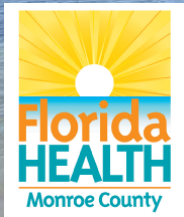


ONSITE WASTEWATER SYSTEMS
IN NON-SERVED AREAS
OF THE
FLORIDA KEYS

CONTRIBUTING TO IMPROVING THE NEAR
SHORE WATER QUALITY

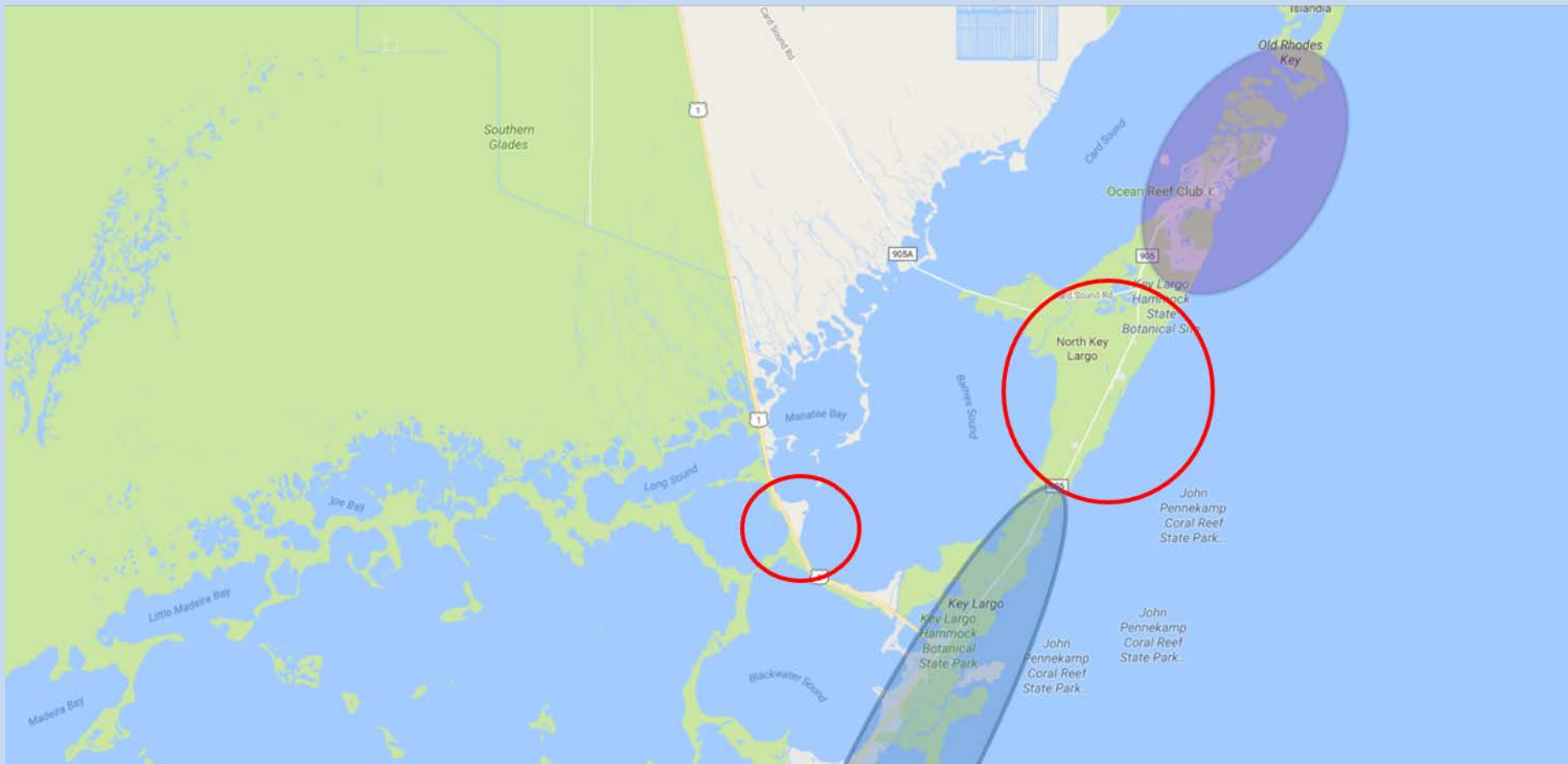


ONSITE WASTEWATER SYSTEMS

- Where are they?
- What are they?
- How do they work?
- What is their nutrient contribution?

