areas.

The area consists of a highly modified terrestrial ecosystem that lacks any habitats suitable for significant terrestrial flora and fauna biological populations and terrestrial biodiversity. Key sensitive receptors associated the subproject include recreational users of the walkway several palm trees and bamboo bushes, the natural ground water system that discharges into the adjacent marine environment, and the adjacent marine environment itself.

The area is subject to moderate traffic noise from Lini Highway during business hours. Air quality appears to be good (no data) and occasionally susceptible to minor dust nuisance and vehicle emissions during busy traffic periods. Otherwise the setting is tranquil.

Marine water quality adjacent to the site has similar characteristics as described above for the Central Market PSF with key findings of the PVUDP Final Water Quality Monitoring Report June 2017 applicable.

Independence Park –The PSF site is located on grassed land adjacent to the Independence Park Pavilion at the southeast corner of the playing field complex and immediately across the road from the access road to the Police Training College (approx. 30 m away).

The area consists of a highly modified terrestrial ecosystem that lacks any habitats suitable for significant terrestrial flora and fauna biological populations and terrestrial biodiversity. It is grass. Key sensitive receptors associated with the facility include recreational users of the park and the natural ground water system. The nearest residential building is approximately 100 m east of the PSF site. The area is subject to very limited traffic noise and air quality appears good.

Environmental Impacts and Mitigation Measures

Environmental impacts arising from the construction and operation of the project are generally minor, localized, and are acceptable, provided that the set of mitigations measures identified and set out in the EMP are incorporated in the design, implemented, and monitored properly.

In the light of findings in the PVUDP Water Quality Monitoring Program Final Report June 2017 it is recommended that further due diligence review of the detailed designs of Fatumaru Bay PSF and Central Market PSF septic tank/treatment systems be undertaken. The purpose of the due diligence review is to identify any necessary design changes to ensure that during normal operations of the proposed systems there would be no significant septic discharge into the surrounding ground water system that could leach into the harbour and thereby exacerbate existing high levels of faecal bacteria in the harbour.

Key findings of the IEE include:

- a. The design of the PSF septic tanks/treatment systems should meet the performance requirement such that during normal operations there would be no significant septic discharge into the surrounding ground water system that could leach into the harbour
- b. The PSF are located within the urban areas of Port Vila which have been highly modified (cleared, filled and built on) and do not support any terrestrial ecological or biological (flora or fauna) endemic, endangered or significant biodiversity;
- c. The proposed PSF sites do not have any freshwater (rivers, streams), forests or agricultural activities associated with the PSF area of influence.
- d. The proposed PSF's do not impact any terrestrial conservation and/or protected areas, sites of cultural, customary or heritage significance nor any national or international endangered or protected species.
- e. Due diligence and proactive management of all construction aspects of the PSF will ensure limited disturbance to the daily public activities undertaken in the selected sites (e.g. traffic, dust), and the collection, storage and correct disposal of waste material generated during construction.
- f. Vanuatu laws and regulations associated with labor, employment, Occupational Health and Safety (OH&S) will be adopted, enforced and monitored during all construction and monitoring activities associated with the project.
- g. Climate change adaptation measures have been included in the PSFs designs

An EMP identifies potential environmental impacts arising from the project along with a corresponding schedule and monitoring of mitigation measures to ensure potential impacts are maintained at insignificant levels. It also includes the institutional arrangements for implementing the EMP to ensure its effectiveness and identification of reporting responsibilities of the various agencies involved.

Information Disclosure, Consultation and Participation

The PSF subcomponent of the PVUDP planning and environmental concerns were discussed with relevant GoV Ministries, Departments, Provincial and Municipal Governments, Government entities, business owners, managers and staff, public associations and general public stakeholders resulting in an agreement for the support of the scope of works of the PSF project. The stakeholder consultation process followed the PVUDP communication plan and disseminated information to key stakeholders detailing the scale and scope of the project, the expected impacts and the proposed mitigation measures. The process also gathered information on relevant concerns of the stakeholders and where relevant were incorporated into the PSF SEMP.

The final draft SEMP will be submitted to VPMU who will forward the document to the relevant GoV Ministries and Departments for their evaluation and clearance and to the ADB to ensure their safeguard policies are met. The final approved document will be disclosed to the public and included into the DEPC document register and up loaded on the ABD web site.

Grievance Redress Mechanism

A Grievance Redress Mechanism (GRM) for all subcomponents of the PVUDP has been developed and has been established to receive, evaluate and facilitate the resolution of affected people's concerns, complaints and grievances about the environmental and social performance of the project. The GRM is based on accepted practices and government protocols in Vanuatu and provides an accessible, time-bound and transparent mechanism for the affected persons to voice and resolve social and environmental concerns linked to all projects undertaken within the PVUDP infrastructure development activities.

Conclusion and Recommendations

The PSF works when completed will have a beneficial impact on the environment. The benefits include improvement to the urban environment of Port Vila through new and improved public sanitation facilities, better access to such facilities, improved management of wastewater and sewage and improved health and hygiene for the Port Vila public who use these facilities and frequent these public spaces within Port Vila.

This IEE, including the EMP is considered sufficient to meet the government's and ADB's environmental safeguard requirements in respect of the PVUDP. No further or additional impact assessment is considered necessary at this stage. Therefore this IEE including the EMP is recommended for approval by the DEPC

1.0 BACKGROUND

Sustainable urban development through improved access to basic services such as sanitation facilities is an important priority for the government under its Priorities and Action Agenda (PAA) 2006-2015 and a medium-term action program, entitled “Planning Long, Acting Short Action Program.”¹ The latter prioritizes a set of short- and medium-term development initiatives. This is also identified among the three core sectors for support under the Asian Development Bank’s (ADB) Country Partnership Strategy for Vanuatu (CPS) 2010-2014.² The CPS also places emphasis on long-term support for country systems and capacities in core areas such as rural and urban infrastructure, which includes Public Sanitation Facilities (PSF).

The expected impact of the PVUDP is the sustainable urban development of Port Vila and surrounding peri-urban areas. The expected outcome is that the government of Vanuatu (GoV) has sustainably improved hygiene situation and reduced water-based hazards in greater Port Vila. The project has 5 outputs with Output 3: *Central area and settlement communities use improved hygiene facilities* is directly relevant to the rehabilitation of existing and the construction of new PSF.

The PVUDP IEE provides a detailed description of the existing environment and the projects potential environmental impacts associated with the scope of works to be undertaken in Port Vila and peri-urban areas. This report provides the background information for the PSF SEMP and should be referred for additional information.

The PVUDP original Project Preparatory Technical Assistance (PPTA) report recommended in April 2011, five (Main Fruit and Vegetable Market in CBD, Seafront Handicraft Market, Municipal Stadium (STADE), Korman Stadium and Seaside Paama) and six (Seafront Stage, Seafront Handicraft Market, Saralana Park, Municipal Stadium (STADE), EX FOL indoor sports complex, Port Vila Central Hospital) PSF to be considered for refurbishment and newly constructed within Port Vila, respectively.

In August 2015, DSCD consultants engaged in consultation with project partners to assess existing public toilet facilities in order to identify and confirm viable sites for refurbishment and/or construction. DSCD consultants met with the PVMC Town Clerk who recommended Saralana Park, Independence Park, Fatamaru Bay and MIPU bus stop as priority sites for construction and/or refurbishment. DSCD consultants subsequently met with the Ministry of Internal Affairs, Department of Tourism, New Zealand MFAT, Australian DFAT, Department of Local Authorities, Vanuatu Police Force, Department of Youth and Sport, Vanuatu Cultural Centre, UN Women, Fes Napuan Committee, Sport Council, Sports Department, Port Vila Football League, Vanuatu Cricket Association, Port Vila Central Hospital and Shefa Health Department in order to assess the viability of the sites proposed by Port Vila Municipal Council (PVMC) and the PPTA.

During the PSF feasibility studies, a wide range of options were evaluated and taken into consideration in formulating the final PSF recommendations. This included, but not limited to:

- a. Population density of users, both passing through or remaining within the vicinity of the PSF;
- b. Availability of suitable and uncontested land for a sanitation facility;
- c. Support from government bodies specially the PVMC and Ministry of Lands;
- d. Lack of existing or non functioning sanitation facilities;

¹ The PAA was developed with ADB support: ADB. 2004. *Technical Assistance to the Republic of Vanuatu for a Medium-Term Strategic Framework*. Manila.

² The two other sectors are transport and energy. ADB. 2009. *Country Partnership Strategy: Vanuatu, 2010-2014*. Manila.

- e. Public body willingness to operate and manage the sanitation facility during reasonable opening hours to maximize access to the public;
- f. Road access for septic haulage;
- g. Availability of water supply and electricity;
- h. Solid waste management support needs; and
- i. Evidence of existing cooperation with the public users and surrounding community.

This resulted in four (4) recommended and approved PSF sites consisting of three (3) new and one (1) refurbished facilities. The four PSF sites include; (i) Vila Central Hospital (3 small facility refurbishments and up grades located within the old outpatients building), (ii) a new facility within the Port Vila Main Fruit and Vegetable Municipal Market (relocation of the existing facility), (iii) a new facility for the Cricket and Sport ground at Independence Park, and (iv) a new facility at Fatumaru Bay.

Port Vila's sanitation infrastructure subsector has received minimal capital support since the time of independence in 1980. The state of sanitation in the different communities in Vanuatu remains a challenge for the GoV, Civil Society Organizations and development partners to address in order to raise the standard of health and well being for its people. The poor state of sanitation is more evident in community settlements in urban and peri-urban areas and it is estimated that only 43% of the urban population in the two main centers of Port Vila and Luganville are using flush toilets and 37% in the rural areas use bush toilets³.

The system for removal and disposal of human waste from households and business premises is, at present, environmentally unsatisfactory, as untreated sludge is disposed of in open pits near major waterways, exposing the urban population to waterborne diseases in public areas of the Central Business District (CBD) as well as communities lack safe and hygienic sanitation facilities.

The existing PSF located in the urban areas of Port Vila are woefully inadequate to meet the current demands and requirements of the growing populations. The current carrying capacities of the PSF are insufficient to hold extra public sludge and the refurbishment and the development of new facilities are required to improve the increasing demands and requirements of the population. The existing facilities lack regular operation and maintenance that has resulted in several recurring and chronic problems, the main ones being frequent breakdown of the facilities particularly in the heavily populated areas.

Lack of provision and access to basic sanitary facilities for the people with disabilities in both urban and rural areas of Vanuatu remains high on the list of needs for people with disabilities as identified by the Vanuatu Society for Disabled People (VSDP) in its capacity as the main Non-Government Organization (NGO) service provider to peoples or persons living with a disability.

³ 2009 National Population CSF Housing Census

2.0 POLICY & LEGAL FRAMEWORK

As part of the PVUDP IEE report, an in depth regulatory review was undertaken of the nation's environmental legislation and permitting processes to identify the regulative approvals that are required to ensure the projects sub-components can be undertaken. Detailed information pertaining to the legislation and permits has been articulated in this report and should be reviewed to for further information. The principal national legislation associated with the construction and operation of communal sanitation sub-project includes:

- a. Environmental Management and Conservation Act No. 12 of 2002 (EMCA) which provides for an affordable framework for environmental protection and compliance within Vanuatu;
- b. Environmental Impact Assessment Regulations (Order No. 175 of 2011) which outlines the process for which an national environmental impact assessment is to be undertaken to seek government approval;
- c. Water Resources Management Act No 9 of 2002 for the construction, operation and/or maintenance of any physical works related to the protection, management and use of water, including any storm water and/or wastewater works;
- d. Waste Management Act No 24 of 2014 which provides for the protection of the environment through encouragement of effective waste services and operations;
- e. Pollution Control Act of 2014 which provides for minimization and management for the discharge and emission of pollution and encourage all levels of government to work together to control the discharge and emission of pollution;
- f. Physical Planning Act 22 of 1986 and building permits which are required for the erection of all buildings and structures associated with the projects scope of works;
- g. Control of Nocturnal Noise Act (CAP 40) JR 14 of 1965) which prohibits excessive noise in Port Vila between 9pm and 5am; and
- h. Health and Safety at Work (CAP 195) that provide for the health, safety and welfare of persons at work.

3.0 PROJECT DESCRIPTION

3.1 Introduction

The recommended and approval of four (4) PSF sites includes the refurbishment of 1 existing multi-purpose PSF at the Vila Central Hospital (includes 3 small facility refurbishments within the old outpatients building – Women’s Health Clinic, Maternity Ward & Maternity Ward Extension) and the construction of 3 new PSF (1 each at the Port Vila Main Fruit and Vegetable market, the cricket/sports ground at Independence Park and Fatumaru bay). Table 1 provides a summary of the improvements that will be undertaken by the PVUDP and Figure 1 provides a location map of each of these facilities. Figure 2, Figure 3 and Figure 4 provide location sites for the three new PSF, PVFVMM, Independence Park and Fatumaru Bay, respectively.

Table 1: Project Improvements to Multi-Purpose and Multi User PSF.

Key Map	Description
Rehabilitation Works: Public Toilets and Shower Facilities	
1	Vila Central Hospital – 3 facilities located with the old outpatients building to include the maternal/antenatal health clinic, the maternity ward and the maternity ward extension).
New Construction: Public Toilets, Showers Facilities and Septic Systems	
2	Port Vila Main Fruit and Vegetable Municipal market.
3	Cricket/sports ground at Independence park.
4	Fatumaru Bay.

The proposed PSF are all located within the urban area of Port Vila either located within existing structures (hospital and market) or on vacant parcels of land that have been previously cleared of natural vegetation and have been back filled and leveled. All sites are located on government land owned by the Port Vila Municipal Council (PVMC). Proposed refurbishment and new facilities scope of works for each site have been fully endorsed by the landowners. The PVUDP “Due Diligence Report for the Public Sanitation Facilities” should be reviewed for the official signed land approvals. Access and amenities for the use of disable persons has been incorporated into the design for each facility.

Figure 1: Location Map for the 4 PSF

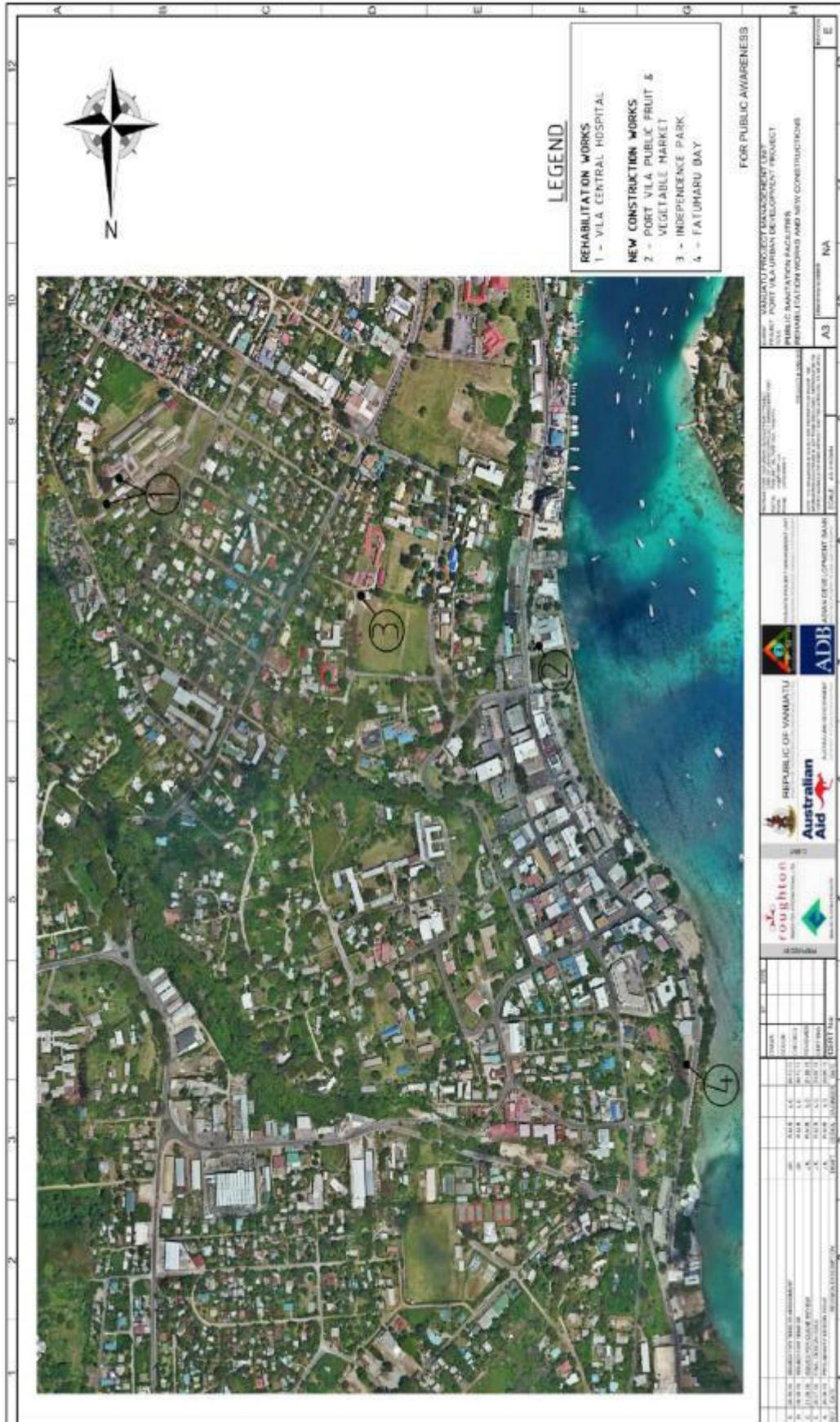


Figure 2: Location of the PSF at the PVFVMM

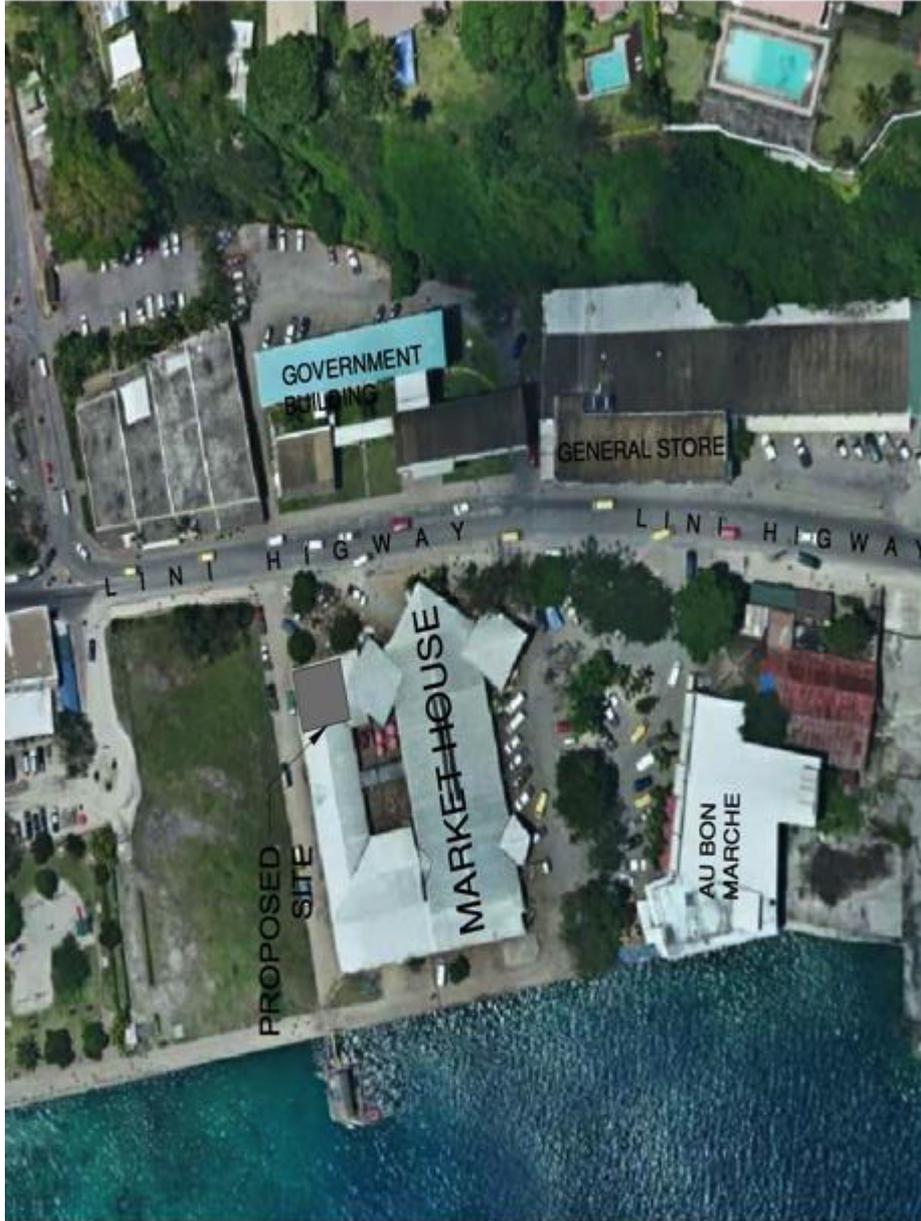
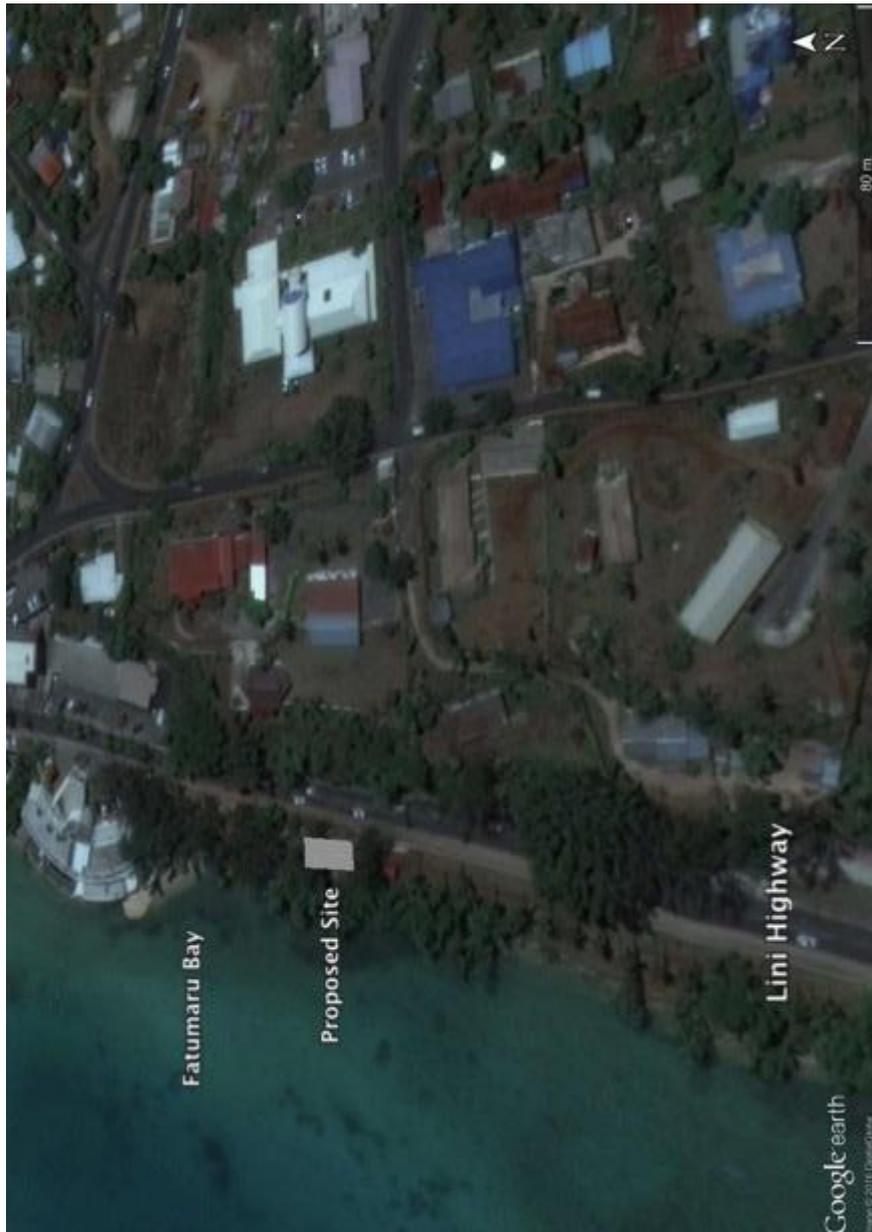


Figure 3: Location of the PSF at Independence Park.



