Votua Village Water Supply / Climate change adaptation project

Management issues being addressed:

- Poor water supply to village houses
- Questionable water quality

Project Objectives:

- Improve the availability of water to the village.
- Improve the quality of water available in the village.
- Improve awareness of and capacity to resolve water use issues.
- Improve understanding of climate change issues.

Who's involved and what's their role:

- University of the South Pacific (Prof. Bill) – Oversee project; conduct climate change workshop; incorporate transferable information into other FLMMA activities.

- EcoEng (Andrew) – Assist with water system design and maintenance schedule.

- Vili Jeke – Assist with water system design; oversee, coordinate, and assist with water system installation; conduct training for water system maintenance and repair.

- Reef Explorer (Victor) – Assist with water system design and coordination of installation.

- Votua village – Main project beneficiary. Assist with water system design; provide manpower for installation of the water system; maintain water system.

Water supply

- Existing dam supply (tributary)
  - **Poor pressure and sporadic availability**
  - **High leakage losses**
  - **Poor quality, especially after rainfall**
  - **Blockages at dam**
- Village had started to construct larger dam on main stream
  - **prone to heavy siltation and damage during storms**
- Bore investigated, but multiple bores needed to supply village needs
- Technical advice provided through wetland project
- Worked with existing infrastructure and local knowledge

Project activities:

1. Install a “main ring” distribution line around the village; connect each house to the ring.

2. Connect both 3” and 2” pipe to the dam; 3” will supply village tanks, and the 2” pipe will supply Vatukulelima tanks.

3. Place four 10,000 litre plastic water tanks near the old concrete tank; water from the dam will fill the tanks, then supply the village from the tanks.

4. A small sediment dam will be built above the old dam.

5. Workshops and training will be done regarding water use as well as maintenance and repairs to the water system.

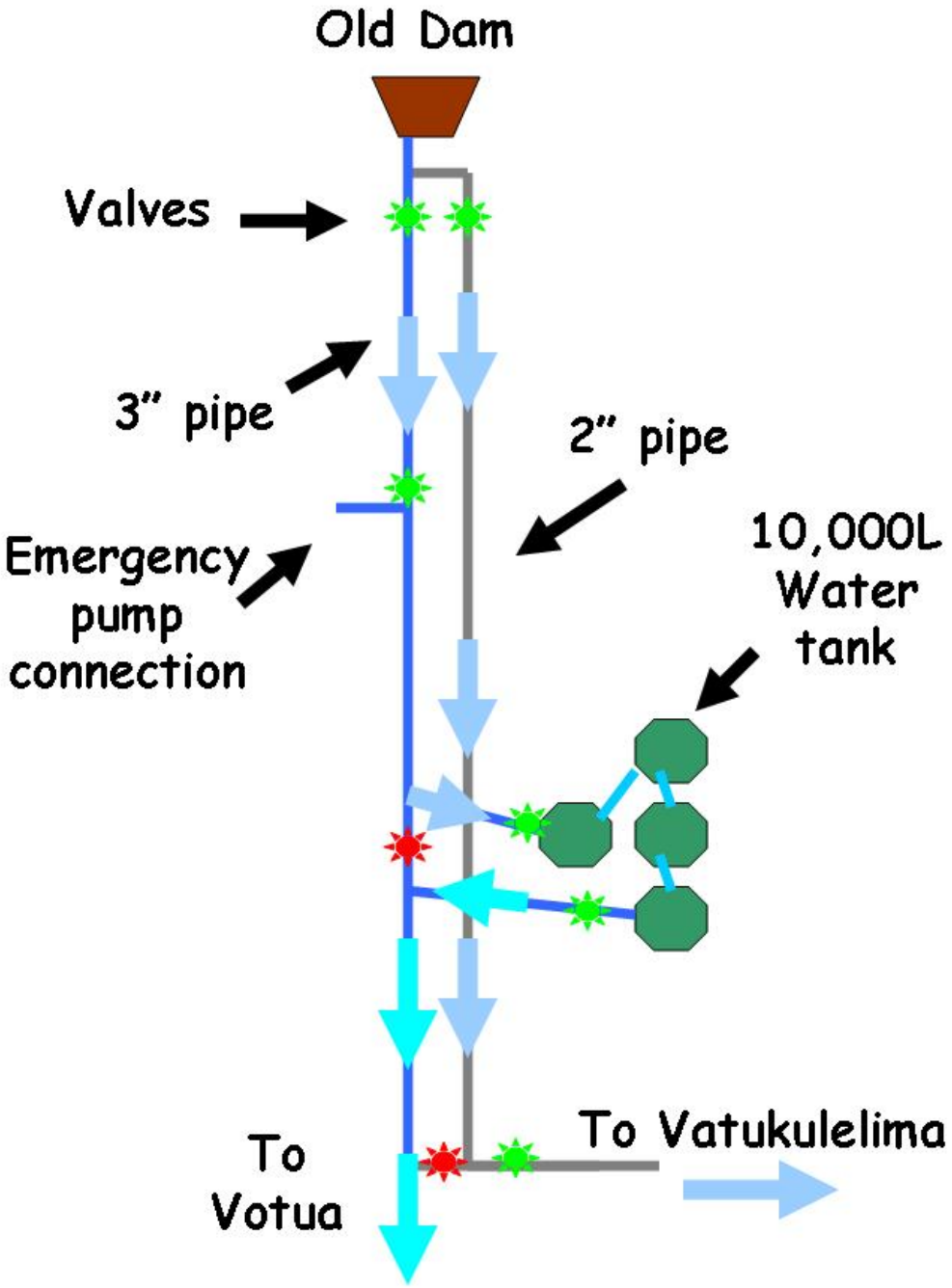
6. A workshop will be held to raise awareness about global climate change issues.