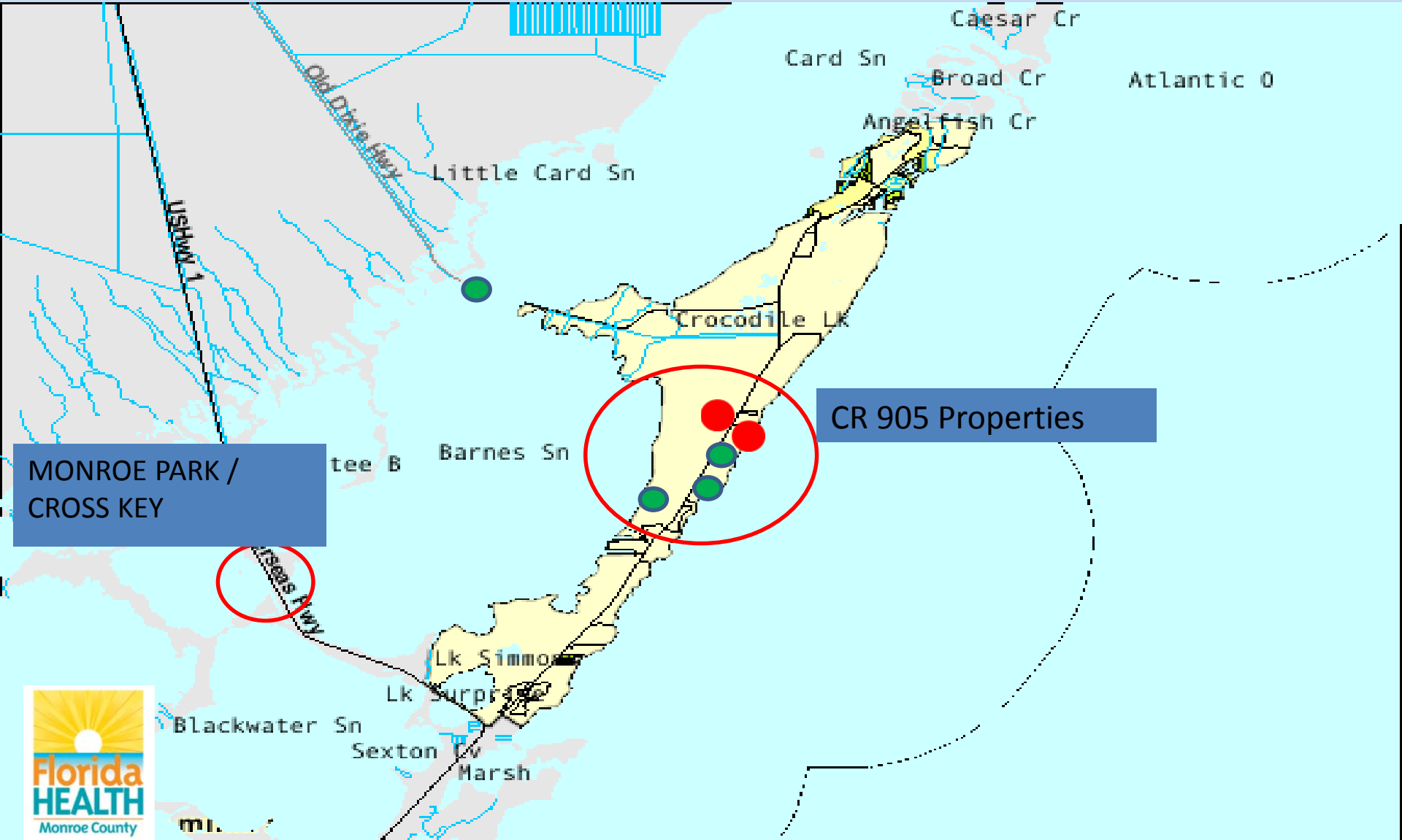


LOCATION OF NON-SERVED PROPERTIES: COUNTY ROAD 905 & MONROE PARK/CROSS KEY

