TAVEUNI WATER

Report 03 — Integrated Development Programme

Borehole exploration | Water-volume and quality verification | Consents | Equipment | Contractors | Consultants | Costs

INTERNAL REVIEW ONLY | DRAFT 01 | 27 OCTOBER 2026

Planning commencement: 2 November 2026. All dates, quantities, consent pathways and cost allowances are provisional. No site has yet been approved for drilling. This is an internal coordination document, not a permit application or contractor specification.

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1. Executive decision summary

Investigate four candidate areas: Naselesele inland uplands, Vunitarawau uplands, Qeleni upper catchment and Vunidawa hinterland. Use hydrogeology, land-access checks and geophysics to select up to two conditional exploration boreholes (provisional total 160 m). The second bore is contingent on first-bore results. Preserve community water supply and protect source quality.

Decision	Planning position
Exploration programme	Nov 2026–Oct 2027; conditional drilling Mar–Apr 2027
Initial volume and quality verification	April–May 2027; pump test and laboratory suite
Seasonal verification	May–September 2027; repeat July and September samples
Source go/no-go	October 2027; independent technical review
Exploration and feasibility envelope	FJ$435,000 base + FJ$87,000 (20%) contingency = FJ$522,000
Permanent source infrastructure	Additional FJ$130,000–355,000; excludes factory and land acquisition

2. Candidate area and siting register

Area	Initial rationale	Mandatory qualification
Naselesele inland uplands	Existing borehole / fractured-volcanic-rock evidence	Do not target saline-affected coastal spring; monitor village wells
Vunitarawau uplands	Spring occurrence and upland recharge potential	Separate commercial extraction from community spring use
Qeleni upper catchment	Documented springs; alternative investigation area	Flood/catchment risk and land access must be screened
Vunidawa hinterland	Existing spring use; reserve investigation area	Tenure, catchment and hydrogeology require verification

Exact parcel boundaries, coordinates, groundwater chemistry, extraction rights and sustainable yields are NOT yet verified. No ranking is a finding of proven reserves.

3. Integrated graphical programme

Simple Word table programme. ■ = planned activity; ◆ = decision or test milestone. Months are indicative, not promised approval dates.

Workstream	N26	D26	J27	F27	M27	A27	M27	J27	J27	A27	S27	O27
Data / tenure / village access	●	●	●									
Field baseline + springs		●	●									
Geophysics + drill targeting			●	●								
Permits + tenders			●	●	●							

Workstream	N26	D26	J27	F27	M27	A27	M27	J27	J27	A27	S27	O27
Drill and develop bore 1					●	●						
First pump and lab tests						●	●					
Conditional bore 2						●	●					
Dry-season volume monitoring							●	●	●	●	●	
Repeat quality sampling									●	●	●	
Source decision												◆

4. Water-volume and water-quality verification

Target date	Verification	Acceptance evidence / action
Before drilling · Feb–Mar 2027	Baseline spring/well levels and flows	Document neighbouring supply; choose observation points and stop-pumping triggers
April 2027	Bore construction and initial yield	Signed drilling log, casing/grout records, bore development and preliminary flow
April–May 2027	Step-drawdown and constant-rate pumping	Measured discharge, drawdown, recovery and neighbour response; hydrogeologist interprets
April–May 2027	Initial complete quality suite	Accredited laboratory: microbiology, major ions, trace elements, physical chemistry, contaminants
May–September 2027	Dry-season source-volume verification	Continuous groundwater levels, spring-flow checks, abstraction record and rainfall context
July 2027	Repeat water quality	Microbiology and selected full chemistry; investigate any excursions
September 2027	Late dry-season confirmation	Repeat microbiology and chemistry; assess seasonal yield and interference
October 2027	Independent source review	Sustainable abstraction recommendation, uncertainty register, protection-zone proposal

Indicative design demand: 2 million containers/year × assumed 0.5 L = 1,000,000 L packaged/year. At 250 operating days and a provisional 20% process-loss allowance, plan approximately 4,800 L/day of source water. This is a design scenario, NOT an established bore yield. Final pump-test duration, sampling parameters and acceptance thresholds must be specified by the hydrogeologist and accredited laboratory against applicable Fiji and destination-market requirements.