Figure 4: Location of the PSF at Fatumaru Bay.

3.2 Scope of Works (Construction) for the PSF

All PSF sites are located in populated urban areas of Port Vila. Due to the differences in the physical and public/social characteristics of the four recommended project sites, the size of the buildings, infrastructure requirements, access and the services the project sites are to provide, all sites have been developed individually and are reflected in the scope of works. However, a number of cross-sectorial design and construction best practices and methods have guided the development of these facilities and have been highlighted below.

The design processes for each of the PSF have included consultation with various stakeholders to ensure that the interest of all users has been accounted for and has resulted in robust and low maintenance solutions. The buildings have been designed specifically so as not to upset any one gender and respecting as much as possible cultural taboos regarding the separation of genders. The provision of showers and the number of toilets is dependent on the space available and the needs assessed for the area during consultation. There will be male and female facilities and also universal disability toilets with good acceptable access ramps for those on wheel chairs at all PSF.

All refurbishments and new buildings have been designed to comply with DFAT acceptable design guidelines, the draft Vanuatu building codes and relevant Australian and New Zealand building standards including design specifications to withstand high cyclonic winds and earthquake loads. All plumbing for waste water and solid waste complies with the Vanuatu Public Works Department (PWD) standards with the exception of the PVFVMM house where an appropriate sized septic system and soakaway will be commissioned to cope with the large volume of users and it's proximity to Port Vila Bay. The PSF designs include:

- New construction shall be reinforced block work, rendered and painted externally, and rendered and painted or tiled internally. Roofing shall be colorbond (or similar) with insulation, on steel frames. Flooring shall be concrete slab with non-slip tiled finish;
- All partitions between male and female facilities shall be block work;
- Refurbishments will involve restoring all toilets to good working order or replacing existing toilets.
- At all PSF provisions are to be incorporated to ensure all grey water is piped directly to the facilities soakaway and only sewage is piped direct to the facilities septic tank/s;
- All joinery, plumbing and sanitation fixtures and fittings shall be robust and capable of easy maintenance. Fittings and fixtures shall be of high quality and selected for durability with local availability of replacements considered.
- Windows should be constructed from ventilation brick and placed high enough to ensure women's privacy. Windows are to be placed to provide sufficient through-ventilation;
- Electric lighting shall be provided internally and externally;
- Pipework shall be externally fixed and recessed for ease of access and maintenance;
- Finished surfaces shall generally be tough, easily cleaned, and resistant to vandalism;
- As far as possible, surfaces shall be specified from which graffiti can easily be removed.
- Shower and toilet doors shall be constructed of quality, painted hard wood, for durability. Hooks will be placed on inside of shower and toilet doors;
- All toilets to receive permanently fixed rubbish bins with lids;
- Septic tanks will be constructed as minimum of 3 chamber and of large size, minimum 6m³ at the 3 new facilities;
- Large, deep soakaway pits will be constructed, reinforced with concrete rings or blocks and filled with coral gravel for all grey water sources which includes laundry sinks, showers, hand wash basins, stand pipes.

Building permits for all the new buildings, including the refurbishment of the PVFVMM will be obtained by the PVUDP and PVMU. The consents for the locations and the designs have all been provided (see PVUDP Due Diligence report for the PSF) and lodging of the new designs and building permit applications have been submitted to the Port Vila Municipality Council as is typical for all new buildings within Port Vila.

The existing PSF (Central Hospital) facility will be refurbished and upgraded and will exclude any works associated with the septic system and waste water management as the existing system will be used, whilst new facilities will be constructed. A summary of each of the project amenities is listed in Table 2 and each project site and scope of works is provided below.

Table 2: Summary of each Project site's amenities.

Amenities	Independence Park	PVFVMM	Fatumaru Bay	Hospital
Women				
Shower	0	3	1	3
Toilet	2	5	3	6
Hand Sink	1	3	1	4
Laundry Sink	0	1	0	0
Men				
Shower	0	1	1	0
Toilet	1	3	1	0

Hand Sink	1	2	1	0
Urinal	1	2	2	0
Child				
Hand Sink	0	2	2	0
PWD				
Shower	0	0	1	0
Toilet	1	1	1	0
Hand Sink	1	1	1	0

3.2.1 Port Vila Fruit and Vegetable Municipal Market PSF

The PVFVMM has an existing public toilet facility which services the general public and specifically the needs of the mainly women market vendors. These facilities are operational however are old, run down and are struggling to meet demand usage. Upgrading and/or replacement is required, however to reduce pollution into Port Vila Bay from the existing facilities and as part of the effort to improve views towards the Bay for the beautification of Port Vila, this facility will now be moved from its current location near the seawall at the back of the facility (Figure 2, Plate 1) to the front of the market house. These actions will include the decommissioning of the existing septic tank system (see below) (the existing system does not have any soakaways) and the construction of a new facility within the existing market building (Plate 2).

Plate 1: Locations of the existing PVFVMM sanitation facility.



Men's bathroom is to the left (a), women's to the right (b) including the two septic tanks located in the foreground, a close up of the women's bathroom outside (c) and men's inside (d).

The decommissioning of the existing septic tank systems will follow standard Australian and New Zealand protocols, which in summary will include the complete removal of all septic

wastes within the septic systems (pumped out) and disposal of the waste through the Port Vila Sewage treatment plant. The cement septic tanks will be dismantled with the material either removed from the site and/or compacted in situ and then backfilled and capped.

A new male and female bathroom toilet block and wastewater treatment facility will be constructed adjacent to the main building. The bathroom facilities include; a office room, disable bathroom and access ramp including a toilet and wash basin, male bathroom including toilets, urinals and wash basins and a female bathroom including toilets, showers and wash basins. The new wastewater treatment plant (Figure 5 & Figure 6) includes an absorption trench and grease trap system to manage the market vendor’s effluent.

Plate 2. Locations of the proposed new PVFVMM sanitation facility within the market.



Figure 5: Proposed septic tank system at PVFVMM (extract from Vanuatu National Building Code 2000).

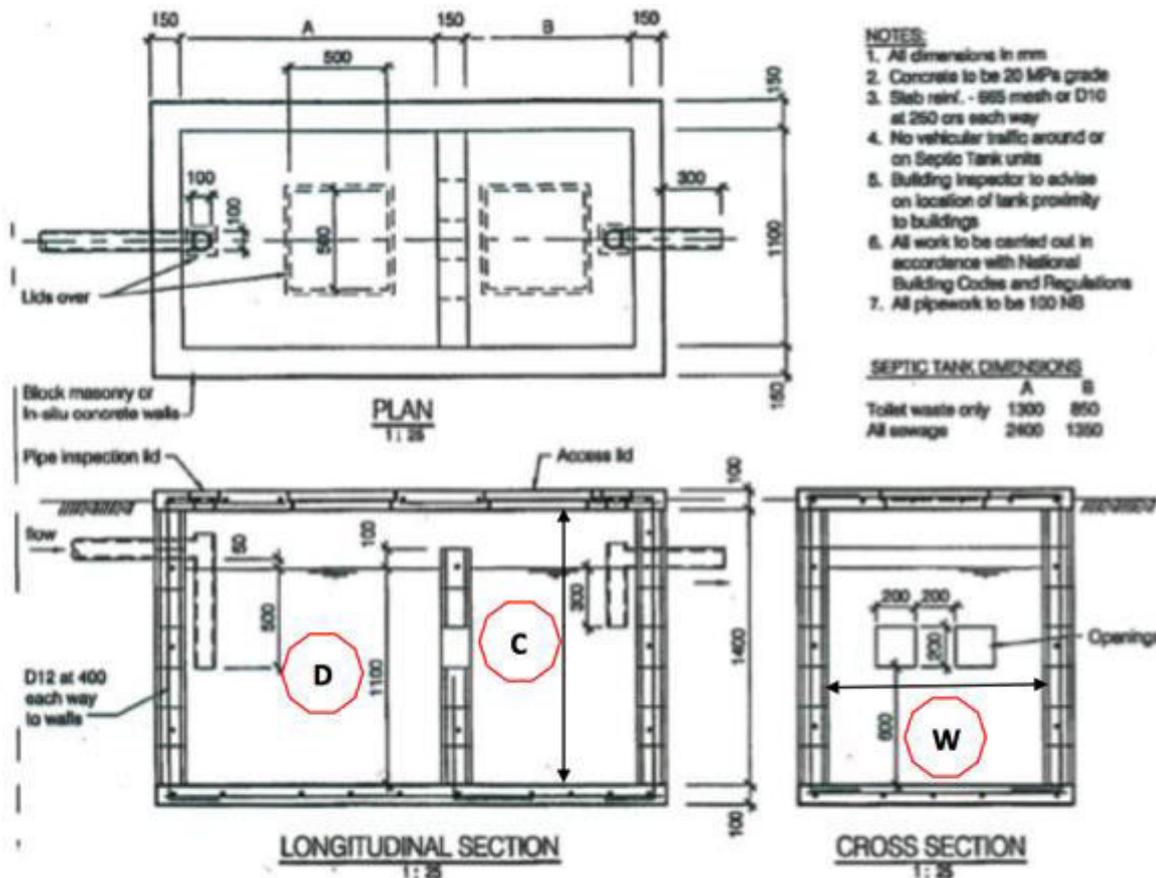
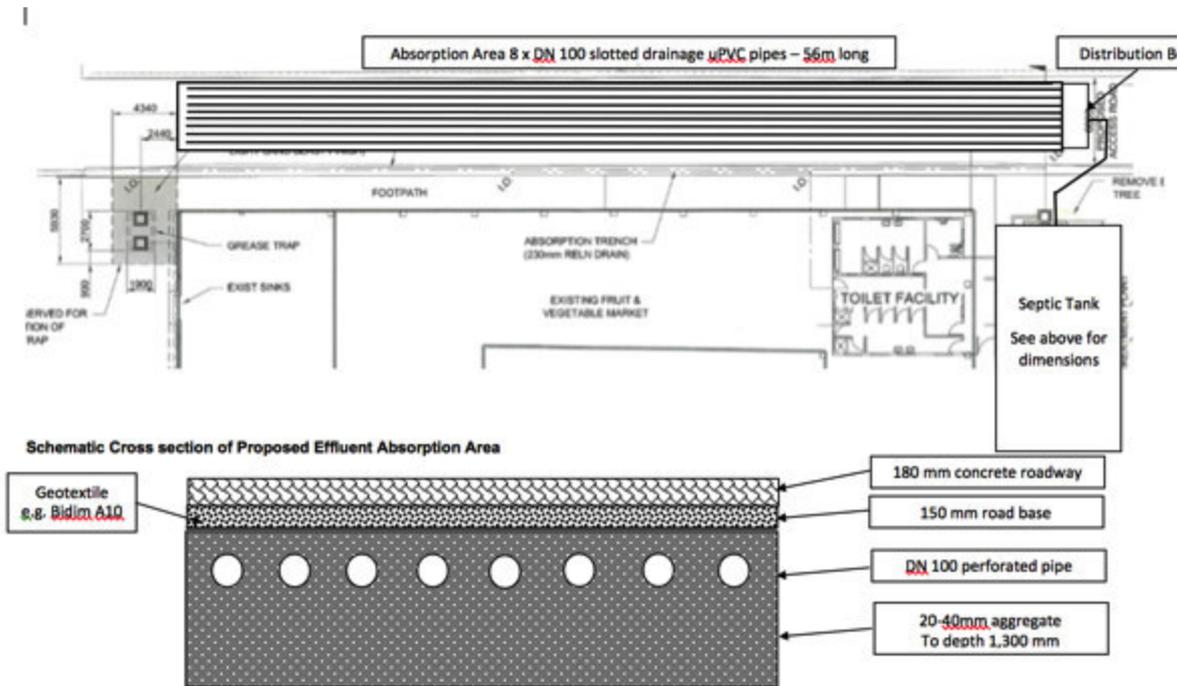


Figure 6: Proposed wastewater arrangements at the PVFVMM.



3.2.2 Fatumaru Bay PSF

There are currently no public amenities located within the area directly south of the CBD for the general public. The current pedestrian usage of this area and the adjacent park land (currently being developed as part of the foreshore development project) urgently requires a public sanitation facility. A site shoreward of the road located on Port Vila Municipal Council land has been identified (Plate 3a) and agreed to site the PSF. The site has been previously cleared of vegetation and back filled, however one small banyan tree (*Ficus obliqua*) and a small stand of bamboo (*Bambusa sp.*) will need to be removed (Plate 3b).

The new PSF will be constructed and will include; a office room, disable bathroom and access ramp including a toilet and wash basin, male bathroom including toilets, shower and wash basins and a female bathroom including toilets, shower and wash basins. The facility includes a septic system and soakaway. The soakaway will be located to the opposite side (west) of the road with all effluent discharged through a PVC pipe under the road.

Plate 3: Fatumaru Bay PSF Site Location



3.2.3 Central Hospital PSF

The Port Vila Central Hospital was chosen before the construction of the new outpatient wing, which has since been completed and provides public toilets. There was identified however a need to improve the facilities in use in the maternal health clinic and the maternity ward (Plate 4), with a view that improving these facilities would be of great benefit to women and particularly newborns. It should be considered also, that because it is customary for family members to visit and stay with new mothers, the use of these facilities would not be limited solely to the female patients. The hospital administration will operate and manage the refurbished facilities. The refurbishment and up grading of the 3 small facilities within the hospital includes new wash basin, toilets, showers, doors and security requirements. The toilet and wastewater generated from these facilities will be directly plumbed into the hospitals main sewage collection system.

Plate 4: Central Hospital PSF Site Location



3.2.4 Independence Park PSF

There are currently no public amenities located within Independence Park. The current level of national and sporting events at Independence Park urgently requires a public toilet to ensure good sanitation and hygiene practice. Vanuatu Cricket Association (VCA) has agreed to operate and manage the new public facilities and offered to manage all scheduling for the park. Ministry of Internal Affairs would serve as the supervising authority. The proposed site is located in the southeastern corner of the park, directly to the east of the existing cricket club house (Plate 5). The site location has been agreed by the Ministry of Lands and Ministry of Internal Affairs and VCA. The new facility will consist of the construction of a sanitation block that includes 3 toilets and 3 hand sinks, 1 shower for women and 3 toilets, 3 hand sinks and 1 large urinal and 2 showers for men. The facility includes a septic system and soakaway.

Plate 5: Independence Park PSF Site Location



The Fatumaru Bay and Independence Park toilets are both new facilities that will be operated and maintained by the Port Vila Municipal Government and Vanuatu Cricket Association respectively. These two areas were selected to increase coverage of public toilets in Port Vila in areas with high through traffic, and in the case of Independence Park also to serve the spectators and sportspeople who regularly use the Independence Park fields.

3.3 PSF Designs

The locations of the existing facilities and new facilities have been discussed with the government owners of the land and users of the facilities who have given their consent for development of the PSF. Detailed engineer drawings have been developed for each PSF and have been compiled into the PVUDP report titled “Engineering and Architectural Design of the Public Toilet Facilities Port Vila” (PVUDP) and should be referred to when required. Apart from the Hospital refurbishment project which will use the existing septic and soakaway systems, all project activities will include the construction of the facility and associated septic and soakaway systems. Figure 7, Figure 8 and Figure 9 provide a summary example of the PSF design for the PVFVMM, Fatumaru Bay and Independence Park (cricket facility), respectively.

Figure 7: Layout Drawing for the PSF at PVFVMM.

