



CONSULTANCY SERVICES FOR THE FUNAFUTI WATER AND SANITATION PROJECT (FWSP) PROJECT PREPARATION PHASE 1 & PHASE 2 CONSULTANT'S PRESENTATION

PACOC MTR – April 2024

The logo for the Asian Development Bank (ADB), consisting of the letters 'ADB' in a white, serif font on a dark blue square background.

ADB



THIS PRESENTATION

1. Project Preparation Study Objective, Components, Deliverables and Staging
2. Study Progress Summary – Phase 1 - Stages A, B and C
3. Scope – Future Funafuti – 2030, 2040 and 2050
 - Water Supply
 - Sanitation
4. Cost Estimates and Construction Scheduling
5. Phase 2 Scope
6. Discussions and Questions

PROJECT PREPARATION PHASE 1

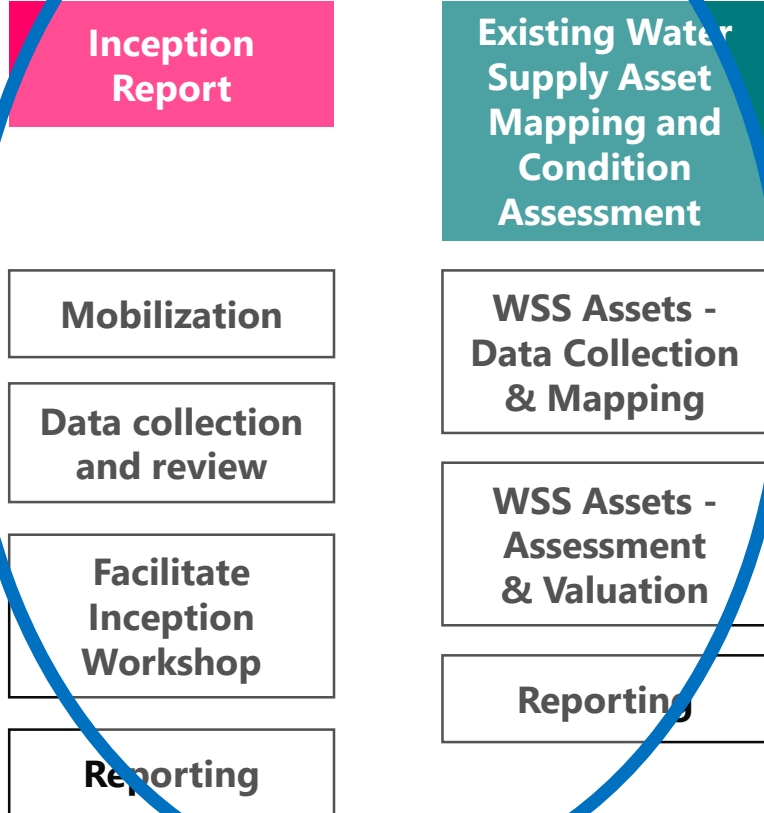
1. STUDY OBJECTIVES, COMPONENTS, DELIVERABLES AND STAGING

PPP1 – STUDY OBJECTIVES

To assist the Government of Tuvalu (GoT) to prepare the proposed Funafuti Water and Sanitation Project (FWSP) with preparation of water supply and sanitation asset condition reports, future investment options, master plans, strategic plans, feasibility studies and project due diligence.

PPP1 – STUDY STAGING

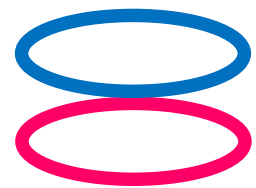
STAGE A INCEPTION REVIEW



STAGE B PLANNING



STAGE C PROJECT FEASIBILITY & DUE DILIGENCE



Progress summary in previous presentations

Progress update covered in this presentation.