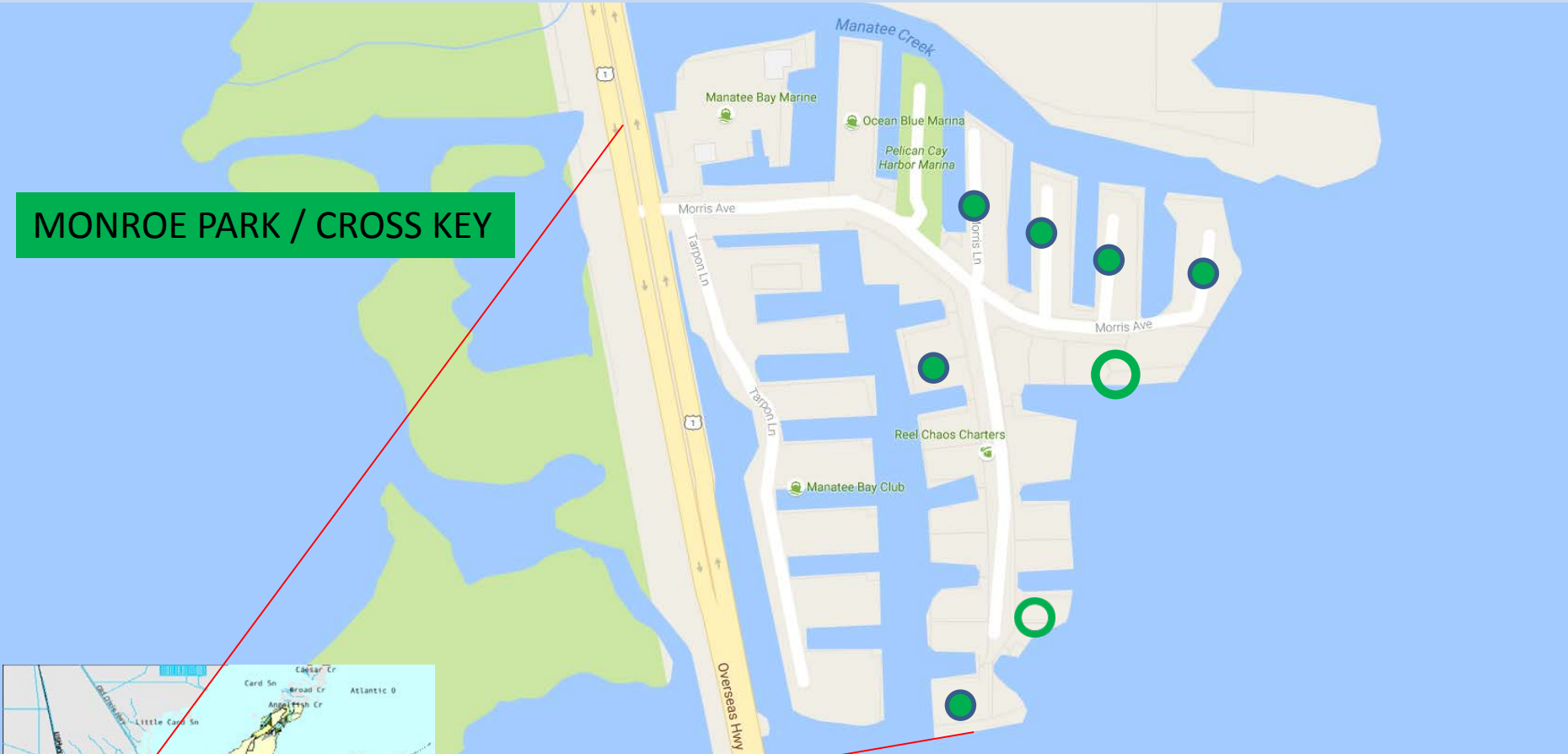


	North Key Largo Utility
	Key Largo Wastewater Treatment District
	Non-Served Areas