5. Consents, permissions and statutory action register

Authority names and legal instruments are working assumptions requiring written, site-specific confirmation. A filing target is not an approval.

ID / target	Consent / action	Responsible interface	Required output
C01 Nov 2026	Land tenure / parcel search	Solicitor / land authority	Identify iTaukei, State or freehold status; boundaries, leases, easements, restrictions

ID / target	Consent / action	Responsible interface	Required output
C02 Nov–Feb	Entry, exploration and access rights	Landowners / TLTB or State/freehold owner	Written entry and testing agreement; permanent rights separately
C03 Nov–Mar	Groundwater exploration and drilling pathway	Mineral Resources Department	Written determination of relevant prospecting, drilling, reporting and extraction rules
C04 Dec–Feb	Environmental screening / EIA	Department of Environment	Submit locality, methods, waste, water-user and environmental information; full EIA if directed
C05 Jan–Mar	Earthworks / planning / road access	Planning / road authorities	Confirm permits for drill pads, vegetation removal, access and works
C06 Nov–Sep	Community and existing-water-user agreements	Village representatives / WAF / project	Baseline supplies, consent/consultation records, complaints and stop-pump protocol
C07 Feb–Mar	Drilling contractor safety and mobilisation	Project / contractor / relevant agencies	Rig insurance, imports, spill plan, waste, abandonment and site method statements
C08 Apr–May	Test abstraction and discharge conditions	MRD / environment / land authority	Confirm test pumping/discharge permissions and monitoring requirements
C09 May–Sep	Seasonal verification and monitoring	Hydrogeologist / laboratory	Flow, water level, quality, adjacent supplies and reportable incidents
C10 Sep–Oct+	Permanent commercial abstraction	MRD / land authority / FRCS	Confirm licence/right, permitted volumes, reporting, meters and water-resource tax
C11 Oct+	Permanent tenure and pipeline easements	Landowners / TLTB / legal advisers	Factory/bore lease, protection area, road and pipeline rights
C12 Before build	Factory planning / building / environment	Planning / building / environment authorities	Development permission, building plans, effluent and occupancy requirements
C13 Before sales	Food premises and bottled-water compliance	Health / trade standards authorities	HACCP, food licence, source/product testing, packaging and labels
C14 Before export	Export / customs / destination compliance	FRCS / trade / destination regulators	Export certification, tax, customs, label and destination market rules

Consent decision gates

Gate	Condition to release expenditure
G0 · Nov 2026	Confirm tenure and permission for non-invasive investigations
G1 · Jan–Feb 2027	Land access, written regulatory classification and environmental screening decision
G2 · Mar 2027	Applicable drilling/earthworks clearances and approved drilling method

Gate	Condition to release expenditure
G3 · Apr–Sep 2027	Volume/quality data support continued monitoring and possible second bore
G4 · Oct 2027+	Written commercial extraction pathway, secure land rights and factory approvals before construction/sales

6. Equipment schedule

Equipment / package	Procurement model	Target	Budget treatment
Geological/AEM datasets, GIS	Consultant/data access	Nov–Dec 2026	Stage A
Electrical resistivity survey equipment	Geophysical contractor supply	Jan–Feb 2027	Stage A
Volcanic-rock drill rig, compressor, bits, rods	Drilling contractor supply	Mar–Apr 2027	Stage B
Casing, screens, sanitary grout, headworks	Drilling subcontract	Mar–Apr 2027	Stage B
Temporary test pumps, generator, flow meter	Pump-test contractor supply	Apr–May 2027	Stage B
Level loggers, EC/pH/temp/turbidity probes	Hire / specialist supply	Apr–Sep 2027	Stage B
Sterile sampling kits and cold chain	Laboratory / sampling contractor	Apr, Jul, Sep	Stages A/B
Drill pad, fencing, bunds and spill equipment	Civil / drilling contractor	Before drilling	Stage B
Permanent production bore and pump	Tender after source approval	After Oct 2027	Additional capital
Transfer pipeline, tank, telemetry, electrical	Tender after design and tenure	After Oct 2027	Additional capital
Factory treatment, filling and paperboard packaging	Separate process procurement	After pilot validation	NOT costed in exploration