PROJECT PREPARATION PHASE 1

2. STUDY PROGRESS SUMMARY

- STAGES A , B AND C
- RESPONSES TO ISSUES ARISING
- RESCHEDULING FOR GEF OPTIONS

2. STUDY PROGRESS SUMMARY – STAGES A AND B

No.	Deliverable	Revised Delivery/Status
	STAGE A	
	PPP1 Study Kick Off Meeting	
D1.2	Draft Inception Report	27 November 2021
	Inception Workshop	12 – 16 December 2021
D1.3	Final Inception Report	8 January 2022
D2.1	Draft Water Supply and Sewer Asset Condition Report	19 February 2022
D2.2	Final Water Supply and Sewer Asset Condition Report	22 March 2022
	STAGE B	
D3.1	Draft Investment Options for Water Supply Paper	4 April 2022
D3.2	Draft Investment Options for Sanitation Paper	20 April 2022
D4.1	Draft Water Supply and Sanitation Strategic Plan	04 June 2022
D3.3	Draft Funafuti Water Supply Master Plan	17 June 2022
D3.4	Draft Funafuti Sanitation Master Plan	18 June 2022
D4.2	Final Water Supply and Sanitation Strategic Plan	24 August 2022
	Draft Preliminary Project Initial Environmental Examination (IEE) – GEF Subproject	28 July 2022
	Draft Preliminary Initial Poverty and Social Analysis	02 August 2022
	Draft Preliminary Feasibility Report – GEF subproject	11 July 2022
D8.1	Draft Project Environment Assessment and Review Framework (EARF) – ADB Subprojects (Combined with D8.2 – Initial Environmental Examination)	
6.2	Stakeholder Analysis	6 November 2022
D3.5	Final Funafuti Water Supply Master Plan	24 August 2022
D3.6	Final Funafuti Sanitation Master Plan	24 August 2022

2. STUDY PROGRESS SUMMARY – STAGE C

No.	Deliverable	Revised Delivery/Status
	STAGE C	
D6.1	Draft Resettlement Plan	7 June 2023
D6.5	Summary Poverty Reduction and Social Strategy	8 March 2023
D7.1	Draft Gender Action Plan	6 March 2023
D8.2	Draft Initial Environmental Examination	11 June 2023
	Draft Climate Risk and Vulnerability Assessment	15 February 2023
D6.3	Final Resettlement Plan	In progress
	Final Project Environment Assessment and Review Framework (EARF) (Combined with D8.4)	
D7.2	Final Gender Action Plan	31 May 2023
D8.4	Final Initial Environmental Examination	In progress
	Final Climate Risk and Vulnerability Assessment	11 September 2023
D9.1	Draft Financial Assessment Report	12 March 2023
D10.1	Draft Economic Assessment Report	12 March 2023
D9.2	Final Financial Assessment Report	05 June 2023
D10.2	Final Economic Assessment Report	07 June 2023
D11.1	Draft Strategic Procurement Planning Report	In progress
D11.2	Final Strategic Procurement Planning Report	In progress

PROJECT PREPARATION PHASE 1

FEASIBILITY INVESTMENTS - SCOPE

- FUTURE FUNAFUTI – 2030 AND 2040
- WATER SUPPLY
- SANITATION

Feasibility Investments – Future Funafuti – 2030 and 2040

2030



Projected Population (medium) – 9,685



Females – 4,610 and Males – 5,075

%
national
population

In Funafuti – 74.5%



%
national
population

In Funafuti – 80.0%



Females – 5,636 and Males – 6,204



Projected Population (medium) – 11,840

2040



2050



Projected Population (medium) – 14,565



Females – 6,933 and Males – 7,632

%
national
population

In Funafuti – 85.0%



Feasibility Investments – Future Funafuti – 2030, 2040 and 2050

Water Supply

Access Level and Typical Volumes used in the home ^a	Accessibility of Water Supply	No of Households Covered with metered connection	Adequacy for Health Needs	Level of Health Concern ^b
Inadequate access (quantity collected can be below 5.3L/person/day)	More than 1 kilometre in distance or 30 minutes total collection time	0%	Drinking – cannot be assured Cooking – cannot be assured Hygiene - cannot be assured at the home, ^c compromising food hygiene, handwashing and face washing, other hygiene activities have to be undertaken away from home	Very high
Basic access ^d (average quantity unlikely to exceed 20L/person/day)	1– 1,000m in distance or 5-30 minutes total collection time	30%	Drinking – should be assured Cooking – should be assured Hygiene - food hygiene, handwashing and face washing may be assured; bathing and laundry cannot be assured at the home but may be carried out at, water source	High
Intermediate access (average quantity about 50L/person/day ^e)	Water delivered through one tap on household plot, or within 100 m or 5 minutes total collection time	60%	Drinking – assured Cooking – assured Hygiene – all food hygiene, handwashing and face washing assured under non-outbreak conditions; enhanced hygiene during infectious disease outbreaks not assured; bathing and laundry at the home should also be assured	Medium
Intermediate access (average quantity about 50L/person/day ^e)	Water delivered through one tap on household plot, or within 100 m or 5 minutes total collection time	100%	Drinking – assured Cooking – assured Hygiene – all food hygiene, handwashing and face washing assured under non-outbreak conditions; enhanced hygiene during infectious disease outbreaks not assured; bathing and laundry at the home should also be assured	Medium