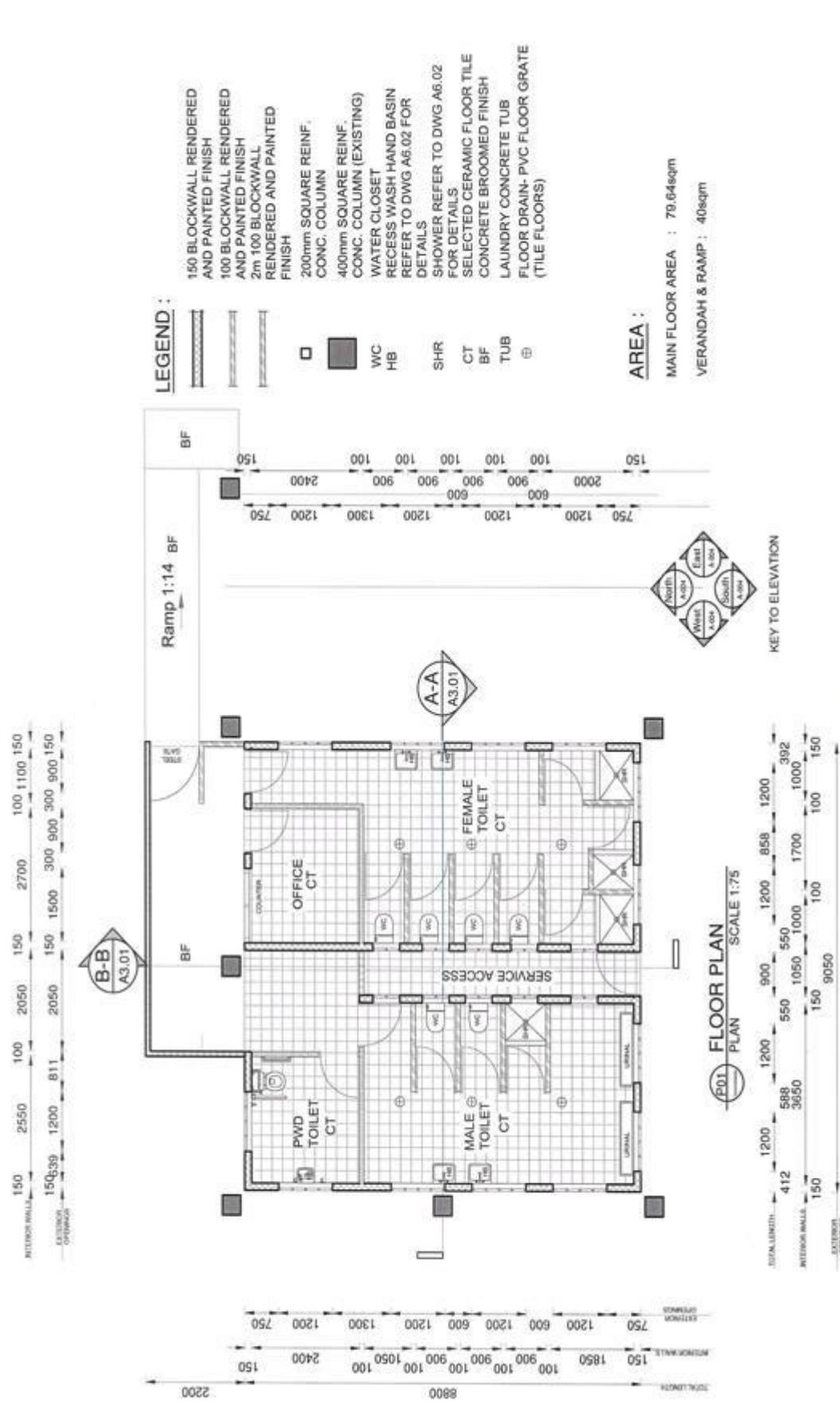


Figure 8: Layout Drawing for the PSF at Fatumaru Bay

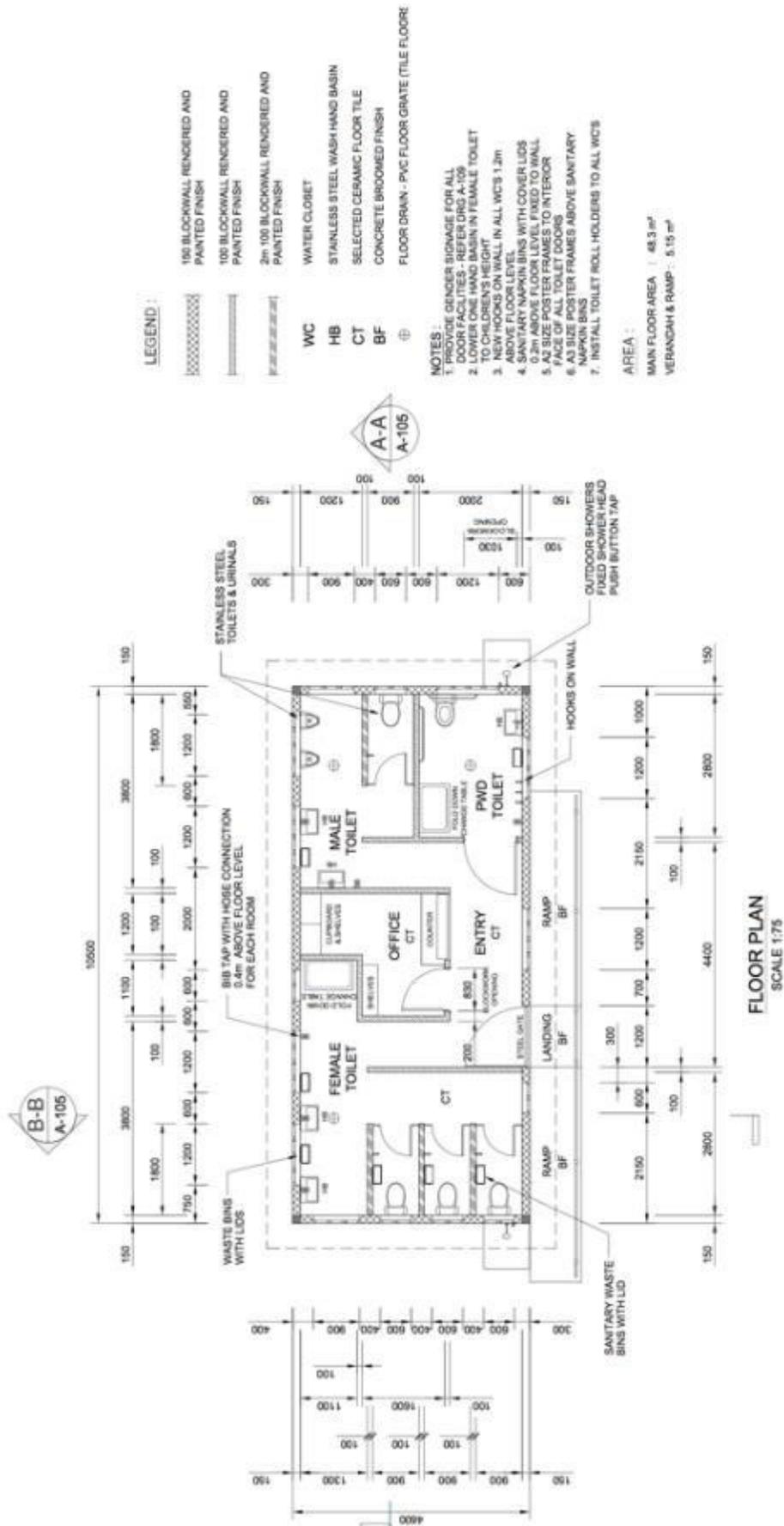
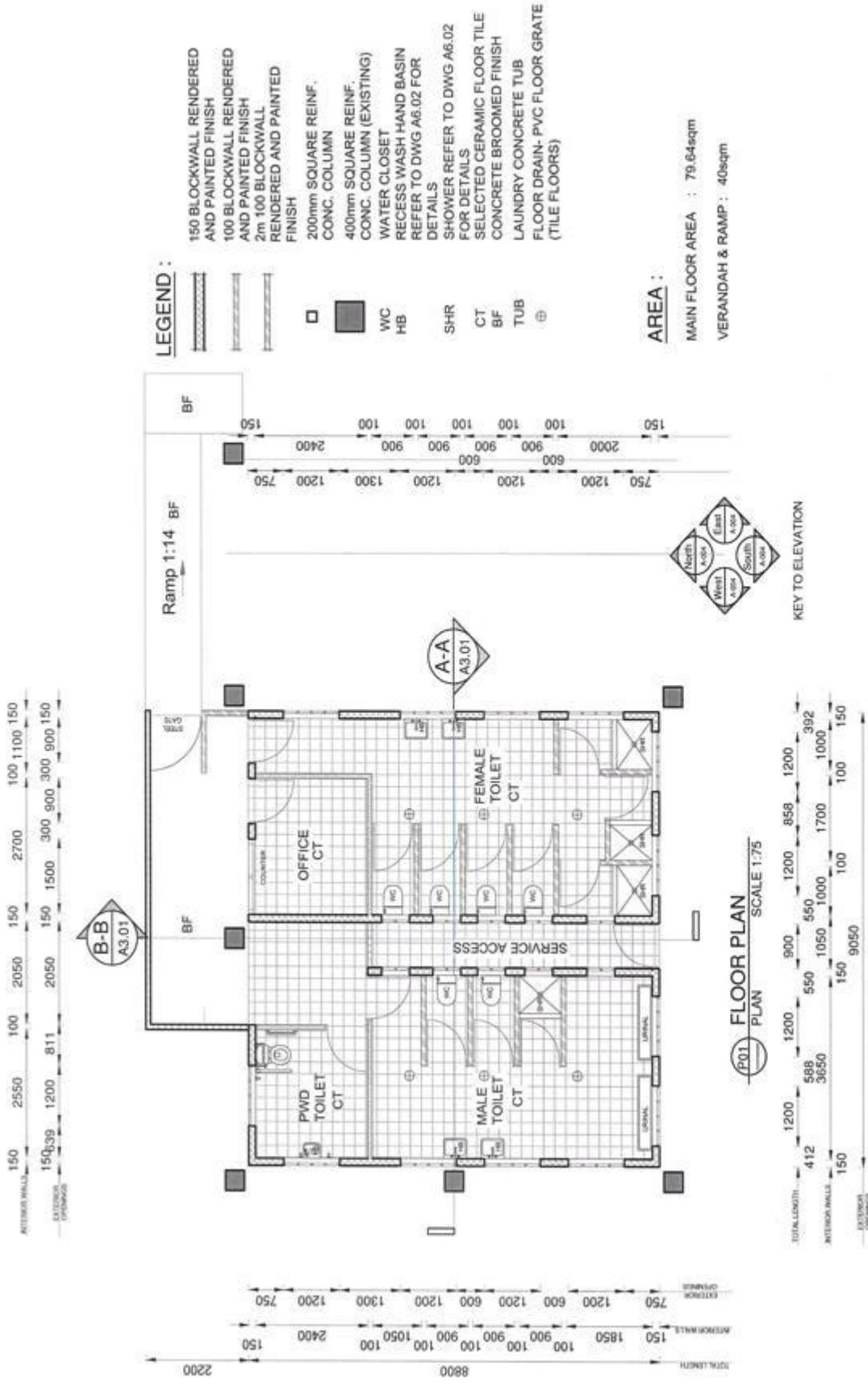


Figure 9: Layout Drawing for the PSF at Independence Park.



The sizing of the septic tanks and volumes for aerobic systems have been based on the Vanuatu National Building code and are shown in Annex 2, and have been based on the daily usage assumptions detailed in Table 3.

Table 3: Public usage daily estimate of use for the three new PSF.

Public Sanitation Facility	Number of Usage Daily Persons	Estimated waste water Flow per day
Independence Park	100	6,000 litre/day
Fatumaru Bay	100	6,000 litre/day
Port Vila Fruit & Vegetable Market	500	28,000 litre/day.

3.4 Operations and Maintenance

The ongoing operation and maintenance of the PSF has been considered during the design process in consultation with public and community stakeholders.

Government and Public willingness to operate and manage the maintenance of the facilities is required to ensure their longevity. Through the PSF PVUDP community consultation initiatives (refer Annex 4) information was exchanged to understand the effected public and government past experience and willingness to undertake operation and maintenance activities. At all sites there were active public representation and support to ensure the ongoing care to the existing and new facilities. Public discussions will continue throughout the duration of the project to ensure information is exchanged and constructive dialogue is maintained with all stakeholders.

World Vision, a Non-government organisation (NGO) has been involved in the development and delivery of the PSF workshops and training programs to the market managers, business vendors and general public associated with the Port Vila Fruit and Vegetable market through their “Wan Smol Bag” community-public sub contract projects. This will ensure that the investment in this facility is complemented with a general public understanding of safe hygiene practises and the facilities maintenance. Similarly, as part of the daily operations of the Port Vila Hospital hygiene practises will be taught and practices implemented.

- a. At the Central Hospital (3 PSF will be rehabilitated which included the Women’s Health Clinic, maternity Ward and the Maternity Ward Extension) the Management committee are willing and have agreed to coordinate the projects OH&S requirements.
- b. The Vanuatu Cricket Association Committee are willing and have agreed to coordinate the management and the projects OH&S requirements for the new PSF to be built at Independence Park.
- c. The Port Vila Municipality Council through it current management arrangements at the Fruit and Vegetable market are willing and have agreed to coordinate the management and projects OH&S requirements for the new PSF to be built within the market. Public awareness and skills transfer associated with OH&S training will be provided by the NGO “Wan Smol Bag” through funds provided by the PVUDP.
- d. The Port Villa Municipality Council Shefa are willing and have agreed to coordinate the management of the projects OH&S requirements for the new PSF to be built at Fatumaru Bay.

4.0 DESCRIPTION OF ENVIRONMENT (BASELINE CONDITIONS)

The section below provides a summary account of key baseline conditions pertaining to the physical and biological environments directly associated with the PSF sub-project sites. Additional information pertaining to these baseline conditions has been articulated in the PVUDP IEE report and should be referred to, for further background information.

All approved PSF are located within the urban community areas of Port Vila and are, as such located on highly modified land that has been significantly cleared of natural vegetation and supports different levels of construction activities. The approved PSF individual site location areas of influence do not include freshwater streams or rivers, are not associated with any terrestrial protected or conservation areas, sites of cultural, customary or heritage sites nor are they associated with or support any terrestrial ecological or biological (flora or fauna) endemic, endangered or significant biodiversity.

A site inspection of all sites was undertaken in July 2017 to confirm the status of the existing environment and identify key environmental receptors. A brief description of the existing environmental conditions is presented below and takes account of i) observations during the recent site inspection and ii) key findings of the recently tabled PVUDP Final Water Quality Monitoring Report: June 2016.

Vila Central Hospital – The three existing facilities to be refurbished are all located within the old outpatients building and include the maternal/antenatal health clinic, the maternity ward and the maternity ward extension. The immediate site is a busy hospital compound. The key sensitive receptors will be the patients and staff working within the hospital building during construction and operation of the works as well as the general public and hospital staff within the hospital grounds in the vicinity of the works which could be used for minor and temporary storage of construction materials and/or demolition waste.

Central Market PSF– The site of the proposed new PSF is located on the northern and landward side of the adjacent Lini Highway within the market lease area. The new PSF will replace the existing PSF on the west side of the market adjacent to the seawall. The existing PSF including septic tank is in poor condition and will be demolished. The footprint of the proposed new PSF is currently partly occupied by the temporary mamas handicraft market due to be relocated to the new Vanuatu Tourism Infrastructure Project (VTIP) handicraft market pavilion.

The site can be characterised as a highly disturbed urban coastal environment. Key sensitive receptors include i) the itself, ii) the temporary mamas handicraft market to be at least partially demolished to make way for the facility; iii) the site of a proposed new shopping and residential development on the northern side of the site iv) the recently constructed seafront park public amenity v) a relatively large heritage tree used for shade juxtaposed to the footpath and site footprint; vi) the natural ground water system that discharges into the nearby marine environment vii) the marine environment on the western side of the Central Market viii) pedestrians and road traffic within the CBD accessing the various amenities; and ix) shops and other small businesses immediately across the road from the site.

Noise levels are moderately high during business hours in the vicinity of the site, mainly from traffic (no data available). Ambient air quality in the vicinity is affected to some extent by dust and vehicle emissions from road traffic especially during business hours, although the extent and significance of such impact is unknown due to lack of available data. Currently air quality in the vicinity is temporarily exacerbated to some extent due to surrounding construction activity associated with the seafront park.

The PVUDP Water Quality Monitoring Final Report was submitted to VPMU in June 2017. The key findings of this report with respect to existing freshwater and marine water quality around the CBD and Fatumaru Bay are presented below:

- Parts of the stormwater system in the CBD are contaminated with sewage and there is widespread presence of faecal indicator bacteria in the harbour. Comparison with UNEP monitoring data from 1987 shows a significant increase in concentrations of faecal bacteria in Port Vila waters
- The existing high concentration of coliform bacteria in the harbour suggest that there is a steady and concentrated recharge of these bacteria into the marine system. The source of this recharge is the stormwater drains and possible diffuse source migration from numerous septic leach fields along the coast.
- Sewage ingress to the harbor via the storm water system appears to be a minor contributor to the contamination inputs. It is vitally important that the quality of groundwater flows to the harbor be systematically assessed to determine the associated contamination impacts on marine water quality and facilitate planning of corrective measures such as clustered sewage infrastructure to prevent ongoing groundwater and marine contamination.
- There is a potential health risk to humans who consume seafood from the harbor waters due to the ability of animals and particularly shellfish, to accumulate some human pathogenic bacteria.

Fatumaru Bay –The PSF site is located along the waterfront public walkway about 50m south of Chantilly’s Resort. The walkway has recently been upgraded under the VTIP. The site is immediately adjacent to the Lini highway on its eastern side and is about 15 m from Fatumaru Bay shoreline to the west. The walkway is well used by the public and tourists and includes new sitting out and children’s play areas.

The area consists of a highly modified terrestrial ecosystem that lacks any habitats suitable for significant terrestrial flora and fauna biological populations and terrestrial biodiversity. Key sensitive receptors associated the subproject include recreational users of the walkway several palm trees and bamboo bushes, the natural ground water system that discharges into the adjacent marine environment, and the adjacent marine environment itself.

The area is subject to moderate traffic noise from Lini Highway during business hours. Air quality appears to be good (no data) and occasionally susceptible to minor dust nuisance and vehicle emissions during busy traffic periods. Otherwise the setting is tranquil.

Marine water quality adjacent to the site has similar characteristics as described above for the PSF with key findings of the PVUDP Final Water Quality Monitoring Report June 2017 applicable.

Independence Park –The PSF site is located on grassed land adjacent to the Independence Park Pavilion at the southeast corner of the playing field complex and immediately across the road from the access road to the Police Training College (approx. 30 m away).

The area consists of a highly modified terrestrial ecosystem that lacks any habitats suitable for significant terrestrial flora and fauna biological populations and terrestrial biodiversity. It is grass. Key sensitive receptors associated with the facility include recreational users of the park and the natural ground water system. The nearest residential building is approximately 100 m east of the PSF site. The area is subject to very limited traffic noise and air quality appears good.

5.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

5.1 Screening of Potential Impacts

The PSF is categorized, through the ADB Rapid Environmental Assessment (REA) for Sewage Treatment checklists, as Environment Category B in accordance with ADB Safeguard Policy Statement (SPS) 2009 (ADB, 2009). Therefore, as part of the Updated PSF IEE process, a number of these potential impact issues and mitigation measures were identified (refer Annex 3) and thus were screened by the project's environmental team to determine the level of environmental risk. The risks can be summarised as potential impacts associated with the (i) pre construction (ii) construction and (iii) operation/management phases of the project.

Through the PVUDP social safeguard screening assessment process it was found that there is no expected risk of landlessness, loss of home, and/or loss of major income source as a result of the project because it will not require acquisition of private or customary-owned land. However it was identified that public awareness, understanding and information exchange associated with the project is required to ensure continued community support and compliance. The PVUDP social safeguard assessments, including Indigenous People (IP) and Involuntary Resettlement (IR) issues associated with the PSF have been documented in Report 26 "Due Diligence Report for the Land Contribution Volunteered by the Government for the Proposed PSF". The ADB IEE requirements of Indigenous People (IP) and Involuntary Resettlement (IR) issues associated with the project component are extremely low and require no additional investigation or reporting.

The following section provides an assessment of the subproject's likely impacts on physical, biological, socio-economic and physical cultural resources, taking account of issues identified in the REA and subsequent investigation. It also identifies mitigation measures to ensure all such environmental impacts will be avoided or managed/reduced to acceptable levels.

The mitigation measures identified below along with other environmental management requirements normally associated with international best practice will be implemented in accordance with the EMP.

5.2 Impacts on the Physical Environment

Water Quality

During the construction phase of the project there is a potential, if not correctly managed, for localised and short-term water contamination resulting from runoff including suspended sediments and construction contaminants entering the surrounding terrestrial or marine environment. This will only be during periods of high rainfall during the short construction phase. All runoff will be contained and very localised. Potential impacts of hazardous materials (e.g. petrochemicals) on water quality are identified in the subsection below. Construction activities that could result in impacts on either fresh water or marine water quality include;

- Clearance of the project site and temporary stockpiling of excavated materials, especially sites adjacent to the foreshore (Central Market and Fatumaru Bay PSFs affecting marine water quality);
- Decommissioning and/or removal of existing Central Market PSF and septic tank potentially resulting in some release of sewage into the marine environment
- Spoil disposal from excavation works, including the decommissioning of the septic systems associated with the Central Market.
- Excavation and resurfacing works associated with construction of PSF site pad, septic systems which include tanks and soakaway pits, and drainage systems

A range of proven mitigation measures associated with good construction practice will be implemented during the refurbishment and construction of each PSF to avoid or minimize water quality impacts in the project area. Typical mitigation measures will include:

- Minimizing the vegetation clearance (very limited vegetation will be required to be cleared for the PSF construction, no trees).
- Pumping/clearing out septic water and sludge from the Central Market PSF and disposal at the Bouffa municipal landfill, prior to decommissioning of the PSF and septic tank
- Cover/stabilize all exposed surfaces and excavated materials during construction;
- Close construction supervision to ensure the above measures are implemented; and
- As much as possible avoiding construction work during the nation's wet season (January - April).

The contractor will be required to identify in the construction environmental management plan (CEMP), site specific methods on how the above potential impacts will be mitigated to acceptable levels at each PSF site.

Potential operational impacts on water quality include the possible ground water contamination through septic tank soakaway seepage. This is particularly pertinent in the case of Central Market and Fatumar Bay PSFs located adjacent to the coastline. Any such contamination could exacerbate the existing high concentrations of coliform bacteria in the harbour (See section 5 - Central Market PSF). In view of this, it is recommended that the designs for the septic tanks/sewage treatment facilities proposed for the Central Market PSF and Fatumar Bay PSF and Independence Park, be reviewed with a view to ensuring that the impact of the operation of these facilities would not result in any additional impact on ground water contamination which has been identified as the most likely source of sustained faecal contamination of the harbour.

That being said it is noted that the reprovisioning of the Central Market PSF (currently in poor condition) from its current location adjacent to the seawall to the proposed new facility beside Lini Highway should, by virtue of its relocation approx. 50m away from the seawall, lead to a reduction in any existing faecal pollution arising from operation of the existing facility.

In the case of Fatumar Bay PSF an additional potential source of faecal contamination of the harbour will be introduced and therefore it is vital that the design and operation of the septic tank/treatment facility be such that there will be no impacts on harbour water quality.

Hazardous Materials and Hazardous Waste Disposal.

At each of the PSF construction sites use of hazardous substances during construction, such as oils and lubricants can cause significant impacts if uncontrolled or if waste is not disposed correctly. Potential impacts include soil contamination and seepage into the ground water system and in the case of Fatumar Bay and the Central Market PSF sites adjacent to the foreshore, lead to contamination of the nearby marine environment.

Mitigation measures will aim to control access to and the use of hazardous substances such as oils and lubricants and control waste disposal.