7. Contractor procurement schedule

Trade / contract	Appointment / work	Deliverable	Existing allowance
Geophysical survey	Jan–Feb 2027	Resistivity sections and ranked targets	FJ$14,000 Stage A

Trade / contract	Appointment / work	Deliverable	Existing allowance
Access and civil works	Feb–Mar 2027	Drill pads, safe access and restoration	FJ$18,000 + FJ$14,000 Stage B
Drilling contractor	Tender Feb; drill Mar–Apr	Up to two conditional bores, logs, seals, development	FJ$25,000 mobilisation + FJ$90,000 drilling + FJ$24,000 completion
Pump-testing contractor	Tender Mar; test Apr–May	Step/constant-rate/recovery tests	FJ$18,000 Stage B
Accredited laboratory	Tender Mar; Apr–Sep samples	Chain of custody and chemistry/microbiology	FJ$10,000 Stage A + FJ$12,000 Stage B
Freight / local logistics	Before mobilisation	Shipping, port, transfer, accommodation	Within contract packages; check exclusions
Pump/electrical installer	After source decision	Permanent pump, controls, metering	Additional capital
Pipeline/tank installer	After source decision	Transfer main and sanitary storage	Additional capital
Factory builder / line integrator	After approvals and design	Factory, process line and commissioning	Not yet estimated

Tender conditions: itemised Taveuni mobilisation and demobilisation; per-metre rates and depth variations; weather stand-by; rig suitability for volcanic rock; casing/grout and disinfection methods; drilling logs; sampling chain of custody; third-party insurance; environmental management; abandoned-hole rates; and as-built handover.

8. Consultant appointment schedule

Role	Engage	Core deliverable / budget basis
Lead hydrogeologist	Nov 2026–Oct 2027	Target selection, drilling supervision, pump-test interpretation, sustainable yield; Stages A–C
Engineering geophysicist	Nov 2026–Feb 2027	AEM interpretation and resistivity design; FJ$18,000 Stage A
Land and tenure solicitor	Nov 2026 onward	Tenure, access, extraction agreements; FJ$12,000 Stage A; permanent tenure extra
Community liaison specialist	Nov 2026 onward	Village consultations, water-user register, grievances; FJ$16,000 Stage A
Environmental consultant	Dec 2026 onward	Screening, source protection and EIA if directed; FJ$18,000 Stage C; full EIA extra
Water-quality specialist	Jan–Oct 2027	Sample plan, laboratory selection and suitability review; clarify separate fees
Water/process engineer	After promising test	Pump, pipeline and process concept; FJ$12,000 Stage C for source design
Food safety / regulatory adviser	Before production design	HACCP, standards, packaging, labelling; Stage C regulatory allowance
Cost planner / procurement lead	Jan 2027 onward	Tender comparisons, freight, variation and tax controls; fee to confirm

Role	Engage	Core deliverable / budget basis
Independent technical verifier	Apr–Oct 2027	Witness pump tests, independent evidence review; fee to confirm

9. Cost plan and funding release

Cost package	FJD allowance
Stage A — desktop, access, field, geophysics and baseline sampling	112,000
Stage B — mobilisation, two provisional bores, testing and restoration	235,000
Stage C — sustainable yield, protection, source design and regulatory feasibility	88,000
Base total	435,000
20% contingency	87,000
TOTAL EXPLORATION / FEASIBILITY	522,000

Stage A detailed allowances

Cost package	FJD allowance
Hydrogeologist desktop/project management	12,000
AEM/geological interpretation	18,000
Land/legal investigation	12,000
Community/environmental screening	16,000
Field geology/spring-flow	18,000
Geophysical survey	14,000
Baseline sampling	10,000
Travel and logistics	12,000
Stage A total	112,000

Stage B detailed allowances

Cost package	FJD allowance
Mobilisation/demobilisation	25,000
Access and drill pads	18,000
160 m provisional drilling	90,000
Casing, sealing and development	24,000

Cost package	FJD allowance
Pumping/recovery tests	18,000
Laboratory testing	12,000
Monitoring/temporary pumps	18,000
Restoration/protection	14,000
Supervision/reporting	16,000
Stage B total	235,000

Stage C detailed allowances

Cost package	FJD allowance
Sustainable yield interpretation	18,000
Community interference assessment	14,000
Source protection/environment	18,000
Production source design	12,000
Regulatory and legal review	16,000
Final feasibility and tender documents	10,000
Stage C total	88,000