2030

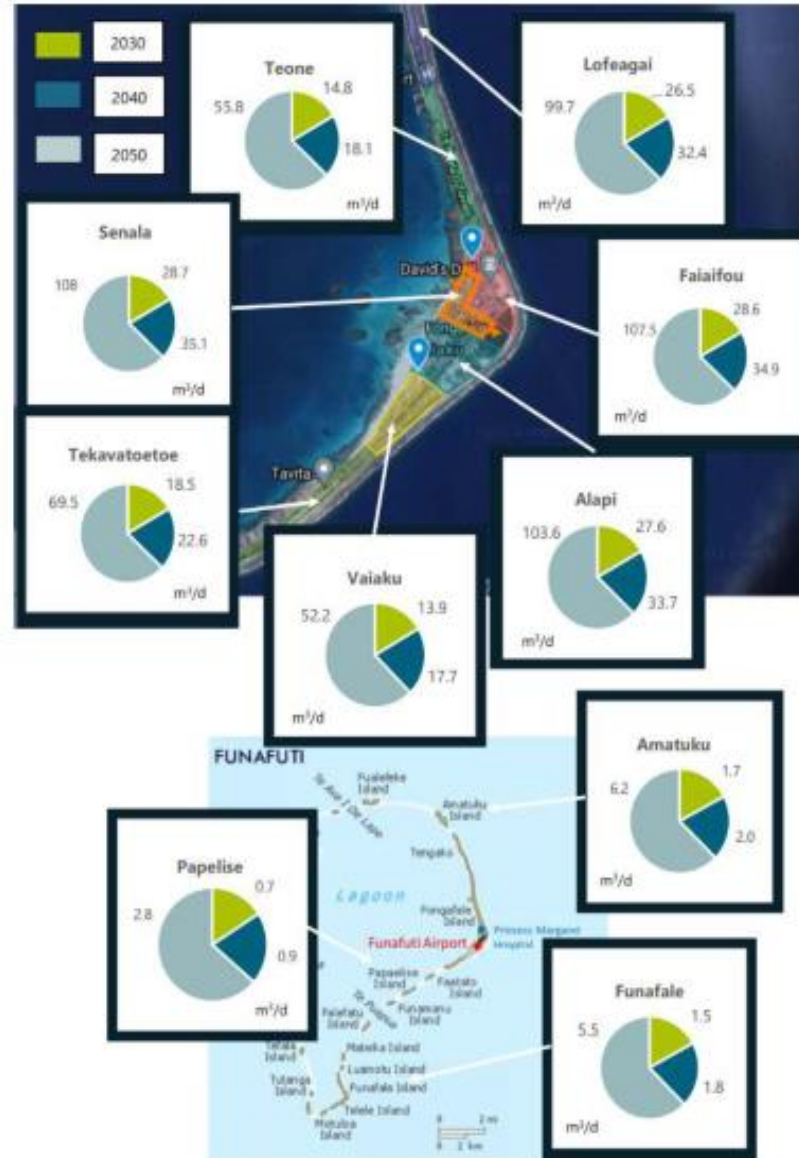
2040

2050



Feasibility Investments – Future Funafuti – 2030, 2040 and 2050

Water Supply



Feasibility Investments

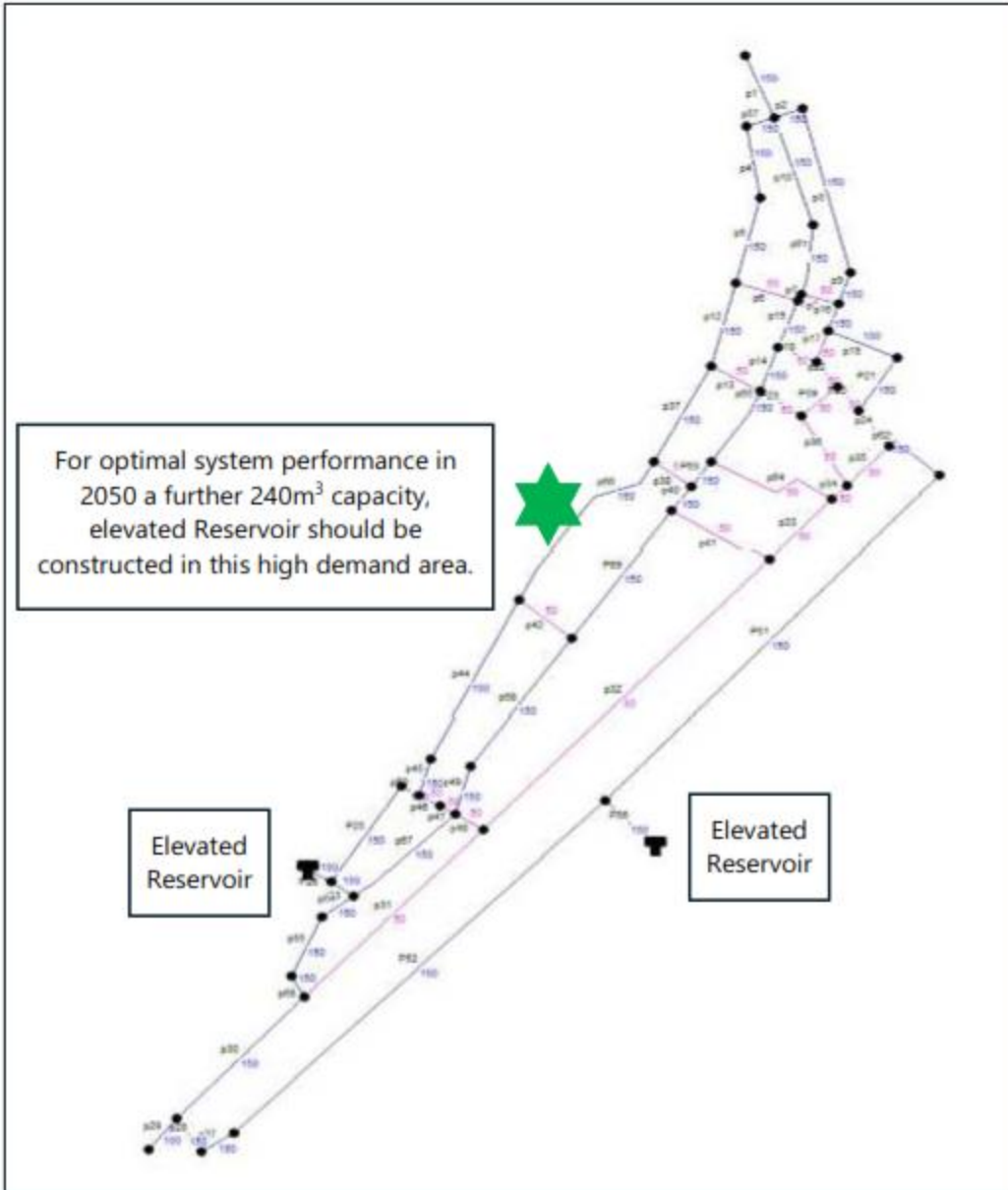
- Future Funafuti
- 2030 and 2040

Water Supply

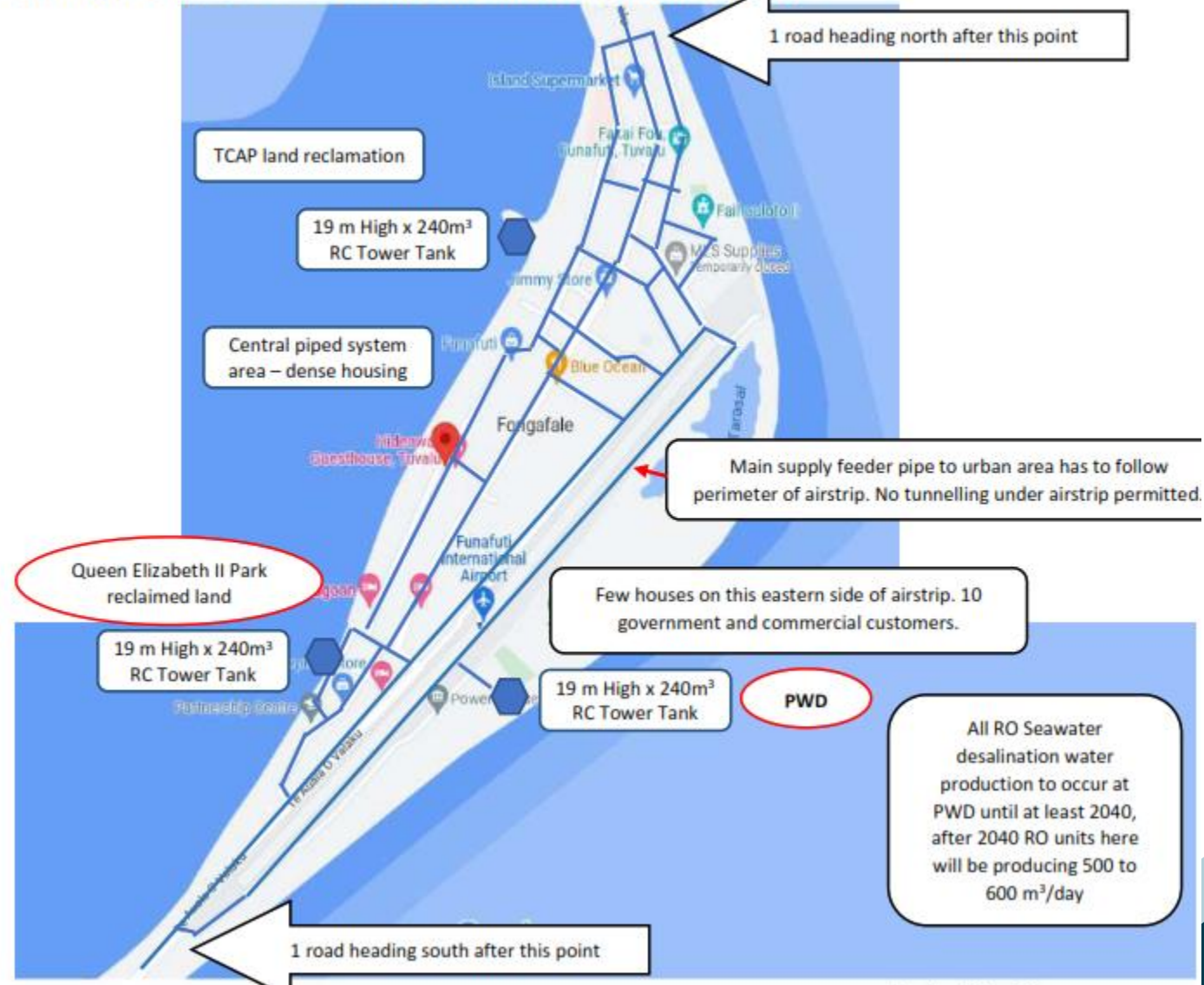


Feasibility Investments – Future Funafuti – 2030 and 2040

Water Supply



CENTRAL FUNAFUTI PIPED NETWORK and INFRASTRUCTURE MAP