The contractor's mitigation measures in the hazardous materials section of the CEMP will include but not necessarily be limited to the following measures:

- Ensure that safe storage of fuel, other hazardous substances and bulk materials are agreed by DEPC and follow internationally recognized good practice;
- Hydrocarbon and toxic material will be stored in adequately protected sites consistent with national and local regulations and codes of practice to prevent soil and water contamination;

- Segregate hazardous wastes (oily wastes, used batteries, fuel drums) and ensure that storage, transport and disposal shall not cause pollution and shall be undertaken consistent with national regulations and code of practice;
- Ensure all storage containers are in good condition with proper labelling;
- Regularly check containers for leakage and undertake necessary repair or replacement;
- Store hazardous materials above possible flood level;
- Discharge of oil contaminated water shall be prohibited;
- Used oil and other toxic and hazardous materials shall be disposed of off-site at a facility authorized by the VPMU/DEPC;
- Adequate precautions will be taken to prevent oil/lubricant/ hydrocarbon contamination of drainage channel beds;
- Spill clean-up materials will be made available before works commence (e.g., absorbent pads, etc.) specifically designed for petroleum products and other hazardous substances where such materials are being stored; and
- Spillage, if any, will be immediately cleared with utmost caution to leave no traces.
- All areas intended for storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations complying with all the applicable statutory stipulations.

Provided the hazardous materials section of the CEMP is prepared, approved and implemented in accordance with the above recommendations the environmental impacts associated with hazardous waste management are expected to be negligible.

Construction Material and Spoil Waste Management

Small to moderate amounts of limestone aggregates, sand and cement and other equipment and materials will be required for the up-grade and replacement construction of the existing and new PSF buildings and minor road works and drainage systems at each site. It is envisaged that a dedicated borrow pit /quarry will not be required for the PSF project and that aggregates can be sourced from existing sources on Efate Island. Excavation activities will be limited with a corresponding limited volume of excess spoil needing to be disposed of.

The potential impacts associated with the management of construction material and spoil waste at each PSF site includes:

- Erosion of stockpiles and sedimentation of surrounding area (all sites)
- Blockage of pedestrian access ways in public areas (Central Market, Fatumaru Bay)
- Traffic disruption associated with transport of materials (Central Market)
- Use of non-renewable aggregate resources (all sites)
- Dumping of construction waste in unauthorised areas
- Fugitive dust from stockpiles and transport of materials

Given the relatively small scale nature of the works potential impacts could be minor to moderate. However, such impacts can be easily managed through good construction site management practices. In this regard the Contractor will be required to implement the following mitigation measures and construction site good practices:

- The Contractor will prepare a Materials and Spoil Management Plan (MSMP) as part of the CEMP. The MSMP will describe the contractor's methodology to mitigate the impacts identified above.

- Construction materials, such as sand, aggregate needed for concrete should come from existing quarries, in compliance with government regulations;
- No dumping of the construction waste material allowed;
 - On wetlands, forest areas, coastal and other ecologically sensitive areas;
 - On private property without written consent of the owner;
 - Into any water course and should not contaminate any water course;
- The vehicles used should be fitted with spill proof equipment;
- There should be direction boards that are easy to read and accessible to all construction staff providing route to be used to the disposal site, conformity using this route needs to be ensured;

Effective implementation of the MSMP by the contractor as outlined above will ensure that potential environmental impacts associated with the management and disposal of construction materials will be negligible.

Moreover the contractor will be responsible for;

- Obtaining all agreements associated with sources of materials;
- Fill requirements to minimize need for aggregates from other sources;
- Managing topsoil, overburden, and low-quality materials so they are properly removed, stockpiled short term near the site (covered to prevent runoff), and preserved for reuse; and,
- Arranging for the safe disposal of any excess spoil including provision for stabilization, erosion control, drainage and re-vegetation provisions at the disposal site.

Noise Levels

Construction activities using powered mechanical equipment will give rise to temporary increase in noise levels over and above existing noise in the immediate vicinity of all PSF construction sites. It is expected that noise levels from construction activities would range between 80-90 dB (A) and be periodic in nature. The magnitude of impacts will depend upon specific types of equipment to be used, the construction methods employed and the scheduling of the work.

For the three new PSF sites the largest noise impact will be generated from construction site traffic transporting materials and equipment to the site and operation of machinery at the site. This will be temporary and sporadic over the construction period.

For the Central Market site the key sensitive receptors will be the Central Market itself and pedestrians moving to and from the market within the CBD. Ambient noise in the vicinity during working hours is dominated by road traffic noise from Lini Highway and as such is relatively high at times. Fatumaru Bay PSF site has a similar ambient noise profile although traffic concentration is less. Independence Park has low ambient noise levels however, the nearest sensitive receptors (residential properties) are around 100m from the site such that the noise impact from the construction activities would be negligible.

Implementation of good practice construction methods such as using well maintained powered mechanical equipment equipped with silencers would ensure impacts are minimized and acceptable. In addition, all construction operations will be scheduled to coincide and abide with the Port Vila Control of Nocturnal Noise Act which restricts all associated work activities of this project between the hours of 5 AM and 9 PM daily.

Mitigation measures to be implemented by the contractor include typical measures associated with good construction practice such as:

- Machinery and vehicles to be maintained regularly, with particular attention to silencers and mufflers, to keep construction noise levels to minimum;
- All construction and vehicle movement that may increase noise levels will be restricted to the hours of 5 am to 9 pm daily
- Temporary noise barriers such as hoardings be erected around the sites wherever practical.
- Protection devices (ear plugs or ear muffs) will be provided to the workers operating in the vicinity of high noise generating machines

At the Central Hospital site refurbishment activities could give rise to significant localised noise impacts affecting patients and staff within the hospital itself. In this case the Contractor will need to plan and implement construction activities in close coordination and communication with hospital authorities to ensure that noise impacts from the works are minimised as much as possible. It is recommended that a detailed construction method statement and work schedule be prepared by the Contractor and discussed and agreed with hospital authorities prior to commencement of refurbishment works. This recommendation is included in the EMP.

Air Quality

Air quality conditions within the PSF project areas are expected to be temporally reduced during the construction phase of the project through increased dust production resulting from construction activities and vehicle movements. Impacts will be sporadic, very short lived (days) and subjected to the existing weather conditions during the construction period.

The implementation of standard dust mitigation and management practices will ensure that impacts on air quality from construction will be minimised. Such mitigation measures include:

- Reduce the speed of all vehicles within the PSF locations to a maximum of 30 Km/h and reduction of speed through built up and settlement areas;
- Speed limit signboards to be erected and fixed within each PSF project site;
- The material carrying trucks should be covered with a tarpaulin so that the construction material will not be spilled while transporting to the project site from the construction yard;
- Facility for regular cleaning and wetting of the PSF site should be provided to limit the dust emission where required;
- Regularly cleaning (washing) of construction vehicles in a dedicated location to reduce dust;
- The construction equipment and all vehicles used should be well maintained and emission level should be kept low;
- The construction debris will not be left on the construction site but it will be removed to a dedicated waste disposal sites.

5.3 Impacts on the Biological Environment

All PSF sites are located on highly modified land that has been significantly cleared of natural vegetation. The sites are devoid of significant terrestrial habitats and do not include freshwater streams or rivers, are not associated with any terrestrial protected or conservation areas, sites of cultural, customary or heritage sites nor are they associated with or support any terrestrial ecological or biological (flora or fauna) endemic, endangered or significant biodiversity.

In regard to the marine biological environment a potential indirect biological impact could arise if there was seepage from the soakaway pit from the septic tank installed at Faturaru Bay PSF that enters the underground water system that subsequently leaches into the harbour. Should that situation occur it could result in exacerbating the existing high levels of faecal

bacteria currently recorded in the harbour waters. This could indirectly affect the associated marine ecosystem through accumulation of pathogens in shellfish and other animals exacerbating the existing identified potential health risk to humans who consume seafood from the harbour.

This potential impact can be avoided through rigorous design, operation & maintenance of the septic tank/treatment system proposed for the Fatumaru PSF so as to ensure that there would be no significant septic discharge into the ground water system during its operational life and therefore reducing the risk of indirectly affecting the marine ecosystem.

It is recommended that further due diligence review be undertaken of the designs of Fatumaru Bay PSF and Central Market PSF septic tank/treatment systems with any necessary design changes made to ensure that during normal operations of the proposed systems there would be no significant septic discharge into the surrounding ground water system that could leach into the harbour. This requirement has been integrated into the EMP.

5.4 Impacts on the Socio-economic Environment

Occupational Health and Safety

A Health and Safety Plan (HSP) as part of the CEMP is required to be developed by the contractor to establish; (i) routine safety measures and reduce risk of accidents during construction; (ii) include emergency response and preparedness; and (iii) accidental spill procedures highlighting the sizes and types of spills that may occur, and the resources (onsite and/or offsite) that will be required to handle and treat the spill.

The HSP will cover both Occupational Health and Safety (OH&S) (workers) and community health and safety. The HSP will be appropriate to the nature and scope of construction activities and as much as reasonably possible meet the requirements of good engineering practice and national regulations (OH&S Act, 2002). The HSP will include agreement on consultation requirements (workers) established in the PVUDP Communication Plan, establishment and monitoring of acceptable practices to protect safety, links to the complaints management system for duration of the works (in accordance with agreed Grievance Redress Mechanism (GRM), and system for reporting of accidents and incidents. The HSP will include details on the following:

- Before construction commences the contractor will conduct training for all workers on environmental safety and environmental hygiene. The contractor will instruct workers in health and safety matters as required by good engineering practice and national regulations;
- Ensure an adequate spill response kits are provided, accessible and that designated key staff are trained in its use;
- Ensure that first aid, including the provision of trained personnel, is available on site and arrangements in place to ensure the removal for medical attention of workers who have suffered an accident or sudden illness at the construction site;
- The manner in which first aid facilities and personnel are to be provided should be prescribed by national laws or regulations, and drawn up after consulting the competent health authority and representative organizations of employers and workers concerned;
- Regular meetings will be conducted to maintain awareness levels of health and safety issues and requirements;
- Legal working hours and official holidays to be respected;
- Vanuatu minimum wage requirements to be observed;
- Workers shall be provided (before they start work) with appropriate personal protective equipment (PPE) suitable for civil work such as safety boots, helmets, gloves, protective clothes, goggles, and ear protection at no cost to the workers. Instructions on their use around the construction site will be delivered as part of the safety introduction procedures and site agents/foremen will follow up to see that the safety equipment is used and not sold on;

- The site office and works yard will be equipped with first aid facilities including first aid kits in construction vehicles;
- Provision of potable water supply at the work site;
- Child labor should be strictly prohibited for all activities supported by this project;
- There should be proper enforcement of the labor laws at the work place;
- All signboards should be in Bislama (local language) and repeated in either/or English and French

All measures related to workers' safety and health protection should be free of charge to workers. The worker OH&S plan is to be submitted by the contractor before construction commences and should include public safety and approved by VPMU.

Construction Camp / Site Office Impacts

The work force is expected to be small and it is highly unlikely that there will be need for accommodation at the site. However, a site storage /maintenance area is likely to be established for the duration of the construction period to service each of the PSF requirements.

Workers access to portable toilets and associated sanitation facilities will be provided at each PSF work site.

The contractor will be required to adopt good management practices to ensure that both physical impacts and social impacts associated with a storage/maintenance area are minimized. All fuels, raw sewage, wastewater effluent, and construction debris associated with the construction storage/maintenance area is disposed of appropriately.

Social impacts have not been identified as an issue with the PSF project, however measures need to be in place to address potential conflict issues between (i) workers, (ii) workers and the contractor and (iii) the contractor and works with the general public. The sites of the PSF's are located in some of the most populated areas of the urban areas of Port Vila and therefore interactions between the general public and contractor/workers is high. Public understanding and support is required to ensure the success of the project.

Mitigation measures to be adopted include:

- The contractor will put up notice boards regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restrictions;
- The facilities (storage and maintenance) will be fenced and sign-posted and unauthorized access or entry by general public will be prohibited;
- All notice board to be written in Bislama and/or English and French;
- For unskilled activities and labor, every effort to hire local people (including women) for these positions should be a priority;
- Accidental damage to utilities will be minimized by (i) obtaining plans from the PWD identifying locations of pipelines and power cables and (ii) consultation with local business owners and staff on the location of utilities prior to commencing excavation operations.

Community Health and Safety

Community safety can be threatened by works in public areas. General measures and requirements of the HSP which apply equally to community and workers have been discussed above. The HSP will cover measures to minimize risk to community safety including:

Communication to the public through public/community consultation as per the provisions of the community consultation plan including notice boards and meetings etc. regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restrictions;

- Barriers (e.g. fence) and signboards shall be installed around the camp and construction areas to deter access to or through the sites;

- The general public/local residents shall not be allowed in the sites which are high-risk areas;
- Provision of warning signs at the periphery of the site warning the public not to enter; and
- Strict imposition of speed limits along access through residential areas and where other sensitive receptors such as schools, hospitals, and other populated areas are located.

Such measures will manage risk to community health and safety to acceptable levels.

5.5 Impact Summary

Environmental impacts arising from the construction and operation of the project are generally minor, localized, and are acceptable, providing that the set of mitigations measures identified and set out in the EMP are incorporated in the design, implemented, and monitored properly.

In the light of findings in the PVUDP Water Quality Monitoring Program Final Report June 2017 it is recommended that further due diligence review of the detailed designs of Fatumaru Bay PSF and Central Market PSF septic tank/treatment systems be undertaken. The purpose of the due diligence review is to identify any necessary design changes to ensure that during normal operations of the proposed systems there would be no significant septic discharge into the surrounding ground water system that could leach into the harbour and thereby exacerbate existing high levels of faecal bacteria in the harbour.

The PSF works when completed will have an overall beneficial impact on the environment. The benefits include improvement to the urban environment of Port Vila through new and improved public sanitation facilities, better access to such facilities, improved management of wastewater and sewage and improved health and hygiene for the Port Vila public who use these facilities and frequent these public spaces within Port Vila.

6.0 INFORMATION DISCLOSURE, CONSULTATIONS, AND PARTICIPATION

The PVUDP IEE provides a detailed account of the formal and informal stakeholder consultations that have been undertaken with National, Provincial and Municipal Governments, businesses, Non-Government Organisations (NGO's), communities, public associations and the wider public and should be referred for additional information. Information discussed and obtained during these consultation activities where relevant, have been incorporated into the projects design, including the PSF SEMP. Continued dialogue through formal and informal meetings will continue throughout the duration of the project to ensure information is exchanged and constructive dialogue is maintained with all stakeholders. In addition, stakeholder meetings and discussion were undertaken with by the PVUDP social safeguard unit associated with the PSF, these separate reports should be reviewed for further information. The NGO, World Vision through their "Wan Smol Bag" community awareness programmes will deliver the public based workshops and training programs to market staff, vendors and general public associated with the Port Vila Fruit and Vegetable Market. This will ensure that the investment in these facilities is complemented with a community understanding of safe hygiene practises and the facilities' maintenance. Key PSF consultation activities include;

6.1 Provincial, Municipal and Public Level Consultations

Port Vila Municipal Council (PVMC), Shefa Provincial Government (SPG), Port Vila Fruit and Vegetable Market staff and business vendors, Port Vila Hospital Administration and Management team, the Vanuatu Cricket Association, the general public and community consultations in respect of both environmental and social issues associated with the PSF's were undertaken in Port Vila between the months of September 2014 and November 2015. The purpose of these consultations were to (i) disseminate and communicate an overview of the project and its specific goals and objectives including the areas the project will operate in, (ii) initiate dialogue to discuss and gather information pertaining to the project in general, (iii) discuss any environmental issues/concerns relating to the project, (iv) and use the information exchanged to design the PVUDP new and refurbished PSF.

The project team meet specifically (15.10.2014) with the Town Clerk (Mr. Ronald Sandy), Acting Town Planner (Mr. William Frank), and the Sanitation Officer (Mr. Rodger Tari) of the PVMC and held initial meetings with Michel Kalorai, Secretary General of Shefa Provincial Council, the Area Council Secretaries for the sanitation areas and the elected councillors of the PVMC to (i) introduce and explain the project, including specific activities, requirements and time lines of work activities, (ii) environmental safeguard requirements of the project and its subcomponents, specifically the PSF sanitation up grades, (iii) initiate dialogue to discuss and gather information pertaining to the project in general and (iv) to any environmental issues/concerns relating to the project, (v) to initiate a professional working relationship and open communication lines with the PVMC and (vi) to request the PVMC assistance in supporting the projects consultation process.

Throughout the project design phase informal discussions have taken place with the PSF provincial and local council (PVMC, SPC), government entities (hospital and market) and public associations (Cricket Association) that centred around the disclosure of information on the overall project and the specific subprojects components, which included descriptions of the potential environmental impacts, and to seek feedback relating to the project and any concerns.

A series of specific formal and informal consultation workshops meetings and discussions have been undertaken with the government, and public and private operators/vendors associated with the rehabilitation and construction of new PSF. Initial and significant consultations were undertaken between April and August 2015 for all PSF stakeholders (refer Annex 4, a, b c, d, e, f & g) for detailed list of government and public attendees and

information) to disclose the specific information associated with the sanitation sub component project and to discuss and document valid concerns and issues that were raised associated with the PSF.

Key concerns raised in respect to the current issues associated with PSF's included (i) health and sanitation concerns, (ii) population increase and capacity of the facilities, (iii) waste storage and (iv) disposal of wastes.

6.2 National Government Level Consultation for the PSF

Work began on the Project in 2012 and a number of concept design options for the PSF were prepared from which consultation was undertaken (with a number of GoV Departments, Port Vila Municipal Council (PVMC) and the general public). The preferred options for the project precincts were confirmed in 2014 and final project designs drafted in May 2015. The final draft design has been used to inform the findings within this report.

Consultations at the national level were undertaken on a one on one basis with relevant government agencies, and NGOs associated with the PSFs. The purpose of the consultations was to i) briefly outline the key features of the project (locations, rehabilitation and new designs etc.) ii) ascertain key stakeholders' views and concerns in relation to the proposed developments and iii) obtain information from the national level stakeholders on environmental and social characteristics of the sites that would assist in the preparation of the environmental compliance reports for the project.

A list of key national stakeholders consulted is provided in Annex 4h. Relevant information obtained and comments made during the consultations relating specially to the PSF's have been internally discussed and incorporated into the SEMP where appropriate. No significant environmental constraints on the proposed project sites were identified through the national level consultations with all those consulted being supportive of the project. The most significant comments came from community members and the users of the facilities who expressed the importance of the project in ensuring that the sanitation facilities for the approved sites in the urban and peri-urban areas of Port Vila are upgraded urgently.

6.3 Project Disclosure

The initial disclosure of the PSF project to the PVMC, Shefa Province, key government, NGO, and local business community's stakeholders was undertaken during the community consultation and participation process delivered during the months of September – November 2014 and follow up consultations (2015) during the delivery of the scope of works. This included a detailed description of the facilities, locations, and inputs of government and public sector association towards the project to ensure an understanding of the project was fully appreciated and included potential social and environmental impacts and proposed mitigation measures.

The SEMP for the PSF sub component of the PVUDP will be disclosed appropriately to the communities in accordance with the government requirements as per EIA Regulations Order No. 175 (2011). The development of this document has included verbal discussions with appropriate stakeholders and invitation for comment on draft versions to ensure full understanding and compliance to national and municipal regulations. Equally important the ADB will review and comment on the draft report and all comments and recommendation will be reviewed and relevant information incorporated into the final document.

The PVUDP has a communication plan that is relevant to the PSF sub project and will provide guidance on the content and spatial delivery of the communication package of the sanitation sub component.

During the construction phase of the PSFs, the contractor will, as part of their contract, disclose information on the location and duration of all construction operations. The contractor will assign a liaison officer who will be responsible for receiving, and acting on complaints

associated with the project. Consultation meetings will be held every month for the duration of the project (expected to be 6 months) to gather feedback and give the opportunity for community members to air any concerns that need to be addressed during construction.

6.4 Project Communication Plan

The PVUDP communication plan has been developed and is discussed in detail in the projects IEE and should be referred for additional information. The projects communications plan has two objectives, which are both relevant to the PSF scope of works. This includes:

- a. At the project level, internal and external stakeholders are engaged and informed routinely of PSF project outputs and outcomes to contribute, as necessary, for the effective delivery of the subproject component; and
- b. For the civil works component, the objective is to ensure that the necessary communications are established to manage the contract in accordance with each party's contractual obligations. Further, to engage, involve and inform communities and other local stakeholders adjacent to the project sites and to provide all parties with a process to deal effectively with complaints arising from the civil works activities.

7.0 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

7.1 Environmental Management

The EMP addresses the environmental impacts during the design, construction and operational phases of the project. It outlines the key environmental management and safeguards that will be initiated by the project proponent to manage the project's key environmental impacts. They provide tools for mitigating or offsetting the potential adverse environmental impacts resulting from various activities of the project and management measures that are to be applied during the projects implementation to avoid, reduce and mitigate adverse environmental impacts.

The purpose of the PSF subproject EMP is to:

- a. Encourage good management practices through planning and commitment to environmental safeguarding and management;
- b. Provide rational and practical environmental and social guidelines that will assist in minimizing the potential environmental impact of activities;
- c. Helps in minimizing disturbance to the environment (physical, biological and ecological, socioeconomic, cultural, and archeological);
- d. Combat all forms of pollution through monitoring air, noise, land, water, waste and natural resources;
- e. Prevent land degradation;
- f. Comply and adhere to all applicable laws, regulations, standards and guidelines of GoV and the ADB safeguard policy for the protection of the environment;
- g. To adopt best practicable waste management for all types of waste (liquid and solid) with the objective of prevention, minimization, recycling, treatment or disposal of wastes;
- h. Describe all monitoring procedures required to identify impacts on the environment and social aspects;
- i. Train and bring awareness to employees and contractors with regard to environmental obligations and compliance; and
- j. Reduce environmental and social risk and provide better Health, Safety and Environment (HS&E).

