

Toyota/Audubon Grant

Cistern/Salt Water Well Project

In June of 2012, the City partnered with Florida Keys Audubon on a three part grant for \$28,250.

While this memo focuses on the Water Conservation piece, the three parts are:

- Habitat Planning: Updating our Comprehensive Plan and LDR's to better guide landscape and restoration plantings in relation to the rising sea level (\$250)
- Habitat Planting: 400 5-10 gallon plants for public lands (\$8,500) and volunteer workdays (\$500).
- Water Conservation: Cistern and salt water well for Indigenous Park (\$15,000) plus mural and Green Tourism study (\$4,000).

Water Conservation Goals

- * Decreased potable water use by 10%
- * Increased visibility of successful climate change mitigation and adaptation actions.
- * Increased conservation actions by visiting tourists.

Water Conservation Summary

The water meter at Indigenous Park is the City's #2 highest water bill, stretching into the 5th and highest tier of water use. As part of a overall methodology to crackdown on these high bills, this grant provides a way to replace potable water use with rainwater and salt water.

The Key West Wildlife Center is just one of many users of the meter, but one of the few where using less water is less possible. The Center has five rehabilitation pools for its recovering shorebirds to use, and these must be emptied, cleaned and refilled daily for hygienic reasons. This amounts to approximately 800 gallons of potable water use per day.

Discussions with Wildlife Center staff led to the solution of a salt water well and cistern combo. Because the shorebirds are salt water creatures at heart, filling their rehab pools with salt/saline/brackish water is actually considered more natural. This would free up the cistern to just handle on site cleaning as well as other City uses.

Cistern Project

Discussions on cistern design and placement led to the discovery of an existing tank scheduled for demolition at the SWTE Building on Stock Island. The steel tank holds 7,000 gallons and was used to hold treated boiler water for the steam engines.

Birch has included the cleaning and hauling of it to the Indigenous Park site as a line item on the SWTE building demolition bid.

A site was found at Indigenous Park that would be out of the way of bird rescue operations, but still be part of the "trail system" for educational value. Because of its size, it is proposed to be nestled as far back into the treeline as it can go. This will allow visitors to be able to read the educational mural to be painted on it without craning their necks like they are in the front row of a movie theater. The entire corner site would be cleaned of debris piles and weeds and replanted with natives. Low growing butterfly plants would occupy the space between the walkway and the cistern itself for unobstructed viewing.



Walkway view of NE side



Proposed Cistern Site



View of Proposed Site



Proposed View of Site



Although a gravity feed system was the original desire, pressurization was determined to be needed for timely filling of bird ponds and street cleaner vehicles. The system would be plumbed to give multiple watering bibs to the aviary and one large fill up pipe in the parking lot.

Next Steps:

- ✓ Affirm that tank contents are non-toxic.
- ✓ Get general approval from City Managers office
- ✓ Add tank cleaning and moving to SWTE demolition bid as option.
- ✓ Affirm ability to mount tank in that location.
- Affirm tank is still in good condition to use.
- Estimate cost of cement slab, pump, plumbing, and tank rehab, if any.
- Draw up plans and submit to building department.