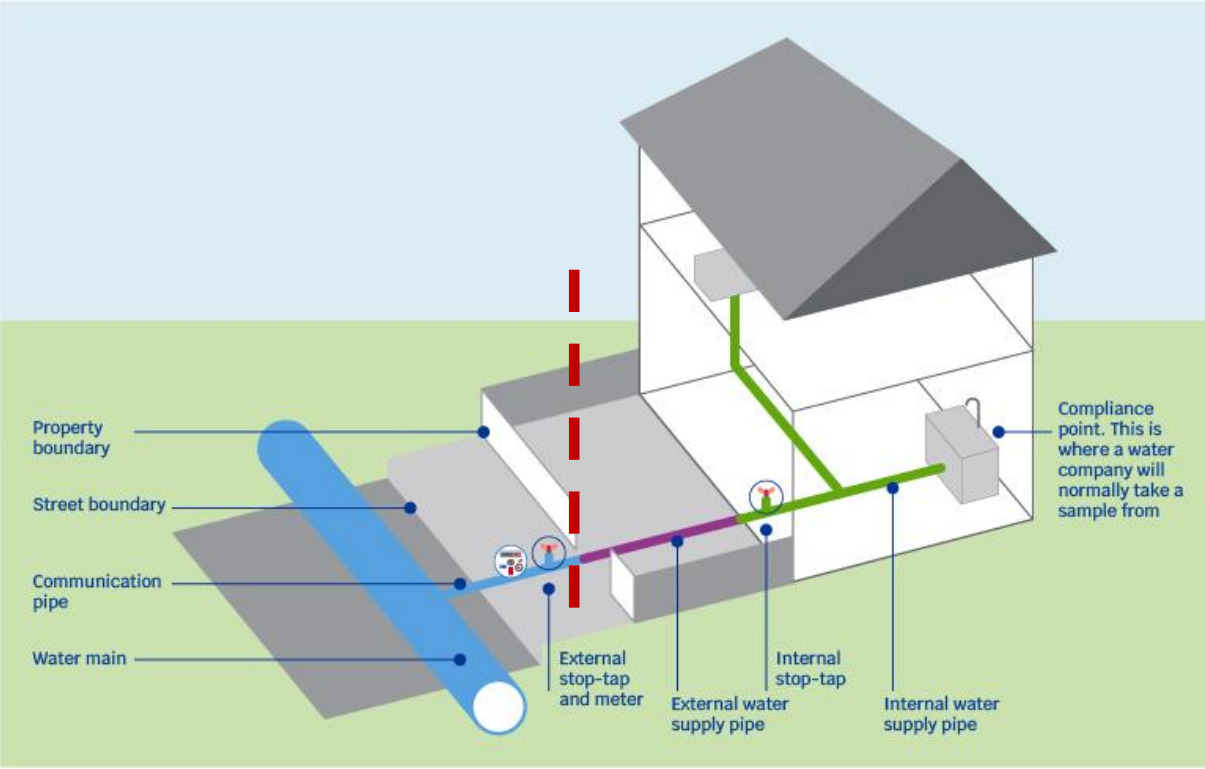


Feasibility Investments – Future Funafuti – 2030 and 2040

Typical pipeline route mapping



Typical service connection



Feasibility Investments – Future Funafuti – 2030 and 2040

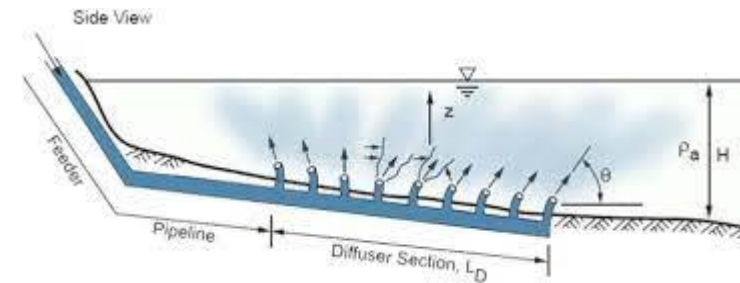
Sanitation



PROPOSED SEPTAGE BEDS & PACKAGED WWTP LOCATION
SCALE 1:2,000 (N1)



EXISTING SEPTAGE DISPOSAL SITE
N18



PROJECT PREPARATION PHASE 1

FEASIBILITY INVESTMENTS - SCOPE

- FUTURE FUNAFUTI – 2030 AND 2040

- COST ESTIMATES

- CONSTRUCTION SCHEDULING

Feasibility Investment Cost Estimates

Estimated Costs US\$

Water Supply

Civil Works

Plant & Equipment

TA Support

Project Management Support (incl. PMU)

Financial Management & Tariff Setting

Legislative & Regulatory

Community Communication & Awareness

Health Education & Hygiene Action Plan

Without Taxes & Duties

US\$9.853 mill.

US\$0.475 mill.

US\$1.884 mill.

US\$0.050 mill.

US\$0.050 mill.

US\$0.100 mill.

US\$0.100 mill.

US\$12.512 mill.



Feasibility Investment Cost Estimates

Estimated Costs US\$

Sanitation

Without Taxes & Duties

Civil Works

US\$1.863 mill.

Plant & Equipment

US\$0.517 mill.

TA Support

Project Management Support

US\$.471 mill.

Financial Management & Tariff Setting

US\$0.050 mill.

Community Communication & Awareness

US\$0.50 mill.