The updated IEE of the rehabilitation of one existing (3 small PSF within the same existing building) and the construction of three new PSF, has determined that the project will have no significant environmental impacts nor is the project deemed environmentally sensitive. Impacts arising from the construction of the project are minor, temporary and localized and are acceptable, providing that the set of mitigations measures set out in the projects EMP is adhered to. There are no foreseeable environmental issues associated with the long term operation of the facilities as long as the designs of the septic tanks/treatment systems are appropriate for their locations and regular maintenance including the regular removal of wastes from the sewage storage systems is undertaken.

Whilst the PSF systems have been designed to international standards and of a suitable size to ensure current and expected use is accommodated, in the light of the findings of the PVUDP Water Quality Monitoring Program Final Report June 2017, it is recommended that designs of the PSF septic tank/treatment systems be further reviewed. The purpose of the due diligence review is to identify any necessary design changes to ensure that during normal operations of the proposed systems there would be no significant septic discharge into the surrounding ground water system that could leach into the harbour and thereby exacerbate existing high levels of faecal bacteria in the harbour.

This EMP has been developed to outline the measures that are to be implemented in order to minimize adverse environmental impacts associated with the construction and upgrading of the PSFs. It serves as a guide for the contractor and the workforce on their roles and

responsibilities concerning environmental management on site and outlines the potential environmental impacts their mitigation measures, roles and responsibilities and timescales.

The EMP has been presented in two cross referenced tables, defining impacts mitigative measures needed to prevent or reduce effects (the Environmental Mitigation Table or EMiT – Annex 1, Table 4) and monitoring actions to track compliance and effectiveness of the mitigative measure (the Environmental Monitoring Table or EMoT – Annex 1, Table 5). The EMP also includes location, time and responsibility information, permitting follow up investigators to track all work undertaken.

The PSF EMP is to be used throughout the project's life cycle including preconstruction, construction and, operation and maintenance and is to be regularly updated and amended when required, to ensure alignment with progress. It has been developed to ensure it is directly linked to the overall EMP for the PVUDP and as such the implementation arrangements, environmental management responsibilities and institutional roles and responsibilities are the same. These are summarized briefly below however the PVUDP EMP should be referred for any additional background information.

7.2 Implementation Arrangements

General:

The PSF sub-project of the PVUDP will be implemented using a Design Supervision and Capacity Development Consultant (DSCD) whose role is to i) prepare the detailed designs and tender documents, ii) assist the implementing agency with bid evaluation and award of the construction contract iii) supervises the implementation of the construction contract and iv) upon commissioning of the project assist the implementing agency with training the agency responsible for operation and maintenance.

Institutional Roles and Responsibilities

Public Works Department (PWD): The PWD under the Ministry of Public Infrastructure and Utilities (MIPU) is the implementing agency for the project. However, the Vanuatu Project Management Unit (VPMU) will implement the project on behalf of MIPU-PWD. The VPMU is thereby responsible for overall implementation including procurement, construction, and commissioning of the project. The VPMU will be supported by the DSCD which will include an international environmental specialist (IES) and national environmental specialist (NES) to support the existing environment and social management officer (ESMO) in the VPMU and to ensure environmental safeguards are implemented in accordance with government and ADB requirements.

VPMU: The VPMU will be responsible for ensuring that the updated IEE and EMP is compliant with ADB requirements, submitted to DEPC for issue of environmental permit and then implemented during each stage of the project (procurement/preconstruction, construction and operation).

DSCD: The DSCD by way of the IES and NES will support the VPMU in the following tasks:

- a. Update the IEE and EMP for submission to VPMU and ADB for approval
- b. Ensure that EMP design and construction requirements are fully integrated into the tender documents;
- c. Support the VPMU in making application and obtaining an environment permit for the project (if applicable) ensuring that the updated IEE complies with the requirements of the EMC Act and Environment Regulations Order 2013;
- d. Work with the VPMU's social specialists in respect of implementation of the CPP and GRM;
- e. Providing training/induction on CEMP to successful contractor;
- f. Review and approval of contractor's CEMP;

- g. Monitoring compliance of the contractor with the approved CEMP and other provisions of the construction contract;
- h. Review of contractor's monthly reports on safeguards application;
- i. Providing inputs to quarterly progress reports and safeguards monitoring reports to be submitted to VPMU and ADB; and
- j. Capacity building of government in environmental management and supervision aspects of project implementation.

An important aspect of the IES's role will be training and capacity building of the VPMU's in-house environment officer and other staff (including management) in implementation of its obligations under government law and regulations.

Contractor: The contractor will be responsible for ensuring that all environmental design and construction environmental mitigation requirements specified in the contract are properly implemented during construction. The contractor will be required to describe the contractor's construction methodology, measures and plans for implementing the EMP and as such must prepare a CEMP for the PSF construction site/s. The contractor will need to incorporate and adopt the following principles:

- a. Compliance with the conditions of any approvals;
- b. Compliance with environmental legislation;
- c. Maintain a site diary and grievance registry;
- d. Manage environmental risks associated with the project;
- e. Maintain a healthy safe work practices for the workers, nearby commercial operators, residents and the general public;
- f. Identify, control and where possible minimize the adverse environmental impacts arising from the works;
- g. Communicate openly with the government and the stakeholders regarding the environmental performance.

The contractor will be required to report on the implementation status of the approved CEMP to the DSCD. Key environmental requirements to be specifically addressed in the CEMP include the following issues in no order of importance:

- a. Erosion and Sediment Control: To minimize the amount of sediment lost from the site;
- b. Dust Control: Responsible to control the dust emission from the construction activity;
- c. Noise: Minimize the nuisance from the construction noise;
- d. Health and Safety: to provide for safety of construction personnel and local population;
- e. Traffic Safety: To minimize the risk of accidents during the construction;
- f. Personal Protective Equipment: The contractor should provide all PPE to conform to safety regulations;
- g. The labour (work force) should not interfere with the local population;
- h. Social and Community concern: to minimize social and community impacts; and
- i. Signage: The contractor should place signboards in an accessible location to inform the general public about the hours of work.

Department of Environmental Protection and Conservation: The DEPC is responsible for the administration and enforcement of the Act and EIA Regulations 2011. As such the DEPC is responsible for i) issuing a development consent for the project by way of review and approval of the IEE and ii) monitoring and enforcing compliance of the project with the conditions of the development consent.

Reporting

Reporting will be completed regularly at various institutional levels during the construction period. Reporting responsibilities of the various institutions/agencies is outlined below.

The contractor will provide monthly reports to the DSCD on the implementation status of the CEMP. The DSCD will provide Quarterly Progress Reports to VPMU which will include an assessment of the contractor's environmental performance including non compliance issues identified and corrective actions taken as detailed in the EMP- EMoT. VPMU will report to ADB on environmental performance of the project through semi-annual environmental monitoring reports.

The schedule below is proposed to be used by the Project to report on the activities undertaken within the PSF sub-component. Reporting timelines will be finalised once the contractor has been selected and procedures have been met.

Contractor's Responsibilities: Following appointment of the contractor and prior to site mobilisation the contractor will prepare a CEMP based on the EMP Table 4 (the relevant extracts of which form part of the contract document) and submit to DSCD/VPMU for approval. Following DSCD/VPMU approval of CEMP, DSCD will hold a briefing and workshop session to i) make clear the requirements of the CEMP including, contractor's reporting responsibilities in respect of CEMP implementation (use of checklists and submission of weekly reports to DSCD); and ii) explain DSCD's supervision, monitoring and reporting procedures.6.5.2

DSCD's Responsibilities: Supervision (site inspection) monitoring of the contractor's implementation of the CEMP at each of the PSF sites will be undertaken by the DSCD's environmental team, as much as possible on a daily basis. A detailed site monitoring checklist based on the approved CEMP will be used during site inspections. Reporting of supervision monitoring will be as follows:

Weekly Report: On a weekly basis a summary site inspection report based on the site inspection checklists will be presented to the contractor at a weekly progress meeting between the DSCD and contractor. The site inspection report will identify non-compliance issues including corrective action requests for the contractor to follow up. Resolution status of previous weeks' corrective actions requests will also be reviewed in the report and further actions proposed as necessary.

Monthly Report: The DSCD environmental supervision team will prepare a monthly environmental monitoring report to be submitted to VPMU. The monthly report will i) summarise the monitoring activities undertaken during the month, ii) summarise key environmental issues arising during the month and actions taken including current resolution status, iii) identify unresolved issues and required actions to address these and time frames.iv) a brief review of works program in following month and identification of key environmental issues that need to be carefully supervised including recommendations for proactive environmental actions.

Quarterly Progress Report: A brief summary of key environmental issues arising and actions taken during the quarter will be prepared in a tabular form and included in the DSCD's QPR to be submitted to VPMU.

VPMU's Responsibilities: VPMU has overall responsibility for ensuring environmental safeguards are implemented in accordance with the construction contract and loan agreement with ADB. This will involve overseeing and auditing the activities and environmental safeguard supervision responsibilities of the DSCD and reporting to ADB through semi-annual safeguards monitoring reports.

Semi-annual Safeguards Monitoring Report: VPMU will prepare semi-annual safeguards monitoring reports to ADB. The report will comprise three sections and annexes including i) Introduction – construction activities and progress in past 6 months; any changes in EM team; ii) Environmental monitoring – summary of issues identified in QPRs and monthly reports, including explanations for key non-compliances identified and recommendations for preventing future non-compliance. li) Environmental management – delivery of CEMP

actions/items, inspections and audits, non-compliance notices and corrective actions, consultations and complaints.

Operating Period Annual Environmental Monitoring Report

Once the project becomes operational, VPMU will also submit (document compiled by the PVUDP) annual environmental monitoring and compliance reports to ADB, reporting principally on the maintenance programme undertaken which ensures the long term functions of the PSF. Reports will be prepared for the first three years of operation and submitted to ADB. The VPMU will prepare these reports, or a consultant retained by VPMU. Reports will be submitted within 4 weeks of the end of each monitoring year.

Construction Completion Report

Within three months of the end of the construction period, the contractor will be required to prepare a completion report, specifically addressing the handling and disposal of hazardous materials, construction wastes and overall management action undertaken for the project.

7.3 Grievance Redress Mechanism (GRM)

A PVUDP GRM has been established to address any concerns, complaints and grievances arising during the course of implementing the PVUDP and its subcomponent projects including the PSF. Members of the public may perceive risks to themselves or their properties or have concerns about the environmental performance of the project. These issues may relate to construction and operation and therefore they will have rights to file complaints for the contractor and the VPMU to address promptly and sensitively, and for complaints to be made without retribution.

The GRM for the PSF's includes the following;

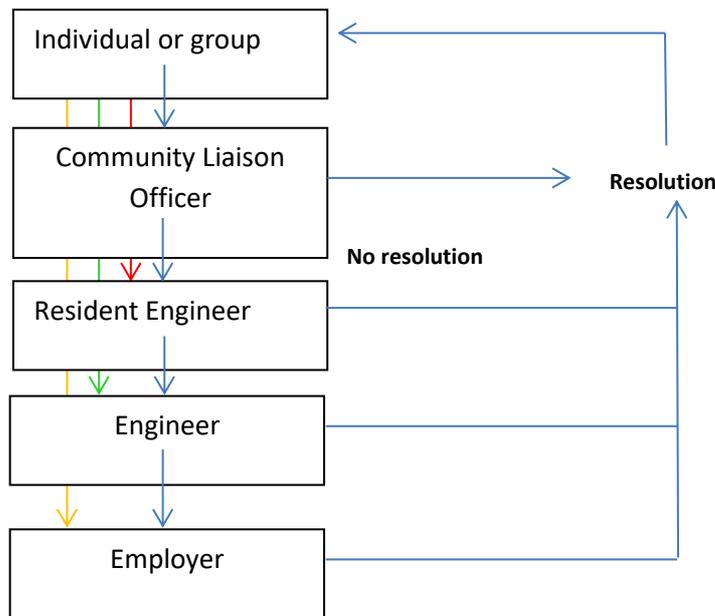
- a. The Contractor will maintain a register of any community grievances and that register will record the grievance and the resolution measures taken. The Contractor's Community Liaison Officer (CLO) will be frequently on site and will receive and register complains in the first instant. The register will be made available for inspection by the authorized representatives of the Employer.
- b. There will be a dedicated landline number installed by the PVUDP and all complaints received will be recorded using a software spread sheet which will then be attended to accordingly by the Community and Gender Participation Specialist (CGPS). This compliant spreadsheet will also be made available for inspection by the authorized representatives of the Employer.
- c. Any land grievances associated with the civil works will follow the same procedure of communication where the complaint will be registered by the CLO or by contacting the dedicated landline established by the project. In considering that the MOUs or consents would have been already executed, this should already be a mitigation measure to avoid any significant grievances.

For all general GRM associated with the PSF's (and all sub components of the PVUDP) the following mechanisms will be used for all grievances (diagrammatically represented in Figure 10).

- a. All minor land related grievances that can be resolved immediately on the site. Other land related grievances would be handled separately. The focus of the GRM is to resolve issues in a customarily appropriate fashion at the community level.
- b. Public/Community concerns, complaints and grievances will be taken and registered into the Complaints log by the Contractor's CLO. Should the CLO or an individual not be satisfied with any aspect of their communication in relation to issue on site, the matter will then be taken to the Resident Engineer. If the Resident Engineer cannot resolve the issue, then it will be referred to the Engineer or higher until the grievance is resolved.

- c. It is unlikely that non-land related grievances would progress beyond the Engineer level for resolution. Should a grievance proceed to the Employer level and resolution not be achieved at that level, then the Employer would have no option but to withdraw the Contractor from the site and for the grievance to be handled through legal processes.
- d. The Contractor will maintain a register of any community grievances and that register will record the grievance and the resolution measures taken. Any authorised representatives of the Employer will make the register available for inspection. The Contractor will inform the Resident Engineer of all grievances received including those that have been resolved.

Figure 10: General Grievance Mechanism Flow Chart for the PVUDP



For the PSF GRM the following mechanisms will be used for all grievances;

- a. For each site, a consent between VPMU and site stakeholders (including landholders) has been signed in which the stakeholders have agreed to the construction and rehabilitation of the Public facilities. Any minor land related grievances associated with the Contractor’s site operations will be handled using the mechanism shown above. Any other land related grievances are not the responsibility of the Contractor, Field Superintendent or Engineer to resolve.
- b. Land related grievances, other than minor grievances described above, will be managed in accordance with the Custom Land Management Act, Land Leases Act, Land Acquisition Act and Land Acquisition Act. The Act provides for the establishment of Customary Land Tribunals at village, custom level, sub-areas and higher levels and proscribes a dispute resolution process. The Act encourages parties involved in a customary land dispute to attempt first to resolve disputes in accordance with the rules of custom or in any other lawful way before taking the matter to a Tribunal. If a dispute has not been resolved by negotiation then the disputing parties can request the formation of a Village Land Tribunal, which will hear the dispute. Appeals are permitted at higher level tribunals.

The following principals have been developed to ensure the successful GRM implementation, these include:

- a. Mechanisms and procedures will provide for two-way communication;
- b. Culturally and gender appropriate communication and consultation mechanisms will be used;

- c. Existing communication methods will be used where they meet the individual communication needs;
- d. The contracts for the rehabilitation and new CSF will include Contractor obligations for communicating with project communities and stakeholders through a permanent CLO;
- e. Complaints handling procedure will be established and will provide a process for dissatisfied complainants to take their complaints to a higher level;
- f. Communication and consultation will be treated as a routine procedure; and
- g. Communication procedures will be refined as necessary throughout the life of the PSF sub project.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The PSF subproject involves rehabilitation and upgrading of one existing (Central Hospital) and the construction of 3 new Public Sanitation Facilities (Central Market, Fatumaru Bay, Independence Park) within the urban area of Port Vila. The IEE concludes environmental impacts arising from the construction and operation of the subproject are generally minor, localized, and are acceptable, providing that the set of mitigations measures identified and set out in the EMP are incorporated in the design, and implemented, and monitored effectively. Key findings are summarized below:

- a. The design of the PSF septic tanks/treatment systems should meet the performance requirement such that during normal operations there would be no significant septic discharge into the surrounding ground water system that could leach into the harbour
- b. The PSF are located within the urban areas of Port Vila which have been highly modified (cleared, filled and built on) and do not support any terrestrial ecological or biological (flora or fauna) endemic, endangered or significant biodiversity;
- c. The proposed PSF sites do not have any freshwater (rivers, streams), forests or agricultural activities associated with the PSF area of influence.
- d. The proposed PSF's do not impact any terrestrial conservation and/or protected areas, sites of cultural, customary or heritage significance nor any national or international endangered or protected species.
- e. Due diligence and proactive management of all construction aspects of the PSF will ensure limited disturbance to the daily public activities undertaken in the selected sites (e.g. traffic, dust), and the collection, storage and correct disposal of waste material generated during construction.
- f. Vanuatu laws and regulations associated with labor, employment, Occupational Health and Safety (OH&S) will be adopted, enforced and monitored during all construction and monitoring activities associated with the project.
- g. Climate change adaptation measures have been included in the PSFs designs

An EMP identifies potential environmental impacts arising from the project along with a corresponding schedule and monitoring of mitigation measures to ensure potential impacts are maintained at insignificant levels. It also includes the institutional arrangements for implementing the EMP to ensure its effectiveness including reporting requirements.

The PSF works when completed will have a beneficial impact on the environment. The benefits include improvement to the urban environment of Port Vila through new and improved public sanitation facilities, better access to such facilities, improved management of wastewater and sewage and improved health and hygiene for the Port Vila public who use these facilities and frequent these public spaces within Port Vila.

This IEE, including the EMP is considered sufficient to meet the government's and ADB's environmental safeguard requirements in respect of the PVUDP. No further or additional impact assessment is considered necessary at this stage. Therefore this IEE including the EMP is recommended for approval by the DEPC.

9.0 REFERENCES

- ABD 2009. Safeguard Policy Statement. ADB Publication. 92p
- Government of Vanuatu. 2002. Environmental Management and Conservation Act.
- Government of Vanuatu. 2011. Environmental Impact Assessment Regulations.
- PVUDP June 2011, Initial Environmental Examination (IEE).
- PVUDP, August 2014. Recommendation of sites for New and Upgraded Communal Facilities.
- PVUDP, July 2015, Design Report: Engineering and Architectural design of the public toilet facility, Port Vila.
- PVUDP, September 2015. PVUDP Sewerage Design Report.
- PVUDP, December 2015. Due Diligence Report: Land Contribution Volunteered by the Community for the proposed CSF PVUDP Report Number 26.
- PVUDP, June 2017, Water Quality Monitoring Program Final Report. Report Number 62
- PVUDP, Due Diligence Report, Land Contribution Volunteered by the Community for the proposed CSF PVUDP Report Number 26, for the PVUDP Public Sanitation Facilities
- PVUDP, Multi-Purpose Multi-User Public Sanitation Facilities – Design Report and Layout Plans
- PVUDP, Due Diligence Report for the Land Contribution Volunteered by the Government for the Proposed PSF.