7. A rain tank will be placed in the village to provide clean drinking water during times when the creek can not. An emergency pump line access will be placed along the 3” pipe to allow a pump from the big creek to be connected to the tank system.

1) Main ring

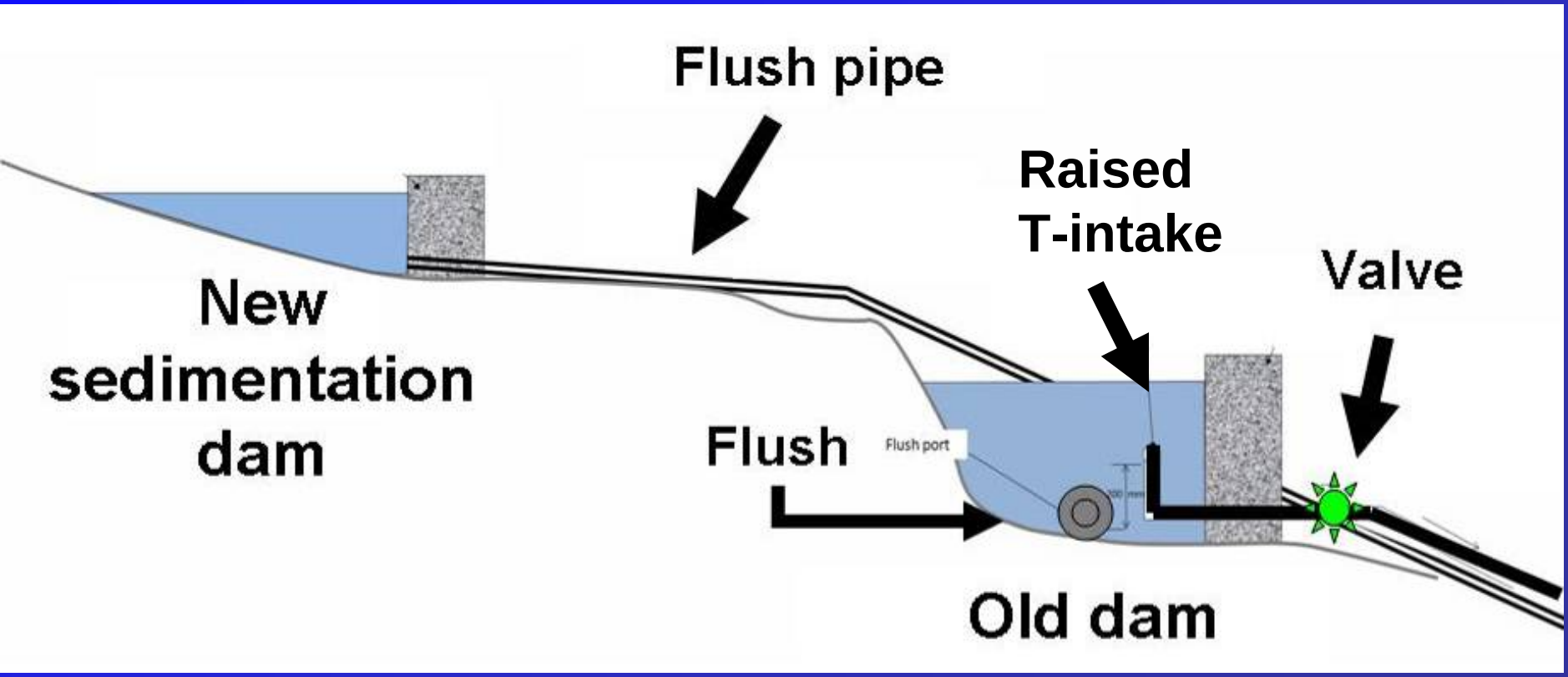

Yellow pipe is 50mm PE
Existing pipeline to Vatukulelima
Green pipe is 80mm PE pipe
Gate valves
Flushing line
Brown pipe 32 mm PE

2) Connection of 2” and 3” pipes to dam and installation of settling tanks



3) Installation of tank platform and settling tanks

4) Upgrades to old dam



Anticipated benefits for Votua:

- **Improved capacity to deal with water supply issues:**
  - **Better plumbing skills and knowledge;**
  - **Rigorous maintenance program for water system;**
  - **Backup plans to maintain good water supply in light of climate change issues.**

- **Improved water supply system – distribution and quality**
  - **Better quality of life of villagers**
  - **Better health of villagers**

- **Improved understanding of climate change issues and relevance to management plan**

Keys to sustainability of the project:

- Need a budget for system maintenance and repair
- Need an active team for system maintenance and repair
- Need to repair leaking pipes, taps, valves, etc … as they occur
- Need to flush the system regularly, particularly around rainy times