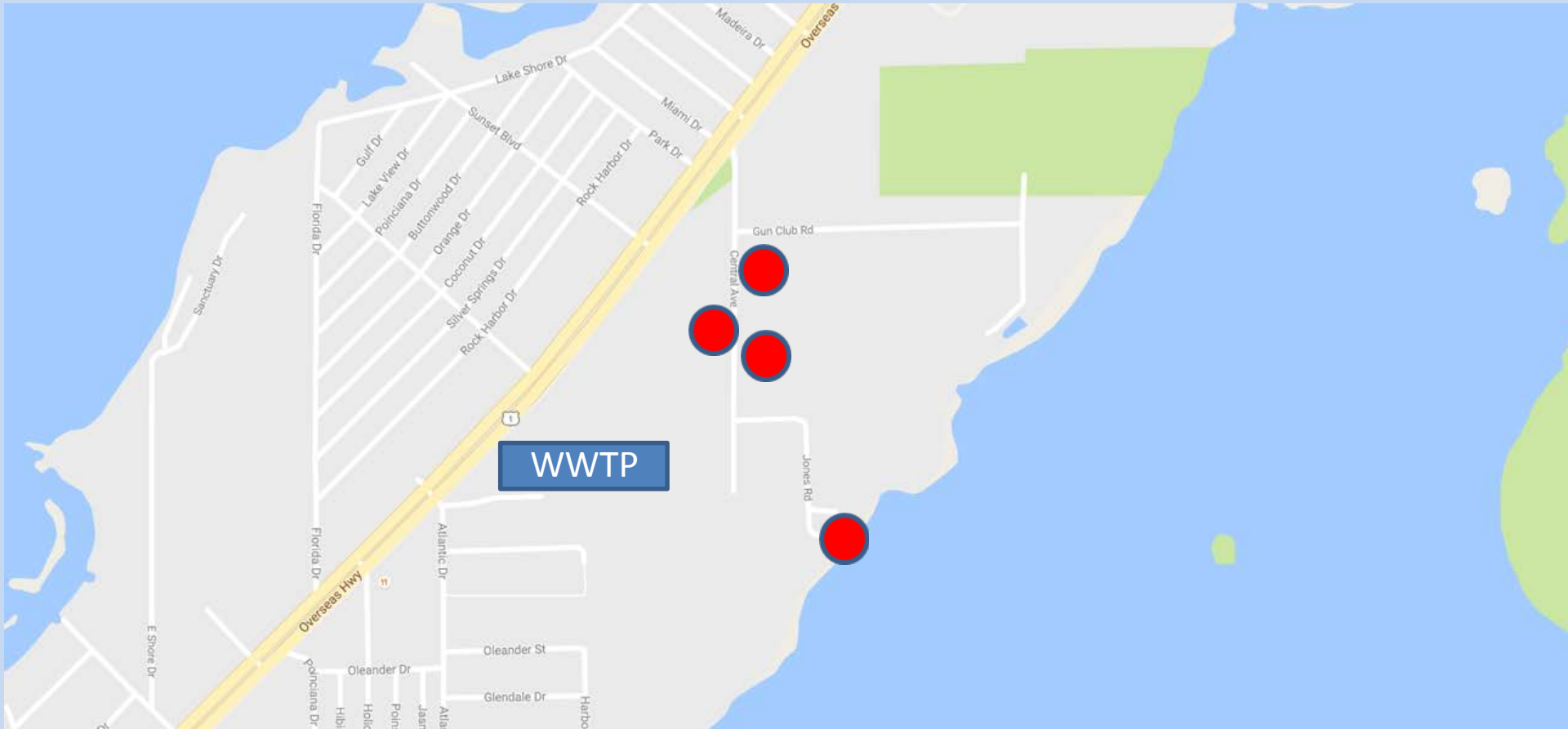
LOCATION OF NON-SERVED PROPERTIES: COUNTY ROAD 905 & MONROE PARK/CROSS KEY



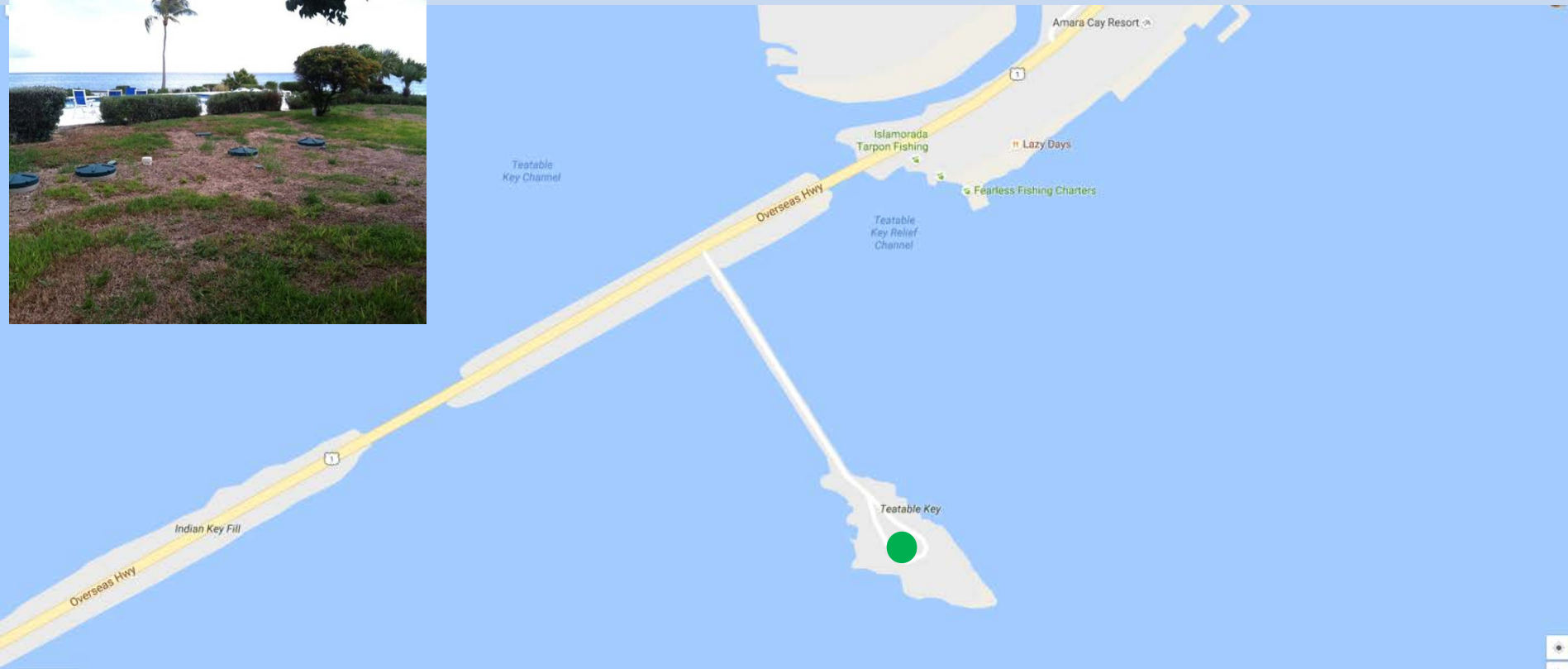
MONROE PARK / CROSS KEY

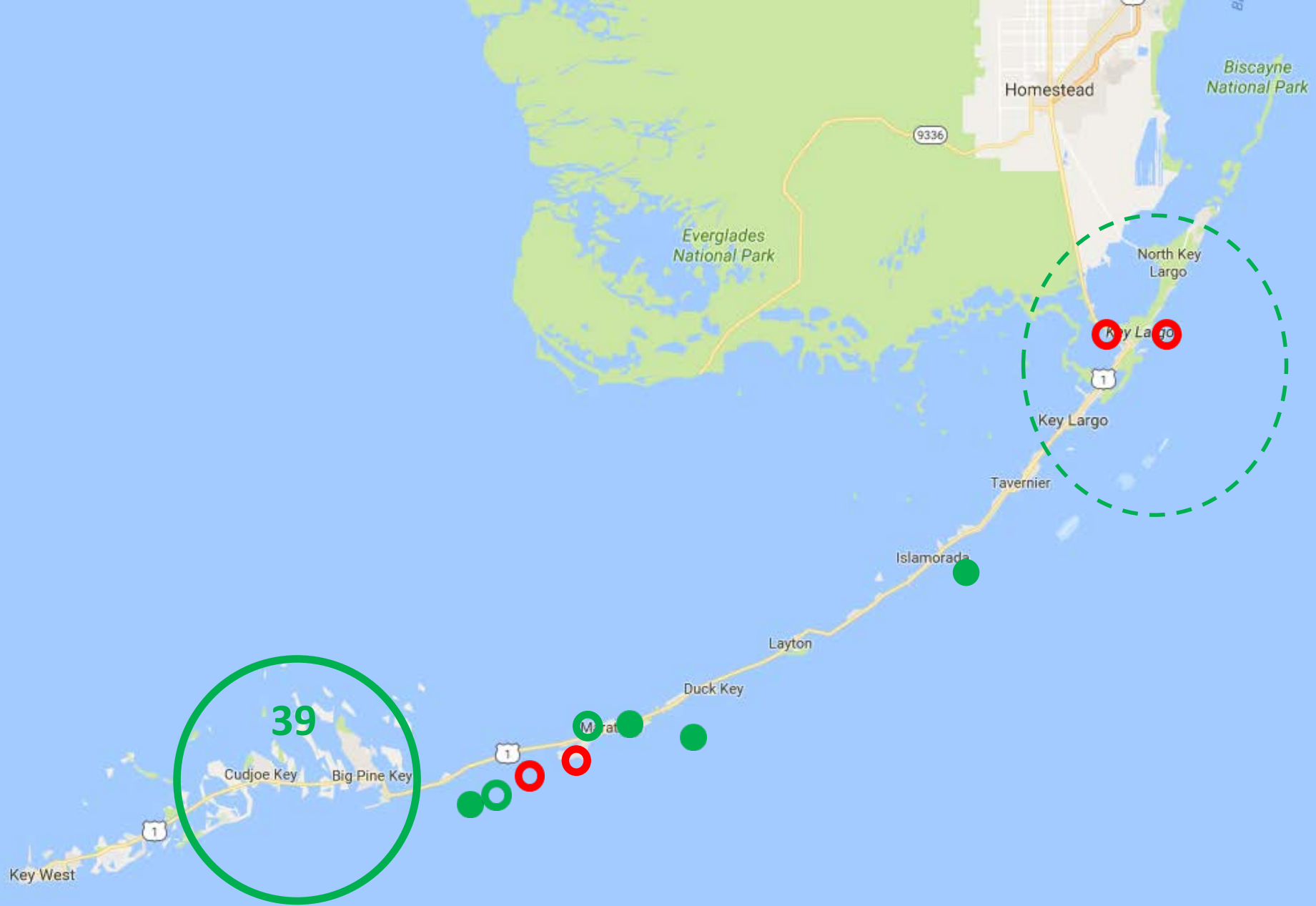