Health Education & Hygiene Action Plan

US\$0.50 mill.

US\$3.001 mill.

Feasibility Investment Cost Estimates

Funding Source	Amount US\$ million	Share of Total %
Asian Development Bank		
- Special Funds resources (ADF grant)	4.000	26%
- Special ADF	2.000	13%
GEF-LDCF (grant) ^a	4.587	29%
Government of New Zealand, MFAT (grant) ^b	4.085	26%
Government of Tuvalu	0.890	6%
TOTAL	15.562	100%

Notes:

a Administered and managed by ADB

b Administered and managed by ADB

Feasibility Investment – Procurement/Construction Scheduling

Procurement/ Construction	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Civil Works - CW01 Main Civil Works Package																				
Construct three (3) RC, 19 m elevated, raw water storage reservoirs																				
- Reservoir 1																				
- Reservoir 2																				
- Reservoir 3																				
Supply/construct raw water pump station; refurbish existing RO plant room; supply/install new 200 m3/day RO plant; construct/install new RO plants intake well; supply/install WS pipeline to elevated reservoirs; supply/ construct distribution piped network throughout 7 Funafuti villages; supply/install 1,260 household service connections																				
- Supply/construct raw water pump station																				
- Refurbish existing RO plant room																				
- Supply/install new 200m3/day RO plant																				
- Construct/install new RO plants intake well																				
- Supply/install WS pipeline to elevated reservoirs																				
- Supply/construct distribution piped network - 7 villages																				
- Supply/install household service connections - contractor																				
- Supply/install household service connections - PWD																				
Supply/construct 10 bay septage drying beds; supply/install 5Ml/day package WWTP; supply/construct effluent ocean outfall; supply/construct related fencing/office building																				
- Supply/construct 10 bay septage drying beds																				
- Supply/install package WWTP																				
- Supply/construct effluent ocean outfall																				
- Supply/construct related infrastructure - fencing, buildings																				
Civil Works - CW02 Schools & Health Centres Sanitation Repairs																				
Repair existing sanitation facilities in Government schools and health centres																				
- Supply/install sanitation repairs - Government schools																				
- Supply/install sanitation repairs - Government health centres																				
Civil Works - CW03 Septage Containment Tanks - Pilot																				
- Construct/install septage containment tanks																				
Goods - GO1 Meter Field Testing Equipment																				
Goods - GO2 RW Harvesting Materials and Supplies																				
Goods - GO3 Septage Truck																				
Goods - GO4 Chipper/mulcher (trailer mounted)																				
Goods - GO5 4WD, WS service vehicle																				



PROJECT PREPARATION PHASE 2

SCOPE OF SERVICES



PHASE 2 - SERVICES

Phase 2	Required Reports/Deliverables
1.1	Draft Detailed Engineering Design including expert's contribution on environmental, RP, Health and Safety issues
1.2	Final Detailed Engineering Design including expert's improvements following Client and ADB review and approval
2	Capacity Building support plan
3.1	Draft bidding documents including expert contribution on environmental, RP, Health and Safety issues
3.2	Final bidding documents including expert's improvements following Client and ADB review and approval

PHASE 2 - SERVICES

No.	Services	Activities
2.1	Preliminary Design	2.1.1 WS Reservoirs
		2.1.2 Desalination plant
		2.1.3 WS piped network
		2.1.4 Septage WWTP and ocean outfall
2.2	Underground services detection and location and other surveys	2.2.1 Urban services detection surveys
		2.2.2 Geotechnical surveys
		2.2.3 Topographic survey
2.3	Detailed Engineering Design	2.3.1 WS piped network
		2.3.2 Sanitation facilities
2.4	Due Diligence documentation	2.4.1 Environmental Impact Assessment
		2.4.2 Other
2.5	Preparation of procurement Documents	2.5.1 WS Reservoirs
		2.5.2 WS Piped Network
		2.5.3 WS Equipment
		2.5.4 Septage WWTP and ocean outfall
		2.5.5 Sanitation Equipment
2.6	Procurement Support – Assist PMU to procure selected investments	2.6.1 Equipment consultations
		2.6.2 Evaluation for contract award
		2.6.3 Negotiation and contract finalisation

PROJECT PREPARATION PHASES

DISCUSSION AND QUESTIONS

Questions



FAKA FETAI

THANK YOU

