

Oahu Army Natural Resource Program Baseyard Rainwater Harvesting and Sustainable Irrigation Schofield Barracks HI

The Oahu Army Natural Resource Program (OANRP) Baseyard Rainwater Harvesting and Sustainable Irrigation project objective was to irrigate a lawn bordering the OANRP interpretative native plant garden using rainwater collected from the OANRP building roof. Early in the project development phase, OANRP staff identified an abandoned, underground sediment tank adjacent to its office building that could store collected rainwater. The project incorporated sustainable technology, including a solar-powered well pump and irrigation controllers and a weather station that adjusts the irrigation based on local precipitation, providing further water and energy savings.

The first phase of the project was complete in July 2010, when the Directorate of Public Works Environmental Division Clean Water Act Program staff collaborated with the OANRP staff and a local Boy Scout troop to construct a solar-powered irrigation system. In 2012, the second phase of the project to seal the underground storage tank, connect the roof gutter, tank, and irrigation delivery system and equipment wash piping and installing the rain chains, solar panels and solar-powered pump system was complete. An educational sign to explain how the system works was designed and installed at the project site in early 2013.

Rainwater harvesting is the practice of collecting rainwater from hard surfaces, such as roofs, in order to use the water for gardening, washing and flushing toilets. The long-proven, sustainable practice dates to at least 1500 B.C. The benefits include conserving potable water supplies, saving the energy involved in treating and transporting potable water and preventing water quality impairments that can be associated with storm water runoff regulated by the Clean Water Act.



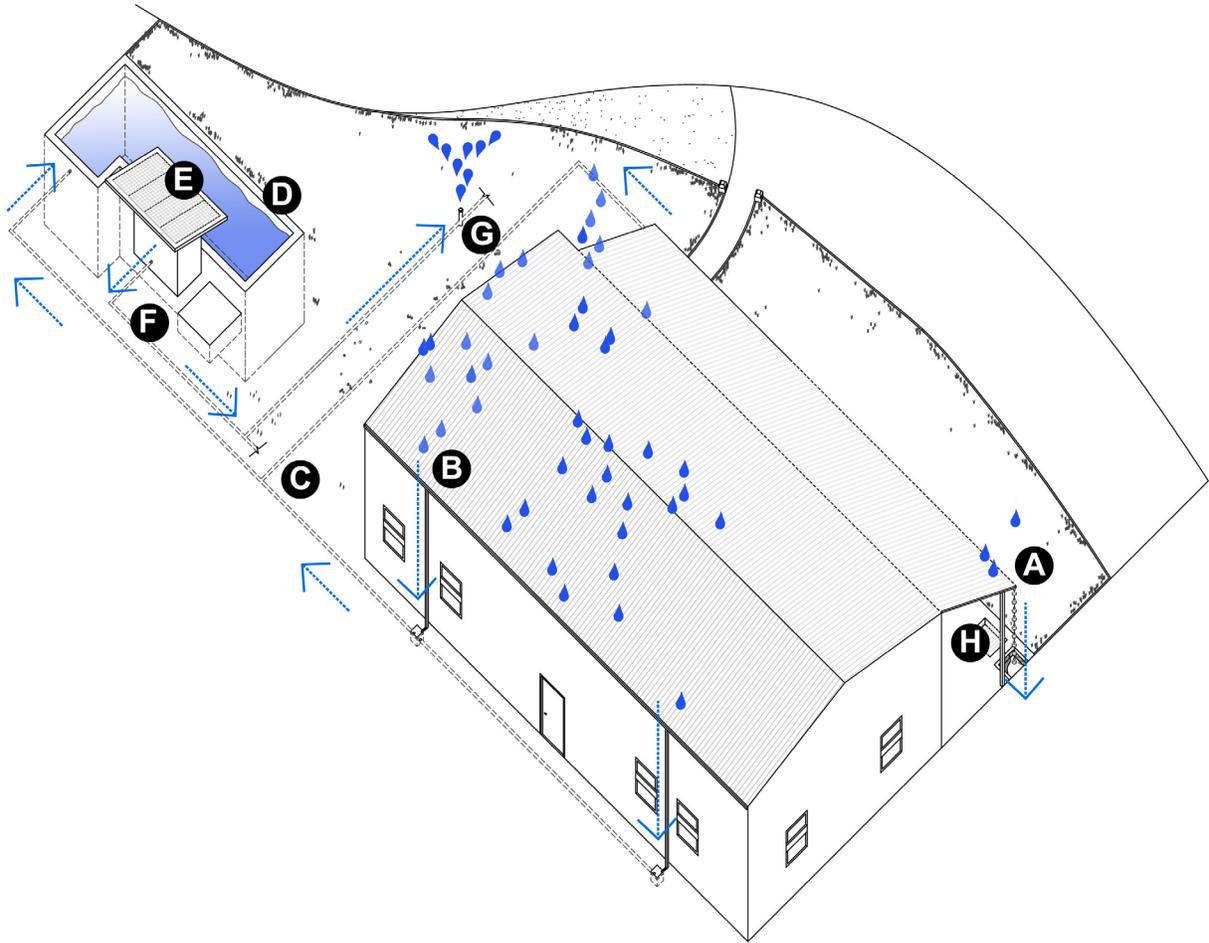
Local Boy Scouts install irrigation spray heads



Rain chain channels rainwater from the roof to tank delivery pipes, preventing erosion

RAINWATER HARVESTING FACTS

- 600 gallons of rainwater can be harvested from a 1,000 square-foot roof after a 1-inch rain
- 600 gallons of rainwater can be used to flush a toilet 375 times, wash a car five times or water a lawn



- A Rain chain
- B Downspout
- C Tank delivery pipe
- D Tank
- E Solar panels (to power pump)
- F Water delivery pipe
- G Irrigation spray head
- H Equipment wash

OANRP rainwater harvesting system