LOCATION OF NON-SERVED PROPERTIES: KEY LARGO MM 101



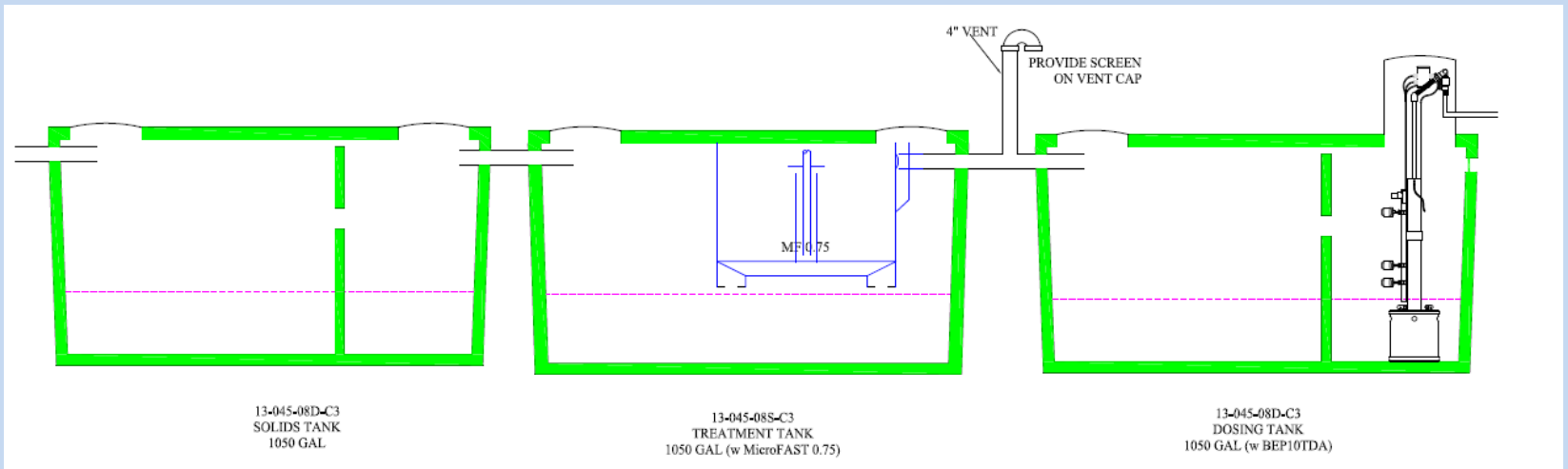
LOCATION OF NON-SERVED PROPERTIES: ISLAMORADA





**Area of EPA Onsite
Demonstration Grant**

TYPICAL TREATMENT TANK SCHEMATIC



CR 905 SAMPLE INSTALLATION



- FAST Treatment process
- 2 brick chip nutrient reducing tanks
- Chambers used in drainfield
- Sand-lined

CR 905 SAMPLE INSTALLATION

- Close up of brick chip media used for phosphorus adsorption
- Note perforated pipe for effluent dosing



CR 905 SAMPLE INSTALLATION



- Pump chamber in filter tank
- Treated effluent is accumulated and pumped into drainfield
- Further soil attenuation