ANNEXES

ANNEX 1. Environmental Management Plan

Table 4: EMP Mitigation Table (EmiT)

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
1.0 PRE-CONSTRUCTION PERIOD					
1.1 Adequacy of design of septic tank/sewage treatment facilities of PSFs to ensure no impact on ground water quality.	<ul style="list-style-type: none"> ▪ Review of detailed designs of septic tank/sewage treatment systems for Central Market, Fatumaru Bay and Independence Park PSFs in light of findings of WQM Final Report. Amend design as necessary, to ensure that during normal operation of the facilities there will be no significant septic discharge into the surrounding groundwater system that could leach into the harbor. 	VPMU and DEPC	Incorporated into Engineering Design Documents	DSCD	VPMU PWD
1.2 General ecological principles applied to design.	<ul style="list-style-type: none"> ▪ Ensure design takes into account minimal disturbance of surround ecosystems and sound management of wastes associated with the improvements of the existing and new PSF. 	VPMU and DEPC	Incorporated into Engineering Design Documents	DSCD	VPMU PWD
1.3 Development Consent and Permit Acquisition	<ul style="list-style-type: none"> ▪ Consult VPMU (DEPC), submit IEE for Public Sanitation Facilities (PSF) and make application for an EP if required. ▪ Ensure VPMU (DEPC), approved EMP and any conditions of the EP are included in contract documents including: <ol style="list-style-type: none"> i) requirement for Contractor to seek VPMU approval and update EMP if significant changes are made to original design, ii) requirement for Contractor to prepare a CEMP (based on EMP) for approval of VPMU before commencement of construction phase. The CEMP will demonstrate the manner (location, responsibilities, schedule/ timeframe, budget, etc.) in which the contractor will implement the mitigation measures specified in the EMP approved under the EP. Will include a Materials and Spoil Management Plan (MSMP) see 2.5 below for requirements, plan for management of hazardous materials see 2.7 below for requirements. ▪ Disclose IEE project documents including Communication plan and established GRM. 	VPMU and DEPC	Once Contractor has been selected.	DSCD	VPMU

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
1.4 Climate Change Adaptation Measures evaluated and incorporated into PSF design.	<ul style="list-style-type: none"> ▪ Design criteria in respect to extreme weather events (e.g. cyclones, tsunami) resulting in flooding, strong winds. Construction material used is salt water and tropical resistant, built to withstand high rainfall and practical for local conditions, including long term maintenance and cleaning. 	VPMU and DEPC	Civil design specifications in tender document & awarded contract.	DSCD	VPMU PWD
1.5 Environmentally responsible procurement.	<ul style="list-style-type: none"> ▪ Specify in tender document qualified staff are required to implement, manage, and monitor environmental and safety issues of the project. ▪ EMP included in bid documents to ensure that mitigation measures are budgeted and to prepare for by the contractor for environmental responsibilities. ▪ 	VPMU and DEPC	Specifications in tender document & awarded contract.	DSCD	VPMU DSCD
1.6 Environmental capacity development	<ul style="list-style-type: none"> ▪ DSCD to commit sufficient resources for project duration to oversee EMP implementation. ▪ DSCD provide general training and awareness of safeguards requirements (e.g. workshops and on-the-job training). ▪ Conduct contractor / workers' orientation on EMP provisions. 	DSCD and contractor.	Prior to start of site works and throughout construction phase.	VPMU, DSCD and contractor	VPMU PWD
1.7 Occupational Health and Safety (OHS) measures not specified in Bid Documentation	<ul style="list-style-type: none"> ▪ Inclusion of OHS requirements in Bid Documentation including: <ol style="list-style-type: none"> (i) Requirement for CEMP to include OHS Plan covering items (ii) – (x) below and to be approved by DSCD / VPMU before construction commences; (ii) Allocation of responsibility for safety inspections to a designated, qualified and experienced Health and Safety Officer (HSO) within the Contractor's staff; (iii) Training of workers on safety precautions, for themselves and others and for implementing emergency procedures and regular awareness raising meetings; (iv) Spill response kits provided, accessible and designated staff are trained on its use (v) Provision of protective clothing and equipment to workers as appropriate; (vi) Ensuring that vehicle and equipment operators are properly licensed and trained; (vii) Arrangement for provision of first aid facilities and trained personnel; (viii) Emergency evacuation procedures; (ix) Provision for regular safety checks of vehicles and material; 	All sanitation work sites and all associated work activities.	Prior to start of works program.	Project Contractor, DSCD	VPMU PWD

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	<ul style="list-style-type: none"> (x) Provision of hazard warning signs at the all construction sites (Bislama & English/French); and (xi) Requirement for the Contractor to maintain a register of accidents detailing date, circumstances, severity, action taken and outcomes. 				
<p>1.8 Potential risk of social disruption of the affected communities and interactions with community due to project of work including community health and safety.</p>	<ul style="list-style-type: none"> ▪ Site office and works yard established in conjunction with PVMC to service all 4 PSF. ▪ Municipal and public/community protocols discussed/ agreed including consultation processes and all workers informed and aware as part of induction process. ▪ Contractor responsible to ensure compliance of all workers to municipal and community rules and codes of conduct. ▪ Proper implementation of Community Consultation Plan ▪ Appropriate safety/warning and security signage is implemented at project sites in Bislama & English/French. ▪ Storage and maintenance facilities to be fenced and signposted. Unauthorised access prohibited ▪ Strict imposition of speed limits through residential areas and where other sensitive receptors are located ▪ For unskilled labor, every effort to hire local positions (including women). 	All sanitation work sites and all associated work activities.	Prior to start of works program.	Project Contractor, DSCD	VPMU PWD
<p>1.9 Failure to brief, understand and train VPMU and Contractor(s) in EMP implementation.</p>	<ul style="list-style-type: none"> ▪ EMP provided to DSCD within the IEE for the PSF. ▪ EMP included in tender documents. ▪ Provide mentoring and workshop support on EMP implementation to VPMU and contractors 	VPMU office	Prior to start of works program.	DSCD	PWD
<p>1.10 Potential risks due to public not well informed on the Grievance Redress Mechanism (GRM) and how it is operated.</p>	<ul style="list-style-type: none"> ▪ A stakeholder participatory meeting is required prior to commencement of work, to ensure all stakeholders (business community and the general public) are aware of the GRM and how it is operated. 	All sanitation work sites and all associated work activities on site.	Prior to start of works program	DSCD	PWD VPMU
2.0 CONSTRUCTION PERIOD					
<p>2.1 Accident risks from mobilizing construction equipment.</p>	<ul style="list-style-type: none"> ▪ To the extent possible, avoid the mobilization of heavy equipment's at night. ▪ All vehicle movements during standard daily working hours. ▪ Over-width and over-length vehicles should display adequate warnings such as flashing lights, signs, and flags on extending parts of equipment. ▪ Designated routes for construction vehicles, stakeholders informed, local speed limits and road rules adhered to. 	All PSF sanitation work sites and all associated work activities on site.	Continuous during the Construction stage.	Contractor	DSCD, PWD, Traffic Unit of Vanuatu Police Force and PVMC Wardens.

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	<ul style="list-style-type: none"> ▪ Provision of signboards for the safe movement of the pedestrians. ▪ Details of any necessary road or lane closure, diversion or deviations. 				
2.2 Accident risk from construction activity.	Consistent implementation OHS Plan prepared and approved prior to mobilization as noted in 1.6 above:	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, Department of Labor, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.3 Accidental damage to property.	<ul style="list-style-type: none"> ▪ Ensuring that all works operations take place in the presence of the Contractor's supervisor, who is responsible for ensuring all reasonable precautions are undertaken to prevent damage to property. ▪ The contractor supervisor is fully aware of the CSF GRM. ▪ Implementation of all mitigation measures identified and approved during preconstruction phase as specified in 1.7 above. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, Department of Labor, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.4 Accidental damage to utilities	<ul style="list-style-type: none"> ▪ Obtaining plans from the PVMC and relevant government and public agencies showing the locations of pipelines and power cables, and mark prior to start of works program. ▪ Consultation with local public sector, government entities and communities on the location of utilities prior to commencing excavation operations. 	All PSF work site and all associated work locations.	Continuous but prior to the start of excavation works and during the Construction stage.	Contractor	DSCD, PWD, Department of Labor, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.5 Construction material and spoil waste management.	<ul style="list-style-type: none"> ▪ Implementation of MSMP included in approved CEMP. MSMP to include methodology for the following: <ul style="list-style-type: none"> (i) Management of fill requirements to minimize need for aggregates from other sources (ii) Use of non-renewable aggregate resources including obtaining agreements for sources of materials (iii) Management of topsoil and short term storage of materials on site (iv) Prevention of erosion of stockpiles and associated sedimentation including temporary drainage provisions (silt traps) and revegetation provisions (v) Removal and appropriate disposal of construction waste and excess materials (vi) Avoidance of blockage of pedestrian access ways in public areas (Central Market, Fatumaru Bay) 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	<ul style="list-style-type: none"> (vii) Avoidance of traffic disruption associated with transport of materials (Central Market) (viii) Clear directions and route to be used for construction waste disposal sites (ix) Materials transport vehicles fitted with spoil proof equipment 				
2.6 Impacts on marine and freshwater quality	<ul style="list-style-type: none"> ▪ Minimize vegetation clearance ▪ Sewage (septic) system decommissioning (Central Market) requires removal/pumping out of septic water and sludge and disposed of off-site at the Bouffa municipal landfill. ▪ Provisions for prevention of site erosion and sedimentation as per MSMP (see 2.5 (iv) above) ▪ Cover exposed surfaces and excavated materials during construction especially during heavy rainfall ▪ Provision of construction site domestic waste management system including: <ul style="list-style-type: none"> (i) segregation of wastes (bins to be supplied). (ii) Organic (bio-degradable) waste material collected and disposed of off-site by composting (no burning on site). (iii) All non-hazardous wastes to be disposed off at the projects dedicated and approved waste management site. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.7 Pollution due to use and storage of hazardous substances.	<ul style="list-style-type: none"> ▪ Implementation of hazardous material management provisions included in a approved CEMP. Such provisions shall include but not be limited to the following: <ul style="list-style-type: none"> (i) Safe storage provisions of hydrocarbons and toxic materials to be agreed by DEPC and follow internationally recognised best practice and national requirements to prevent soil and water contamination. Must be stored above flood level. (ii) Hazardous materials storage containers properly labelled and regularly checked for leakage and repaired/replaced as necessary (iii) Segregate hazardous wastes and ensure storage transport and disposal shall not cause pollution and shall be consistent with national regulations and codes of practice. (iv) Discharge of oil contaminated water shall be prohibited (v) Spill clean-up materials will be available before works commence 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	<ul style="list-style-type: none"> (vi) Spill waste will be immediately cleared and disposed at disposal sites approved by local authorities. (vii) Fuel depot shall be provided with impervious flooring and bund/containment wall to keep spilled fuel/lubricant within the depot; (viii) Locate storage areas for petrochemical products including bitumen at least 500 meters from the coastline. (ix) All areas intended for storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations complying all the applicable statutory stipulation. (x) The personnel in-charge of these sites will be properly trained and these areas will be access controlled and entry will be allowed only under authorization 				
2.8 Noise and Vibration.	<ul style="list-style-type: none"> ▪ For central hospital refurbishment, Contractor to: <ul style="list-style-type: none"> (i) prepare a detailed method statement and work schedule providing details of activities and mitigation measures to be employed to minimize noise and vibration impacts on patients and staff. (ii) Method statement and work schedule to be prepared in consultation with and approved by hospital authorities. (iii) Implementation of works to be in strict accordance with approved method statement ▪ For all PSF sites: <ul style="list-style-type: none"> (i) Provide information to nearby government officers/businesses/community/residents about the duration of noise generating operations. (ii) Plan construction operations to minimize public nuisance. (iii) All construction vehicles and machinery to have working mufflers and they will be properly maintained and conform to Vanuatu Government noise emission requirements. (iv) Activities that will generate high noise levels will be scheduled to coincide with period when people/officers are least likely to be affected. Especially important to daily hospital activities. (v) All construction activities generating noise to be undertaken between the hours of 9 AM and 5 PM daily. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, PVMC wardens, DEPC and Traffic Unit of Vanuatu Police Force.

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	(vi) Enforcement of regulations subsequent to public awareness.				
2.9 Dust and Air Pollution.	<ul style="list-style-type: none"> ▪ Provide information to nearby community/residents about the duration of dust generating operations. ▪ Implement speed control of all vehicles within PSF locations to a maximum of 30km/hr ▪ Speed limit signboards to be erected and fixed at each site ▪ Material carrying trucks to be covered with tarpaulin ▪ Sprinkle water on the road surface to prevent dust emissions if required. ▪ Regular cleaning of construction vehicles at dedicated location ▪ Maintain all construction vehicles to minimize toxic vehicle emission. ▪ Prompt removal of waste material to reduce potential dust. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD, PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.10 Erosion and sediment control.	<ul style="list-style-type: none"> ▪ Implement MSMP (see 2.5) and employ standard construction site drainage good practice including but not limited to:: ▪ Storage and reuse of topsoil and stockpiles. ▪ Disposal of spoils off site. ▪ Coverage of all spoils at the site. ▪ Silt control, using sediment traps to collect and prevent the distribution of during construction. ▪ Vegetation disturbance/removal limited. 	All PSF work site and all associated work locations.	During the Construction stage.	Contractor	DSCD, PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.11 Removal of vegetation.	<ul style="list-style-type: none"> ▪ Care needs to be exercised during construction to avoid physical damage to the existing trees and below ground root systems associated with PSF to ensure survival. ▪ Due diligence needs to be exercised in situations where practical root systems are required to be removed for construction and long term management of the PSF. ▪ If during work, contractors requires additional removal of trees and or root systems discussions and approval is required from the VPMU before work can be undertaken. 	All PSF work site and all associated work locations.	During the Construction stage.	Contractor	DSCD, PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.12 Traffic disruption during construction.	<ul style="list-style-type: none"> ▪ Provide information to nearby government, business, and community residents about the duration of traffic disruptions and describe operations that will be undertaken. ▪ Employ “flag men” to regulate the traffic flow at every construction area, if required. ▪ Minimise nuisance to daily activities within the PSF, special care to be exercised when working within the Hospital PSF. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	DSCD,PWD, PVMC Wardens and Traffic Unit of Vanuatu Police.

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
2.13 Minimize social and community impacts.	<ul style="list-style-type: none"> ▪ Methods of communication with key public and community stakeholders, affected parties and the owners/occupiers of the neighbouring properties regarding the: <ul style="list-style-type: none"> ➢ Likely timing and duration of work. ➢ Alternative routes. ➢ Access to properties. ▪ Details of prior consultation and outline any measures developed with such group to manage or mitigate adverse effects. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	PWD, DEPC, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.14 Public Health and Safety Risks.	<ul style="list-style-type: none"> ▪ Barriers (e.g., temporary fence) shall be installed at construction areas to deter workers and pedestrian access to the site during construction operations. ▪ The general public and local residents shall not be allowed in high-risk areas, e.g., excavation sites and areas where heavy equipment is in operation. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	PWD, Traffic Unit of Vanuatu Police Force and PVMC Wardens.
2.15 Occupational Health and Safety (OHCSFS).	<ul style="list-style-type: none"> ▪ Workers shall be provided with appropriate personal protective equipment (PPE) such as safety shoes, hard hats, safety glasses, ear plugs, gloves, etc. ▪ The contractor shall orient workers on health and safety issues related to their activities as well as on the proper use of PPE. ▪ Install channelling devices (e.g., traffic cones and barrels) or fence to delineate the work zone. ▪ Workers shall be provided with potable water supply. ▪ Provision of distinguishing clothing or reflective devices or otherwise conspicuously visible material when there is regular exposure of workers to danger from moving vehicles and/or heavy machinery. ▪ Monitoring and control of the working environment and planning of safety and health precautions should be performed as prescribed by national laws and regulations. This includes <ul style="list-style-type: none"> i) Workers who have received appropriate training in accordance with national laws and regulations shall operate construction equipment. ii) The drivers and operators of vehicles and materials handling equipment shall be medically fit, trained and tested and of a prescribed minimum age as required by the government rules and regulation. 	All PSF work site and all associated work locations.	Continuous during the Construction stage.	Contractor	PWD, Department of Labor, Traffic Unit of Vanuatu Police Force and PVMC Wardens.

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	<ul style="list-style-type: none"> iii) Safety provisions shall be brought to the notice of all concerned by displaying or notice board at a prominent place at the work locations. iv) The contractor shall be responsible for observance, by his sub-contractors, of all health and safety provisions. v) The contractor should take adequate measures for the control of malaria and other mosquito vector diseases. vi) All vehicles used in the construction yard should have reverse horns. vii) There should be proper demarcation of work areas with signage boards showing the work areas. The signboards should be in local language and English and/or French. viii) Suitable warning should be displayed at all places where contact with or proximity to electrical equipment can cause danger. ix) Persons having to operate electrical equipment should be fully instructed as to any possible danger of the equipment concerned. All the electrical equipment should be inspected before it is taken into use to ensure that it is suitable for its purpose. x) Water transport tanks, storage tanks and dispensing container should be designed, used, cleaned and disinfected at suitable intervals in a manner approved by the competent authority. xi) Water that is unfit to drink should be conspicuously indicated by notices prohibiting workers from drinking it. xii) Secure storage areas should be provided for flammable liquids, solids and gases such as liquefied petroleum gas cylinder, paints and other such materials in order to deter trespassers. xiii) Smoking should be strictly prohibited and no smoking notices be predominantly displayed in all places containing readily combustible or flammable materials xiv) Only suitably protected electrical installations and equipment, including portable lamps, should be used. xv) Oil rags, waste and clothes or other substances liable to spontaneous ignition should be removed without delay to a safe place. xvi) Fire-extinguishing equipment should be provided at all work site locations where combustible materials are stored 				

Environmental Issue Project Activity	Mitigation Measures	Location	Time Frame	Responsibility	
				Implement'n	Supervision
	and other areas where fire hazards are found. Such equipment shall be properly maintained and inspected at suitable intervals by a competent person.				
2.16 Failure to prepare and submit monitoring reports.	<ul style="list-style-type: none"> ▪ The contractor(s) will be responsible for filing monthly monitoring checklist reports, defining the mitigative measures undertaken, issues arising and future activities-based on the approved CEMP. 	NA	Within 1 week of each month	Contractor	DSCD
3.0 OPERATION PERIOD					
3.1 Management of PSF maintenance and cleaning.	<ul style="list-style-type: none"> ▪ Continued implementation of waste management plan, including regular inspections of; <ul style="list-style-type: none"> ➢ All incoming water and outgoing wastewater inspected, cleared of any debris and blockage and cleaned. ➢ All septic systems inspected, cleared of any debris and cleaned. ➢ Regularly removal, separation if possible of waste material at each PSF and waste deposited at a certified waste reception location. No waste should be dumped within or close to the PSF site. ▪ All maintenance cleaning material stored in a secured covered regulated area. ▪ Ensure protocols are in place to address potential accidental septic/sewage spillage/discharge and staff/community are suitable trained with correct equipment. ▪ All maintenance work conducted according to pre-announced time schedule in consultation with key community stakeholders. 	PSF buildings and sewage (septic) drainage systems	Quarterly	PVMC	PVMC
3.2 Health and safety risks associated with cleaning and removal of wastes form the PSF.	<ul style="list-style-type: none"> ▪ Ensure standard OHS procedures are adopted and continued to be implemented during the operational phase, specifically including the maintenance and future repair activities of the sewage septic systems. ▪ Maintenance schedule is defined and costed to adequately cover the cost of maintenance is secured prior to the operation phase. Maintenance schedule should at least cover the operation life of the equipment. 	PSF buildings and sewage (septic) drainage systems	When Required.	PVMC, PWD	PVMC

Table 5: EMP Monitoring Table (EMoT)

Environmental Issue	Monitoring Details	Timing	Executing Unit	Reporting Responsibility
1.0 PRE- CONSTRUCTION PERIOD				
1.1 Adequacy of design of septic tank/sewage treatment facilities of PSFs to ensure no impact on ground water quality.	Audit of reviewed PSF designs and confirmation that any necessary amendments have been made to tender documents / contract variation order	Prior to issue of tender or prior to commencement of work if amendments to design are subsequent to contract award and require variation order.	DSCD	VPMU
1.2 General ecological principles applied to design.	Ensure that efforts have been made to reduce environmental impact measures are included in the PSF design and reflected in the contractors tender bid documentation.	Prior to commencement of work	DSCD	VPMU
1.3 Development Consent and Permit Acquisition	Confirm with all stakeholders that permits and consent documentation has been acquired and received no later than 1 month before contractor mobilization	After the contractor has been selected but before mobilization	DSCD	VPMU
1.4 Climate Change Adaptation Measures evaluated and incorporated into PSF design.	Ensure that climate change adaptation measures are included in the PSF design and reflected in the contractors tender bid documentation.	Prior to commencement of work	DSCD	VPMU
1.5 Environmentally responsible procurement.	Obtain written confirmation that environmentally responsible procurement measures are included in contract documentation and contractor has signed off.	Prior to commencement of work	DSCD	VPMU
1.6 Environmental capacity development.	File a written record of the training session provided by DSCD for inclusion in the semi-annual report to ADB.	Prior to commencement of work	DSCD	VPMU
1.7 Occupational Health and Safety (OHS) measures not specified in Bid Documentation	Obtain written confirmation that OHS measures are included in contract documentation and contractor has signed off.	Prior to commencement of work	DSCD	VPMU
1.8 Potential risk of social disruption of PSF community activities and interactions with community due to project of work.	File meeting minutes of public consultation for submission to ADB in semi-annual monitoring report.	Prior to commencement of work	DSCD	VPMU
1.9 Failure to brief, understand and train VPMU and Contractor(s) in EMP implementation.	File a written record of the training session provided by DSCD for inclusion in the semi-annual report to ADB.	Within 3 weeks of commencement of construction	DSCD	VPMU

Environmental Issue	Monitoring Details	Timing	Executing Unit	Reporting Responsibility
1.10 Potential risks due to public not well informed on the Grievance Redress Mechanism (GRM) and how it is operated.	<ul style="list-style-type: none"> ▪ File meeting minutes of public consultation for submission to ADB in semi-annual monitoring report. 	Prior to commencement of work	DSCD	VPMU
2.0 CONSTRUCTION PERIOD				
2.1 Accident risks from mobilizing construction equipment.	<ul style="list-style-type: none"> ▪ Visual inspection of project vehicles, access route, safety, hours of operation and conformity to CEMP, records of non-compliance or grievance made and actions taken. 	Monthly	DSCD	PWD
2.2 Accident risk from construction activity.	<ul style="list-style-type: none"> ▪ Visual inspection of project sites to ensure safety requirements (e.g. signage, safety gear, first aid), compliance to EMP and information exchanged, records of grievance made and actions taken. 	Monthly	DSCD	PWD
2.3 Accidental damage to property.	<ul style="list-style-type: none"> ▪ Visual inspection of project sites, and records of grievance made and actions taken. 	Monthly	DSCD	PWD
2.4 Accidental damage to utilities	<ul style="list-style-type: none"> ▪ Visual inspection of project sites, and records of grievance made and actions taken. 	Monthly, however important before construction initiated.	DSCD	PWD
2.5 Construction material and spoil waste management.	<ul style="list-style-type: none"> ▪ Visual inspection of sites and construction activities to check that all aspects of the approved MSMP are followed. 	Monthly	DSCD	PWD
2.6 Impacts on marine and freshwater quality	<ul style="list-style-type: none"> ▪ Visual inspection of sites to ensure: <ul style="list-style-type: none"> ➢ Decommissioning of Central Market existing sewage system involves pumping out of septic water and sludge and disposal of same at landfill. ➢ Relevant provisions of MSMP are followed To be recorded in monthly monitoring report ➢ Waste management plan is used. ➢ Waste are collected, separated and transported to approved land fill locations offsite, ➢ No storage of waste on site, ➢ No spillage within site, ▪ Conformity to CEMP, records of non-compliance or grievance made and actions taken. 	As required and monthly	DSCD	PWD
2.7 Pollution due to use and storage of hazardous substances.	<ul style="list-style-type: none"> ▪ Visual inspection of sites to ensure p[roper implementation of hazardous material management provisions of approved CEMP are being fully implemented. 	Monthly	DSCD	PWD