Permanent source capital — additional, conditional

Cost package	FJD allowance
Production well/completion	40,000–100,000
Submersible pump and controls	15,000–35,000
Wellhead security/protection	10,000–25,000
Pipeline to factory	30,000–100,000
Tank, monitoring and electrical	25,000–70,000
Commissioning and certification	10,000–25,000
Indicative additional range	130,000–355,000

Budget exclusions: factory land, lease premiums, major access roads, full EIA if required, factory construction, process/bottling/packaging machinery, paperboard-tube engineering and validation, tax/duty unless explicitly quoted, export launch and operating working capital. No complete project CAPEX can responsibly be stated until these are scoped. Exploration consultant and contractor allowances above are already embedded in Stage A/B/C and MUST NOT be added again.

10. Project controls, risks and immediate actions

Risk / unresolved item	Mitigation / owner
Dry-season shortfall or village supply impact	Hydrogeologist: seasonal monitoring and stop-pump triggers
Poor source chemistry or microbiology	Water scientist: repeat tests, source protection and process feasibility
Drilling depth / no water	Project director: first-bore gate and contingency; cap metre variations
Land access / customary tenure	Solicitor + community liaison: written rights before works
EIA or extraction rights differ from assumptions	Regulatory adviser: written determinations before tenders
Island freight and equipment availability	Procurement lead: obtain Fiji-based itemised quotes and schedules
Paperboard tube closure and food-contact performance	Process engineer: separate prototype and certification programme

Immediate action register — November 2026

Appoint lead hydrogeologist and land/tenure lawyer; approve Stage A only, subject to procurement review.

Request the 2025–26 airborne electromagnetic survey, historical bore logs and 1988 hydrogeological mapping.

Map candidate parcels and community water infrastructure at each of the four areas.

Obtain written MRD and Department of Environment advice on exploration, drilling, test pumping and EIA.

Prepare village consultation and access programme, including baseline spring-flow monitoring.

Issue geophysical-survey brief and preliminary drill-contractor market sounding; do not award drilling yet.

11. Reference and verification register

Investment Fiji underground water/export pathway — https://feg.investmentfiji.org.fj/export-process

TLTB land tenure and leasing — https://tltb.com.fj/frequent-asked-questions/

Department of Environment EIA — https://mecc.gov.fj/eia/

Fiji businessNOW development permits — https://www.businessnow.gov.fj/construction-permits/

Fiji Trade Portal bottled-water standard — https://fijitradeportal.gov.fj/en-gb/search-measure/view/59

Fiji Trade Portal food business health licence — https://fijitradeportal.gov.fj/en-gb/search-procedure/view/8

FRCS Water Resource Tax guidance — https://frcs.org.fj/wp-content/uploads/2024/09/SIG-on-Water-Resource-Tax.pdf

Gale (1988), Hydrogeological Map of Vanua Levu and Taveuni — https://natlib.govt.nz/records/39625760

SPREP Taveuni ecosystem assessment — https://library.sprep.org/sites/default/files/Tav-ESRAM-Digital-Small.pdf

Document status: INTERNAL REVIEW ONLY. Regulatory references are background sources, not verified approvals. Final scopes and costs require authority confirmation, hydrogeological sign-off and competitive Fiji-based quotations.

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For internal review only. Address is a care-of location, not a registered business or postal address.

09 INVESTIGATION EQUIPMENT

Illustrative equipment photographs supplied for internal reference; final models subject to procurement.

01 BOREHOLE DRILLING RIG



Truck-mounted drilling rig with mast and stabilisers.
Exploration drilling, geological logging and bore completion.

02 GEOPHYSICAL SURVEY



Electrical resistivity survey instrument, cables and electrodes.
Screen groundwater targets before drilling.

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Illustrative equipment photographs supplied for internal reference; final models subject to procurement.

03 PUMPING / FLOW MEASUREMENT



Borehole discharge pipe and electronic flow meter.

Measure pumped volumes during step and constant-rate tests.

04 FIELD WATER-QUALITY TESTING



Portable multiparameter meter used in a watercourse.

Measure pH, conductivity, temperature and related parameters.