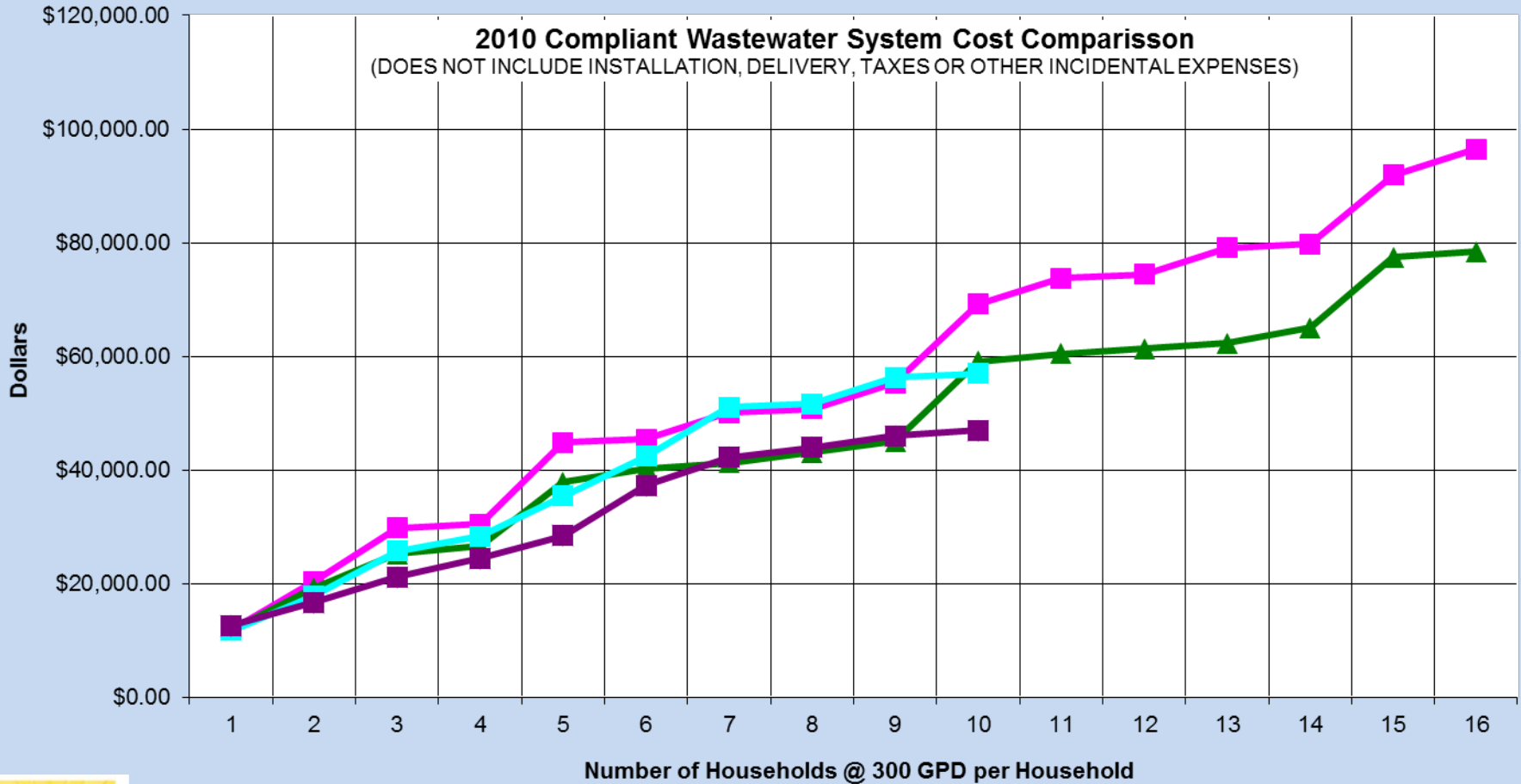
LECA AS NUTRIENT REDUCING MEDIA

- LECA
- Light expanded clay aggregates
- Filtralite P – high Phosphorus adsorption rate
- Imported from Norway



CRUDE COST COMPARRISON

SOME ECONOMY OF SCALE



NUTRIENT CONTRIBUTION

AS COMPARED TO TAP WATER BLANK

	GRAB SAMPLE AVG (FDOH OWNRS Study)	ANNUAL RANGE 100-300 GPD (Grams)	ANNUAL RANGE 100-300 GPD (Pounds)	MAX ALL PBTS IN COUNTY (n = < 100) (Pounds)
PBTS TN	28 mg/l	3870 g – 11600 g	8.5 – 25.6	2560
BLANK TN	2.5 mg/l	345 g – 1036 g	.75 – 2.3	230
PBTS TP	4.8 mg/l	663 g – 1990 g	1.5 – 4.4	440
BLANK TP	.035 mg/l	5 g – 15 g	.01 - .03	3



ONE MORE QUICK COMPARRISON.....

How much Nitrogen in a bag of fertilizer?



20 pound bag with 26% Nitrogen

$20 \times (26/100) = 4$ pounds of Nitrogen

PBTS Annual Nutrient Contribution = 2560 lbs.

Equals 640 bags of fertilizer

Tap water in the same amount would equal about 57 bags of the same fertilizer

Questions