Environmental Issue	Monitoring Details	Timing	Executing Unit	Reporting Responsibility
2.8 Noise and Vibration.	<ul style="list-style-type: none"> (i) Inspection of approved method statement for refurbishment works at central hospital (ii) Visual inspection of project sites, and records of grievance made and actions taken and conduct interviews with closest community resident to establish impacts and actions taken by contractor. 	<ul style="list-style-type: none"> (i) Before works commence at central hospital (ii) Monthly 	DSCD	PWD
2.9 Dust and Air Pollution.	<ul style="list-style-type: none"> Visual inspection of project sites, and records of grievance made and actions taken. 	Monthly	DSCD	PWD
2.10 Erosion and sediment control.	<ul style="list-style-type: none"> Regular visual inspection of site for erosion and sediment issues and monitor; <ul style="list-style-type: none"> ➢ Implementation of relevant MSMP provisions ➢ Sediment pollution traps are in place managing wastewater. ➢ Sediment collected are reused within the site or transported to an approved landfill site. Conformity CEMP, records of non-compliance or grievance made and actions taken. 	Monthly	DSCD	PWD
2.11 Removal of vegetation.	<ul style="list-style-type: none"> Visual inspection and document removal of trees where required. Visual inspection of accidental damage or planned removal of underground tree roots. Ensure conformity to CEMP, records of non-compliance or grievance made and actions taken. 	Monthly	DSCD	PWD
2.12 Traffic disruption during construction.	<ul style="list-style-type: none"> Visual inspection of project sites and roads used for transportation to ensure traffic is not congested, record grievance and ensure actions are undertaken. Liaise with stakeholders and community to highlight concerns and action required by the contractor to undertake. 	Monthly	DSCD	PWD
2.13 Minimize social and community impacts.	<ul style="list-style-type: none"> Regular informal and formal discussions with key stakeholders, identify issues and/or grievance and address through positive actions. 	Monthly	DSCD	PWD
2.14 Public Health and Safety Risks.	<ul style="list-style-type: none"> Visual inspection of project sites to ensure public access in the vicinity of the construction site is safe, requirements are clearly marked, accessible and readable. Record grievance and ensure actions are undertaken. Liaise with stakeholders and community to highlight concerns and action required by the contractor to undertake. 	Monthly	DSCD	PWD
2.15 Occupational Health and Safety (OHS).	<ul style="list-style-type: none"> Ensure OHS CEMP requirements have been fully implemented and ensure compliance for all activities and personnel are maintained. Ensure conformity to CEMP mitigation plan, record issues of non-compliance or grievance made and actions taken. 	Monthly	PVUDP	PWD
2.16 Failure to prepare and submit monitoring reports.	<ul style="list-style-type: none"> Have available full record of monthly monitoring checklist reports. 	Monthly from contractor	PVUDP	PWD

Environmental Issue	Monitoring Details	Timing	Executing Unit	Reporting Responsibility
3.0 OPERATING PERIOD				
3.1 Management of PSF maintenance and cleaning.	<ul style="list-style-type: none"> ▪ Continue implementation of a sanitation waste management plan based on a regular and planned maintenance schedule including protocols for the collection and safe management of different wastes products and emergence capability for hazardous wastes. ▪ Ensure equipment is procured and maintained to ensure maintenance and cleaning operations can be undertaken. 	Quarterly	PVMC	PVMC
3.2 Health and safety risks associated with cleaning and removal of wastes from the PSF.	<ul style="list-style-type: none"> ▪ Ensure OHS CEMP requirements developed and implemented during the construction phase are adopted and continued to be used when maintenance work on the PSF water delivery, waste water discharge and septic systems are undertaken. Full compliance should be maintained. ▪ Ensure OHS equipment required is procured and used during all work activities. 	During maintenance activities.	PVMC	PVMC

ANNEX 2: Septic Tank Dimensions and Volumes of Aerobic Filter (Source: Vanuatu National Building Code) and General Septic System Design Requirements.

TABLE 3.4A
SEPTIC TANK DIMENSIONS AND VOLUMES OF AEROBIC FILTER

No. of Persons	ONLY SOIL WASTE						V(m ³)	F(m ³)
	A	B	C	D	W			
8	1000	400	1000	850	800	0.95	0.02	
10	1000	600	1000	850	800	1.22	0.02	
12	1000	600	1000	850	800	1.22	0.02	
15	1000	600	1200	1050	800	1.34	0.03	
25	1200	800	1200	1050	1000	2.10	0.05	
50	1600	800	1400	1250	1000	3.00	0.06	
100	2400	1200	1400	1250	1200	5.40	0.11	
150	2600	1400	1600	1450	1400	8.12	0.16	
200	3000	1600	1600	1450	1600	10.67	0.21	
300	3400	1800	1800	1650	1800	15.44	0.31	
400	4000	2200	1800	1650	2000	20.46	0.41	
500	4200	2200	1800	1650	2400	25.34	0.51	
600	4400	2400	2000	1850	2400	30.19	0.61	

No. of Persons	ALL DOMESTIC WASTE						V(m ³)	V(m ³)
	A	B	C	D	W			
8	1400	800	1000	850	1000	1.87	0.04	
10	1400	800	1200	1050	1000	2.31	0.05	
12	1800	800	1200	1050	1000	2.73	0.06	
15	1800	800	1200	1050	1200	3.28	0.07	
25	2000	1200	1400	1250	1400	5.60	0.11	
50	3200	1600	1600	1450	1600	11.14	0.22	
100	4000	2000	1800	1650	2200	21.78	0.44	
150	5000	2400	2000	1850	2400	32.86	0.66	
200	5600	2400	2000	1850	3000	44.40	0.89	
300	6600	3400	2000	1850	3600	66.60	1.33	
400	8000	4000	2000	1850	4000	88.80	1.78	
500	8200	4200	2000	1850	4800	110.11	2.20	
600	9000	4800	4000	1850	5200	132.76	2.66	

V = Volume of Septic Tank; F = Volume of Aerobic Filter; For details of A,B,C,D and W see Figures 3, 4A and B

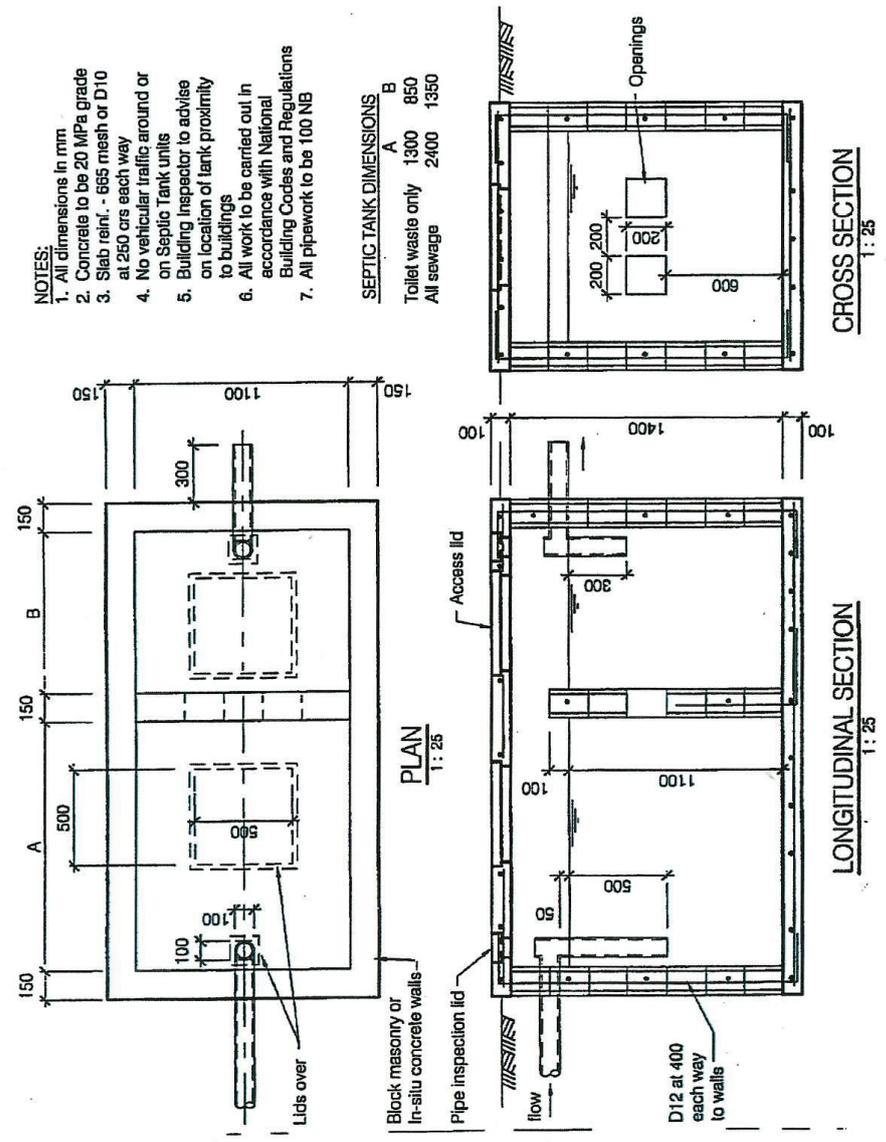


FIG 3.4 CONCRETE SEPTIC TANK FOR DOMESTIC USE

ANNEX 3. PSF Rapid Environment Assessment (REA) – Sewage Treatment Checklist.

Instructions:

- ❖ This checklist is to be prepared to support the environmental classification of a project. It is to be attached to the environmental categorisation form that is to be prepared and submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department.
- ❖ This checklist is to be completed with the assistance of an Environmental Specialist in a Regional Department.
- ❖ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklist and handbooks on (i) involuntary Resettlement, (ii) indigenous people planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ❖ Answer the question assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

Country/Project Title: **Vanuatu: Port Vila Urban Development Project**

SCREENING QUESTIONS	Y/N	REMARKS
A. Project Siting		
Is the Project area		
▪ Densely populated?	Y	The project is located within the urban and peri-urban areas of Port Vila, Vanuatu largest town and it is the nation's capital.
▪ Heavy with development activities?	Y	Scale of Development activities is Pacific Island focused – however town is growing quickly.
▪ Adjacent to or within any environmentally sensitive areas?	N	All Public Sanitation Facilities (PSF) are terrestrial land based, located on highly modified land in urban environment.
▪ Cultural Heritage Site?	N	
▪ Protected Area?	N	
▪ Wetland?	N	
▪ Mangrove?	N	
▪ Estuarine?	N	
▪ Buffer Zone of Protected Area?	N	
▪ Special Area for Protecting Biodiversity?	N	
▪ Bay?	N	
B. Potential Environmental Impacts		
Will the project cause		
▪ Impairment of historical/cultural monuments/areas and loss/damage to these sites?	N	The PSF are not associated with any historic or cultural sites.

SCREENING QUESTIONS	Y/N	REMARKS
<ul style="list-style-type: none"> Interference with other utilities and blocking of access to buildings; nuisance to neighboring areas due to noise, smell and influx of insects, rodents etc? 	N	Upgrade existing public toilet units will improve management of these facilities.
<ul style="list-style-type: none"> Dislocation or involuntary resettlement of people? 	N	Not associated with the PSF.
<ul style="list-style-type: none"> Impairment of downstream water quality due to inadequate sewage treatment or release of untreated sewage? 	N	The rehabilitation of existing and construction of new PSF will strictly manage all sewage waste through their management systems preventing any potential surrounding leakage or contamination.
<ul style="list-style-type: none"> Overflows and flooding of neighboring properties with raw sewage? 	N	The up grading of the PSF wastewater and sewage system is operated correctly and managed will prevent the release of untreated sewage.
<ul style="list-style-type: none"> Environmental pollution due to inadequate septage disposal or industrial waste discharge illegally disposed in sewers? 	N	Correct management will prevent this.
<ul style="list-style-type: none"> Noise and Vibration due to blasting and other civil works? 	Y	Increased site-specific noise will result from construction activities and use of machinery. Very site specific, localized and short lived.
<ul style="list-style-type: none"> Discharge of hazardous material into sewers, resulting in damage to sewer system and danger workers? 	N	Only wastewater and sewage from the PSF will enter the sewage system at each site.
<ul style="list-style-type: none"> Inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances, and protect facilities? 	N	The PSF are small and locations secured. No noise other nuisances are envisaged.
<ul style="list-style-type: none"> Social conflicts between construction workers from other areas and community workers? 	N	Majority of construction workers local communities no conflict perceived. Scope of works small and shorted lived.
<ul style="list-style-type: none"> Road blocking and temporary flooding due to land excavation during raining season? 	N	PSF are not located nor associated with road systems and therefore have no impact on them. Excavation work not undertaken during the rainy season.
<ul style="list-style-type: none"> Noise and dust from construction activities? 	Y	Increased site-specific noise and dust will result from construction activities and use of machinery.
<ul style="list-style-type: none"> Traffic disturbance due to construction material transportation and wastes? 	N	Perceived as being very minor with all heavy machinery working within the Municipal guidelines (9am to 6pm).
<ul style="list-style-type: none"> Temporary silt runoff due to construction? 	Y	Perceived as being very minor and site specific. Only associated with the new PSF not rehabilitation of existing sites.
<ul style="list-style-type: none"> Hazards to public health due to overflow flooding, and groundwater pollution due to failure of sewage system? 	N	The projects design and correct management will prevent this.

SCREENING QUESTIONS	Y/N	REMARKS
Deterioration of water quality due to inadequate septage disposal or direct discharge sewage water?	N	The projects design and correct management will prevent this.
Contamination of surface and ground waters due to septage disposal on land?	N	The projects design and correct management will prevent this.
Health and safety hazards to workers from toxic gases and hazardous material which maybe contained in sewage flow and exposure to pathogens in sewage and septage?	N	The projects design and correct management will prevent this.

ANNEX4 List of Public Workshops, Meeting and Discussion associated with PSF Project.

ANNEX 4a. Public Toilet Design Review Meeting

Date: 12th June 2015

Time: 12:00 pm – 1:00 pm.

Location: VPMU Conference Room

Prepared by: Ms. Yvonne Qualao

Attendees:

Mr. Lawrie Carlson (LC) and Mr. Bruce Jackson (BJ) – PVUDP

Mr. Andre Latipu (AL) and Mr. Tony Telford (TT) – VPMU

Ms. Yvonne Qualao (YQ) – Qualao Consultant Limited

Meeting Notes

1. Presentation of floor plans for the three new toilets blocks at Main Market, Independence Park and Fatumaru Bay.
2. LC noted that there was no laundry tubs present at the market and that these should be added outside the toilets and at the back, with some block walls provided for screening. During the first consultation meeting with the mamas they were emphatically rejected, but will be brought up again.
3. Discussion of the local restaurants; these need to be included in the waste water treatment, and a suitable location for the sinks found so that waste water pipes from these can be fed into the new WW treatment system. **During the meeting in the afternoon with market mamas the local restaurant representative said that there were two sinks currently shared by 32 restaurants and that all dirty water was emptied into them, and **usually** strained to remove garbage and prevent blockages.*
4. VPMU is still sorting out ownership of the unsealed road running next to the market, and the location of the WWTP may be here or at the front of the market house depending on the outcome. WWTP will be under the pavement.
5. AL asked if there could be some separation of entrances to male and female toilets, as culturally people would find it uncomfortable to be accessing these facilities next to each other.
6. Proposal for changing of the entrance to the Independence Park toilet so it did not face directly towards the field was rejected as a security issue.
7. LC requested that all toilets have a service corridor provided behind the toilets, so that the cistern would be placed away from users to reduce potential for damage. Service corridor to be 800mm wide, LC stated that this would be adequate for anyone coming in here to carry out maintenance.
8. The number of toilets at the Independence Park facility was reduced to 2 female, 1 male; there are also three urinals and a handicapped toilet each facility will have one hand basin provided.
9. AL proposed that a sloping slab be provided to connect the existing road to the facility at Independent Park and access to all facilities be from the higher end rather than the lower.
10. LC requested that the amount of natural light and ventilation into the market house toilets be maximised.
11. Questions were raised on the lack of showers at Independence Park; during consultation with the Cricket club who will manage the facility, they said that the ones that they had in the clubhouse were rarely ever used.

12. AL requested some screening from the road for users of the market toilets.
13. Questions were raised on the showers shown in the Fatumaru drawing. This was a request from the Shefa SG along with an additional male toilet, so the number of facilities was left as presented.
14. BJ questioned the sight line for the men's urinals at Fatumaru Bay, it was agreed to change the location of the pans and also the entrance door to the office.
15. LC requested that all facilities have simple skillion roofs provided.

ANNEX 4b. Consultation Meeting with President of the Local Restaurants Vendors, Port Vila Fruit and Vegetable Market

Date: 27th May 2015

Time: 1.30pm

Location: Port Vila Fruit & Vegetable Market

Prepared by: Mr. Hanington Alatoa

Attendees: Ms. Myriam Malao*, President of the Local Restaurant Vendors.
Mr. Hanington Alatoa PVUDP

*Mobile. (678) 7102363 , Email maimalao@gmail.com

Meeting Notes

I, Hanington introduced myself and then asked her to introduce herself.

I asked Myriam if she and members of her association had heard of the Port Vila Urban Development Projects and the big infrastructure projects being implemented in Port Vila and Vanuatu.

She replied by saying that at the start of the year (2015), the PVMC Town Clerk had informed the women generally about the projects, but no details were discussed.

After the TC Pam hit the country, the Manager of the Port Vila Market House briefed the women about the Port Vila Urban Development Project, with special attention given to the Public Sanitation Facilities at the Main Market.

Myriam said there are lots of problems with the sanitation/hygiene facilities at the Market House over the years, especially usage, as the majority of women users come from and around rural villages on Efate. They do not use flush toilets, etc.

Cleaners had been men in previous years. Culturally, it is inappropriate as men do not go into women's toilets. This issue has been resolved by employing women as cleaners of the facilities.

Occupational Health and Safety issues are being faced now, as the PVMC does not provide appropriate gear and equipment for the cleaners to use, this has resulted in the cleaners getting sick by working in unhealthy and unhygienic environment.

Myriam said she believed no-one knows the current location of the septic tanks. Also there could be many septic tanks built. A plan of the Market House should be obtained from the French Embassy as it was the French Government who funded the Vila Market House Project.

In terms of the need based on the increased number of daily users of the public sanitation facilities, men do not use the toilets as much as women do. She recommends a reduction in the men's toilet, and an increase of two additional urinal facilities.

For women, Myriam recommends two additional toilets and two additional bathrooms.

For public awareness and education about the proper use of the facilities, both JICA and Wan Smol Bag have done public health talks and workshops with women vendors in the Market House. This is proving to be effective as more and more women and people using the facilities, have an understanding of proper use of the toilets.4.

I asked Myriam about membership of her Association of Local Restaurants:

She has 60 + 30 local cooked food mamas = 90 in total.

For the Handicraft mamas, there are approximately 70 members

For the Green vegetable mamas, there are approximately 80 members

@ Any day, there are approximately 200-240 mamas selling at the Port Vila Main Market. If we get an average of 220 mamas paying a daily table fee of VT450, this equates to VT99k.

Over 6 days/week, the mamas pay an average weekly total of VT594k gross to the PVMC through the Manager.

Monthly gross revenue of the Port Vila Market would be around VT2.4 million

Annual revenue would be around VT28, 512,000 for the PVMC just from the mamas using the Port Vila Main Market.

The Local Restaurant Mamas pay permit and business license both @ VT8, 500 and VT5, 500 respectively.

ANNEX 4c. Port Vila Fruit and Vegetable Mama’s Market Public Toilet Daily operations Management Consultation Meeting

Date: 9th June 2015

Time: Morning

Location: Port Vila Fruit & Vegetable Market

Prepared by: Mr. Hanington Alatoa

Attendees: Ms. Theophile Massing Market Manager
Ms. Yvette Lingmal Market Daily Operations
Mr. Hanington Alatoa PVUDP

Meeting Notes

A consultations meeting was conducted on the 9th of June 2015 with significant responsible people of the Mama’s Fruits and Vegetable market public toilet for daily operations management of the Public Toilet. Three people were interviewed: the market Manager, the new cleaner and the outgoing cleaner. The aim/purpose of this consultation is for getting-to-know how the public toilets are managed and operated daily.
Management

The market is under the management of the Port Vila Municipal Council. The management of the Public Toilets are undergoing a restructuring that now sees a new market Manager. Whereas before, management and transactions were done through the PMVC main accounts, this has recently changed to the appointment of Mr. Theophile Massing who will manage the Market accounts separately.

Daily Operations and Management

Current conditions at the Fruits and Vegetables Mama’s Market as of the above date include two blocks of toilets for each gender. The male toilet block has one (1) shower, (1) one hand wash sink and three (3) toilets. The female block has two (2) showers, two (2) toilets, and one (1) hand wash sink. There is a storeroom in both blocks for cleaning materials. Cleaning materials and Sanitation materials currently used.

Cleaning include:

- 2 toilet brush for 5 toilets in total;
- 3 mops (1 out of function);
- 1 broom for both blocks;
- 1 sponge for cleaning surfaces; and
- 350 ml of soap detergent for mopping the floor and for cleaning the toilets.

Sanitation Materials:

- 1 toilet paper roll for 1 day;
- 350 ml of soap detergent per week;
- 1L Hydrochloric Acid; and
- No soap for hand washing.

Ms. Yvette Lingmal is the newly appointed lady interviewed on her first day of work and is responsible for the daily operations. She replaces the outgoing cleaner who was re positioned to the PVMC office and had been working as the cleaner and money collector for the Public Toilet for two years. Yvette comes in daily, she cleans the toilet blocks once in the morning using a sufficient amount of the 350ml cleaning detergent provided making sure that 350ml will last for a week. After cleaning, she stations herself in the smaller room next to the toilets to collect the monies.

Each toilet visit is charged 50vt per person plus seven (7) hand rolls of toilet paper for use in the toilet once the 50vt fee is paid. From past observations it is estimated that approximately

140 users use the toilets per day with the majority being women. Women, majority being market vendors use the Public Toilet facility more than the males for other activities as well such as bathing and for sanitary purposes. The highest money collection that can be collected in one day when there is a larger congregation and more vendors can range up to 7000vt and the smallest collection 4000vt per day and on average a total of 50 000vt per month. Salary per day for the lady cleaner is 1500vt.

The money collected leaves the hands of the lady cleaner into the PVMC office next door at the Market house and is recorded then transferred to the main PVMC office for final records and keep. The daily supplies such as the toilet rolls and cleaning detergents are paid for by the PVMC office management in bulk and stored at their premises for collection by the Fruits and Vegetable Market manager. 20Liters of soap detergent are purchased from the Pacific supplies then a smaller amount of 350ml is transferred into a smaller container for weekly use. The toilet rolls are also bought bulk of around 12 boxes and stored at the office.

Existing hygiene and sanitation conditions at the Fruits and Vegetables mama's market public toilets are very poor. The whole blocks need a thorough clean through due to marks and finger prints of human wastes on the walls and rubbish left lying everywhere. A number of issues and challenges exist alongside the daily management of the public toilets such as the ones listed below. Toilet spaces are also too narrow for mama's who are big and find it difficult for use.

Current Issues and Challenges

ATTITUDES OF MARKET VENDOR MAMA'S AND OTHER USERS

It was found from this meeting that the market vendor mamas and other users contribute to the untidiness and rubbish inside the Public Toilets. To the reader's attention, it must be made clear here that most of these market vendors come from the rural parts including a majority coming from Teuma Dark Bush where sanitation and hygiene is unheard of and or their types of toilets would be bush toilets where squatting position is applied and any type of rubbish can be thrown into the toilet pit including sanitary pads. Therefore from this interview meeting, it would seem that either the Mamas lack the knowledge on how to care and use the toilets properly or that it is due to their sheer carelessness and ignorance on their part.

At most times; market vendor mamas would throw used toilet papers anywhere on the floor, used sanitary pads are thrown also on the toilet floor even though there is a bin provided for that specific purpose, toilet seats are smeared with human faeces, children's nappies left lying on the floor, toilet seats are either broken from squatting and or continuously dirty from squatting with footmarks on the seats. Worst of all, plastic bags full of human faeces are found pushed behind the toilet bowls and the walls of the toilets smeared with finger prints of human excretes. It was also found from this interview that it is not only the adult users of the toilets who contribute to the un-cleanliness and un-hygienic conditions of the public toilets but also the children. As the outgoing cleaner lady puts it; "*long last Thursday one pikinini ikam staon antap long toilet, olgeta blo Tanna, mo wanem day ia nomo, wan young kel kam draonem cortex blem long toilet*").

"It seems children are unaware of proper toilet use as well as young girls for where to dispose their sanitary pads properly".

ATTITUDES OF USERS TOWARDS TOILET KEEPERS

Daily management and operations of the public toilets are an issue to deal with especially when being in the position of money collection and keeper and is exacerbated by gender. The female lady cleaner shared her experiences; that the users of the public toilets particularly, the market vendor male users, and some female users often disrespect her and verbally abuse her. She is often faced with difficult customers most often males who refused to pay the toilet

fee and then yelled at her using abusive words such as: “*ol man kam tok long mi from toilet oli se from wanem nao bai mifala pem, bisbis nomo ia bai mifala pem! Oli swear long me oli talem kanface*”. “*The users use abusive language on the lady cleaner when she insists on them paying the toilet fee and tell her why should they pay when it is only water (urine) that they will be paying for*”.

The harsh treatment by the users towards the cleaner often discouraged her from carrying out her cleaning duties often resulting in the toilets not being cleaned probably contributing to worsen the hygiene conditions. Despite the cleaner’s efforts in explaining to these users that the Markets for Change Program is here to make changes and that this should be portrayed in their use of the toilets but still things remain unchanged.

TOILETS/BATHROOMS ARE USED FOR COURTING ACTIVITIES

It was also found out from this consultation that the public toilets and shower rooms are often used for other activities such as courting between a boy and girl or often used by adults to commit unprotected sexual activities. These often contribute to breakage of shower stands, toilet seats and most often under wears left lying on the toilet floor. The cleaner’s concern is that when soap for hand washing is placed on the hand wash sinks, it is either stolen or used for shower.

SEPTIC TRUCK OWNER NOT TRANSPARENT IN THEIR SEPTIC REMOVAL

There are currently two septic tanks at the Fruits and Vegetable Mama’s market that are emptied every three (3) months. The septic truck comes in every three months to do the job but most often the septic truck has had to do other jobs first around town before coming to empty out the tanks. Which means by the time they arrived to do the job, their tanks are already half full or three quarters full thereby removing only a small quantity of waste but asking for full payment for an incomplete job or more than one removal trip but with full payments. Each removal trip cost around 25 000vt each tank.

FRUSTRATIONS DUE TO MISTRUST BETWEEN PVMC MANAGEMENT AND MARKET VENDORS

There is an atmosphere of mistrust and frustrations built-up in the market vendors’ mindsets about the PMVC management believed to have stemmed from previous PVMC councillors and management corrupt practices. It is often observed from past practices that some previous PVMC councillors would walk into the market and order food at the mama’s tables then leave without paying their bills. More so, the past councillors would often walk away with the toilet collection fees and or the table collection fees without any authorization from the management.

This misappropriation of funds by the PVMC councillors has caused the market vendors and toilet users not to trust anyone especially the management systems set up to control the management at the market including the public toilets. Therefore their views towards the market house and the public toilet is that they have a sense of ownership over these public assets thus they can use the toilets anyhow they wish to. As expressed by the market manager “*they think they own the public toilets because there is no one to hear their concerns out therefore, when I put the locks on the toilet doors, they break the doors down to access the toilets*”. A whole review of the management systems at the Market including the Public toilets is needed.

HIGH ILLITERACY RATE OF MARKET VENDORS

Illiteracy rate is very high amongst the market vendors both males and females and children hence is an issue when it comes to sanitation and hygiene. Any notices or posters relating to hand washing put up in the public toilets would be non effective because most of these vendors

are not able to read or write in both languages of French and English and even Bislama. Most of these market vendors most often can only speak one language that is their mother tongue dialect. Airing messages and awareness on the market speakers is also an issue because of lack of understanding so this has to be done repeatedly over a period of time.

OPERATIONAL COSTING ESTIMATES

ITEM	QUANTITY	COST in VATU	TOTAL
Toilet paper	1 roll (cellovilla)	450vt	1 x 450
Toilet brush	1	980vt	1 x 980
Mop	1	640vt	1 x 640
Broom (coconut)	1	200vt	1 x 200
sponge	1	500vt	1 x 500
Cleaning detergent	1 L	800VT	1 x 800
Hydro chloric acid	1 L	890VT	1 x 890
Salary	1	1500vt/day	1 x 1500
		TOTAL	5, 960vt
ADDITIONAL MONTHLY EXPENDITURES			
Water Bill monthly = 200,000vt			
Electricity monthly= 300,000vt			

List of questions delivered during the consultation.

1. How much soap do you normally use for hand washing per day?
2. How much cleaning detergent do you use per day?
3. How many toilet paper rolls do you use per day?
4. What is the normal operational practice routine?
5. How often is your septic removal done?
6. What are some of your experiences and challenges?
7. How often do you clean the toilets?
8. How much do you charge per user?
9. What is your revenue collection per day?
10. Where does the money go once you have collected money?

ANNEX 4d. Market House Consultation Meeting

Date: 12th June 2015

Time: 2:30 pm – 4.00 pm

Location: VPMU Conference Room

Prepared by: Ms. Yvonne Qualao

Attendees: Ms. Theophile Massing (TM)

Market Manager

Ms. Yvonne Qualao (YQ)

QCL

Mr. Hanington Alatoa

PVUDP

Mr. Ernest Bani (EB)

PVUDP

Ms. Catherine Malosu (CM)

VPMU

Ms. Susan Joe

SVMVA*

Ms. Leiwia Kalo

SVMVA

Ms. Senita Kalon

SVMVA

Ms. Janes Kalotres

SVMVA

Ms. Marie Toara

SVMVA

Ms. Jeannette Wallace

SVMVA

Ms. Meriam Malau (MM)

Local Restaurant Owner

Ms. Rosalie Vatee

Ni-Vanuatu Arts and Crafts President

Ms. Caroline Kalo

SVMVA

Ms. Mere Saky

SVMVA

* Silae Vanua Market Vendor Association

Minutes

Welcome by Market Projects Manager, TM

Participants introduced themselves to the rest of the attendees.

Overview of the PVUDP and the role of the VPMU by Catherine Malosu

Presentation of the proposed design of the new Market House toilets by YQ.

Questions and Comments

Ernest Bani (EB), PVUDP Deputy Team Leader, explained the reason for the moving of the toilets away from the seawall to reduce pollution of the bay and as part of the beautification of Port Vila to open up the market view to the sea. He also emphasised repeatedly the need for the users (not just market mamas but the people of Port Vila) to take ownership and take pride in the toilets. He pointed out that there are also other projects currently underway and there will be additional toilets being built in the seafront park area and another one at Fatumaru Bay by the PVUDP. EB encouraged the mamas to give their opinions so that the final facility would have their input and align better with their needs.

TM mentioned that the UN Women as part of the M4C project were looking at another place for mamas who overnight in Port Vila rather than having them sleep in the main market. The mamas pointed out that at this time there are 3 working toilets and because of the state of the toilets only the mamas used them, as they have no other option. In spite of this there are still long queues. The designers have agreed to rearrange the floor plan to put in a fourth women's toilet. These same problems are currently not experienced by the men.

The mamas were asked how long they usually stay at the market. One of the mamas from Rentabao said that she came and went home everyday, another from Eton would come on a Sunday/Monday and leave on Wednesday staying for only 3 days. Those from offshore islands such as Nguna, Emao etc, would generally come for 3-5 days depending on how quickly they could sell all their produce.

There was discussion on the inclusion of laundry facilities, the mamas have said that currently when they need to wash any small items they need to take water from any tap they can find including at the fish area where there is a standpipe. TM has stated that the laundry facilities cannot be separated out and must be kept within the current footprint. It was agreed that one of the hand washing sinks in the female toilets would be deleted and replaced with a laundry tub. The mamas have stated that they already have a system to deal with wet clothes and do not require any sort of line provided.

Some of the mamas mentioned that security can be a problem when sleeping over with drunk people around town. TM stated that the market would be bringing in more security to handle this.

The vendors who usually use this market have stated that there has been some strain on the facilities with the addition of the handicraft market mamas. It should be noted that not all the fruit and vegetable sellers have come back to the market yet, one of the mamas at the meeting stated she was only in town for the meeting and that she is still currently receiving food aid.

The mamas have said that because of the limited facilities they will start queuing to use the showers at 2am, and that there can also be queues in the evening with women wanting to have a shower before they go to sleep.

Meriam Malau (MM) the leader of the local restaurant association was present and was asked how many customers they normally had. She said that they had 32 tables (vendors), and in a survey taken at the end of last year they found that they sold around 4800 meals per week. This worked out to about 30-40 people per table per day. She also added that after Cyclone Pam, they found that the typical number of meals went up to 5200/week.

Closing remarks. TM and YQ both thanked the attendees and especially the mamas for their contributions to the meeting. TM reiterated that it is important when the new facility is built for everyone to help to keep it clean.

Closing prayer by Ronald Lumu.

ANNEX 4e. Consultation Meeting with the Shefa Provincial Government President associated with the Fatamaru bay PSF.

Date: 19th May 2015

Location: Fatamaru Bay proposed PSF

Time: Morning

Prepared by:

Ms. Daisy Warsal

Mr. Hanington Alatoa

Attendees: Mr. Michel Kalworai Shefa Provincial Government.
Mr. Martine Mahe Shefa Provincial Government (Accountant).
Mr. Seru Kuautonga Shefa Provincial Government (Contracted Surveyor).
Ms. Daisy Warsal PVUDP
Mr. Hanington Alatoa PVUDP

Meeting Notes

The proposed site by the Shefa Province at the Fatamaru Bay is by the Groovy water fountain. Shefa has plans in conjunction to the beautification projects to put up a food court where food items will be sold to the public, at the site. PVUDP's project will suit well their plans to set up public toilet facility area for use by the public using the park. Shefa Province is also negotiating with the PVMC to have a Zebra Crossing right in front of the facility at the site.

Recommendations from Shefa is if the design could be designed the same size as the former public toilet now converted to a bottle shop in front of the Anchor Inn.



ANNEX 4f. Consultation Meetings and visit to the Port Vila Central Hospital associated with the PSF.

Date: 23rd February 2015

Location: Port Vila Central Hospital proposed PSF

Time: Afternoon

Prepared by:

Ms. Daisy Warsal

Ms. Yvonne Qualao

Attendees: Mr. Morris Amos

Mr. Andre Latipu

Ms. Daisy Warsal

Mr. Ernest Bani

Ms. Yvonne Qualao

Hospital Administration Officer

VPMU

PVUDP

PVUDP

Qualao Consultant Limited

Meeting Notes

As discussed last week, having spoken with the administrator at the hospital – Morris Amos, he has said that with the new Japanese funded building there is no longer a need for a public toilet block that could serve outpatients and the general public. He has however, pointed out the need for repairs/refurbishment of the toilets in the maternal health clinic and the maternity ward. We inspected the toilets provided in the new outpatient area and are satisfied that these should be sufficient, there are 2 male toilets, 2 male urinals and 2 female toilets. There is also a disabled toilet however this requires better signage so that patients and visitors are aware of its location, which is inside the building between the accident and outpatient receptions. The staff at both the receptions said that for mobility impaired and disabled persons there were no restrictions on admittance to use the disabled toilet.

We would like approval to have the refurbishment of the existing toilets (mentioned above) in the hospital refurbished rather than the construction of a new sanitation block on the hospital grounds. Note that the maternal health clinic and the maternity ward both serve a large number of visitors. In the case of the maternal health clinic, not only does this toilet serve the pregnant women who come for checkups but it is also used occasionally by visitors to the morgue. The staff of the maternal health clinic, also pointed out that though this toilet generally serves women however there are no restrictions on men also using it. For the maternity ward, it is quite common for any women who come here to deliver babies to also have a family member staying with them and sleeping on the floor next to their bed, this means that in effect the ward toilets are actually serving double the number of beds. In addition, generally a lot of family members will also come here to visit new babies, so these toilets would actually serve a large number of visitors also.

Date: 19th May 2015

Location: Port Vila Central Hospital proposed PSF

Time: Afternoon

Prepared by:

Ms. Daisy Warsal

Mr. Hanington Alatoa

Attendees: Mr. Colin

Ms. Daisy Warsal

Mr. Hanington Alatoa

Hospital Maintenance Person

PVUDP

PVUDP

Meeting Notes

The Maternal /Antenatal Clinic Toilets and the Maternity ward toilet were re-visited on the same date as well. The maintenance person Collin led the walk-through to the wards.

Maternal Health: has 3 toilets, 1 hand wash basin and 0 showers. The clinic receives 70- 100 antenatal mothers daily from all over Port Vila who use the toilets as part of their normal process of treatment in this clinic.

Discussions with the Antenatal clinic staff revealed that there is a very high need in this section to refurbish and improve the facility and more additions of toilets to accommodate the high number of visits. The maintenance officer mentioned the availability of room for expansion for PVUDP to expand and improve their condition. A recommendation from this visit is for the Engineer to make another visit and talk to Collin the Hospital Maintenance person to do a proper survey.



ANNEX 4g. Consultation Meetings and visit to the Independence Park and the Vanuatu Cricket Association associated with the PSF.

Date: 8th July 2014

Location: Independence Park – Cricket Association proposed PSF

Time: Afternoon

Prepared by:
Ms. Daisy Warsal
Mr. Carol Dover

Attendees: Mr. Mark Stafford President Vanuatu Cricket Association
Mr. Jones Ephraim Ministry of Internal Affairs GoV
Ms. Daisy Warsal PVUDP
Mr. Hanington Alatoa PVUDP

Meeting Notes

Discussions undertaken on the location, its design and approval for the PSF to be constructed by the PVUDP at Independence park. Ministry of Internal Affairs has agreed for the public toilet to be located at the cricket site and Mark has agreed to taking on its O&M operation and maintenance subject to him being given a sub lease by the MIA.

Date: 22nd August 2014

Location: Independence Park – Cricket Association proposed PSF

Time: Afternoon

Prepared by:
Ms. Daisy Warsal
Mr. Hanington Alatoa

Attendees: Mr. Mark Stafford President Vanuatu Cricket Association
Ms. Daisy Warsal PVUDP
Mr. Hanington Alatoa PVUDP

Meeting Notes

During a June 24, 2014 meeting with PVUDP Consultants and the Acting DG of Ministry of Internal Affairs and the Executive Manager of the Corporate Services Unit, it was proposed that a new public toilet be constructed within Independence Park, near the sports field, next to the Cricket House, to cater for the increased usage of the park for sporting events and training as well as for important annual ceremonies. PVUDP Consultants proposed a similar model to Saralana Park be adopted between the Ministry of Internal Affairs and the Vanuatu Cricket Association. On July 8, 2014 Ministry of Internal Affairs met with Vanuatu Cricket Association and PVUDP Consultants to agree the proposed construction of a public toilet next to the Vanuatu Cricket House. This toilet would come under the authority of the Ministry of Internal Affairs and the Vanuatu Cricket Club would take on responsibility for operation and maintenance of the facility as a public toilet, to be open during sporting events, sports training and annual ceremonies. PVUDP will hire an architect to design the facility and a contractor for construction.

ANNEX 4h. List of National Stakeholder Consulted 2011 – 2015.

Name	Title	Agency
Mr. Albert Williams	Director	Department of Environmental Protection and Conservation.
Ms. Touasi Tiwok	Senior Principal Officer	Department of Environmental Protection and Conservation.
Mr. Trinison Tari	Senior Education & Information Officer	Department of Environmental Protection and Conservation.
Mr. Livo Mele	Acting Director General	Ministry of Agriculture, Forestry & Fisheries.
Mr. Moses Amos	Director	Department of Fisheries
Mr. Sompert Gereva	Fisheries Biologist	Department of Fisheries
Mr. Erickson Sammy	Hydrogeologist	Department of Geology, Mines & Water Resources
Mr. Morris Stephen	Senior Water Technician	Department of Geology, Mines & Water Resources
Mr. Jerry Sampson	Physical Planner	Department of Local Authorities - Physical Planning Unit
Mr. Salesa Nihmei	Manage, Climate & Services	Vanuatu Meteorological Service
Mr. Paul Gambetta	Senior Cartographer	Department of Lands
Mr. George Borugu	Director	Department of Tourism
Mr. Job Esau Wate	Director	Natural Disaster Management Office
Mr. Francis Hickey	Coordinator, Traditional Resource Management Program	Vanuatu Cultural Centre
Mr. Richard Shin	Resident Archaeologist	Vanuatu Cultural Centre
Mr. Andre Latipu	Acting Director	Department of Public Works
Ms. Uravo Nafuki	Environmental & Social Impact Officer Engineering Support Unit	Department of Public Works
Mr. Ernest Lekelowia	Assistant Secretary General	Shefa Provincial Government
Ms. Emil Mael	Physical Planner	Shefa Provincial Government - Physical Planning Unit
Ms. Shirley Laban	Environmental Health Officer	Environmental Health Section
Mr. Pokoa Rarua	Environmental Health Officer	Environmental Health Section
Mr. Austin Leo	Maintenance Officer	Wastewater Treatment Plant, Vila Central Hospital
Ms. Anthea Toka	Secretary General	Vanuatu Association of NGOs (VANGO)
Dr. Chris Bartlett	Climate Change Technical Advisor to Vanuatu	GTZ Pacific Island Regional Program Adaption to Climate Change
Mr. Peter Kelly	Transport Sector Coordinator	AusAID
Mr. Marc Leopold	Fisheries Scientist	Institut de Recherche por le development (IRD)
Ms. Sarah Mecartney	Pacific Habitat Program Manager	UN Habitat
Ms. Angelika Planitz	Sub regional Coordinator Pacific	UN International Strategy for Disaster Reduction
Mr. Michael Poustie	PhD candidate and Researcher Water Quality	Monash University Australia
Mr. Paul Smith	General Manager	Vanuatu Abattoirs Limited
Mr. John Urvaru	Chief Engineer	Le Lagon Resort
Mr. Wilson Aru	Chief Engineer	Palms Resort
Ms. Katie Thomson	Volunteer	US Peace Corps - Reef Check Program