

SOUTHEAST FLORIDA UTILITY COUNCIL Jan 2016

**The Wacky World of Wastewater
in the Florida Keys**



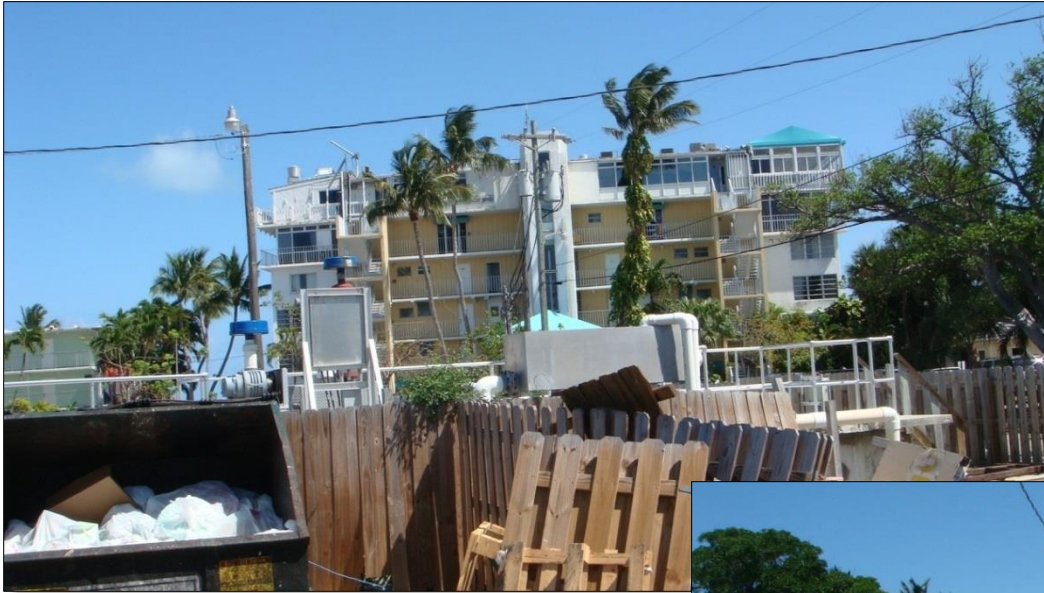
Florida Keys Aqueduct Authority

An aerial photograph of the Florida Keys coastline, showing a series of islands and peninsulas stretching from the top left towards the bottom right. The land is shown in shades of green and brown, while the surrounding water is a deep blue. The sky in the bottom right corner is dark with some white clouds. The text 'PROJECT BACKGROUND' is centered at the top in a bold, black, sans-serif font.

PROJECT BACKGROUND

- The Florida Keys is made up of nearly 800 islands in Monroe County stretching 110 miles off the southeastern tip of Florida separating Florida Bay and the Atlantic.
- All waters adjacent to the Keys have been designated as "Outstanding Florida Waters" and include the 3000 mi.² Florida Keys Marine Sanctuary, the second-largest Marine sanctuary in the Country.
- The Sanctuary and its estuaries are critical to Gulf and Atlantic fisheries with nearly 70% of all Gulf fish, shellfish and crustaceans migrating through the estuary. Over one third of Florida's commercial catch, more than \$50 million annually, is harvested in the Keys. More than 10% of the entire State of Florida GDP is generated from the Keys and its 4 million+ annual visitors.

THE “KEYS” SITUATION



250 package plants



THE “KEYS” SITUATION

23,000 Septic Tanks / Cesspits





FRAGILE KEYS ENVIRONMENT





**IMPERILED
PLANTS**





Wacky KEYS HUMANS



THE KEYS CHALLENGE

**TO REMOVE ALL PARTIALLY-TREATED AND
UNTREATED SEWAGE DISCHARGING INTO
AREA WATERS.**

- *Do it cost-effectively*
- *Accomplish the task by the Legislative deadline of December 2010*
- *Make everyone happy*

FKAA ACCEPTED THE CHALLENGE!

What were we thinking!

Well—The Conch Republic motto is after all:

“WE SECEDED WHERE OTHERS FAILED.”

- Official theme of the Republic



So off we went to change the world...

Cudjoe Regional Wastewater System CRWS

- The 56 sq. mi. Service Area stretches 20 miles across 10 waterways, one of which is wider than a mile.
- Serve more than 10,000 widely distributed EDUs with an average density of less than 500 residences per square mile of dry land.
- The Wastewater Facility (AWRF) was sited on a closed, contaminated landfill.
- More than half the wastewater is generated at the far eastern end of the service area.
- Funding and logistical challenges required a unique collection system design.

A PIPE DREAM

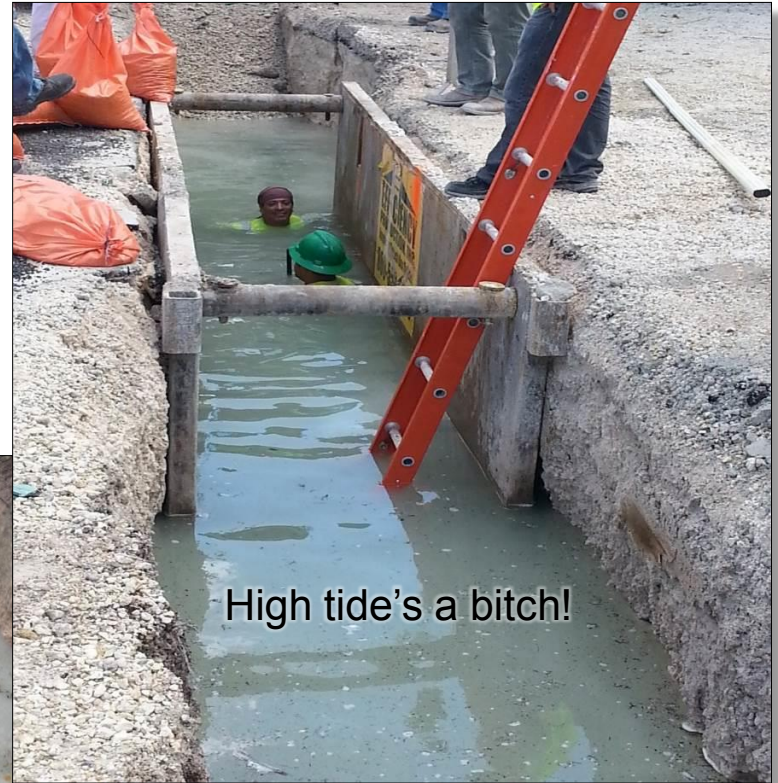
or nightmare!

Challenging Cost Impacts

- High groundwater table
- Soils are:
 - salty
 - high porosity
- High temperature/humidity – day and night
- Hard rock
- Expensive labor
- Bars
- **Wacky Strikes Unexpectedly**



Deep gravity sewers are out of the question



High tide's a bitch!

Yes believe it or not, there is a dewatering pump and an 18 inch injection well nearby operating at full capacity!

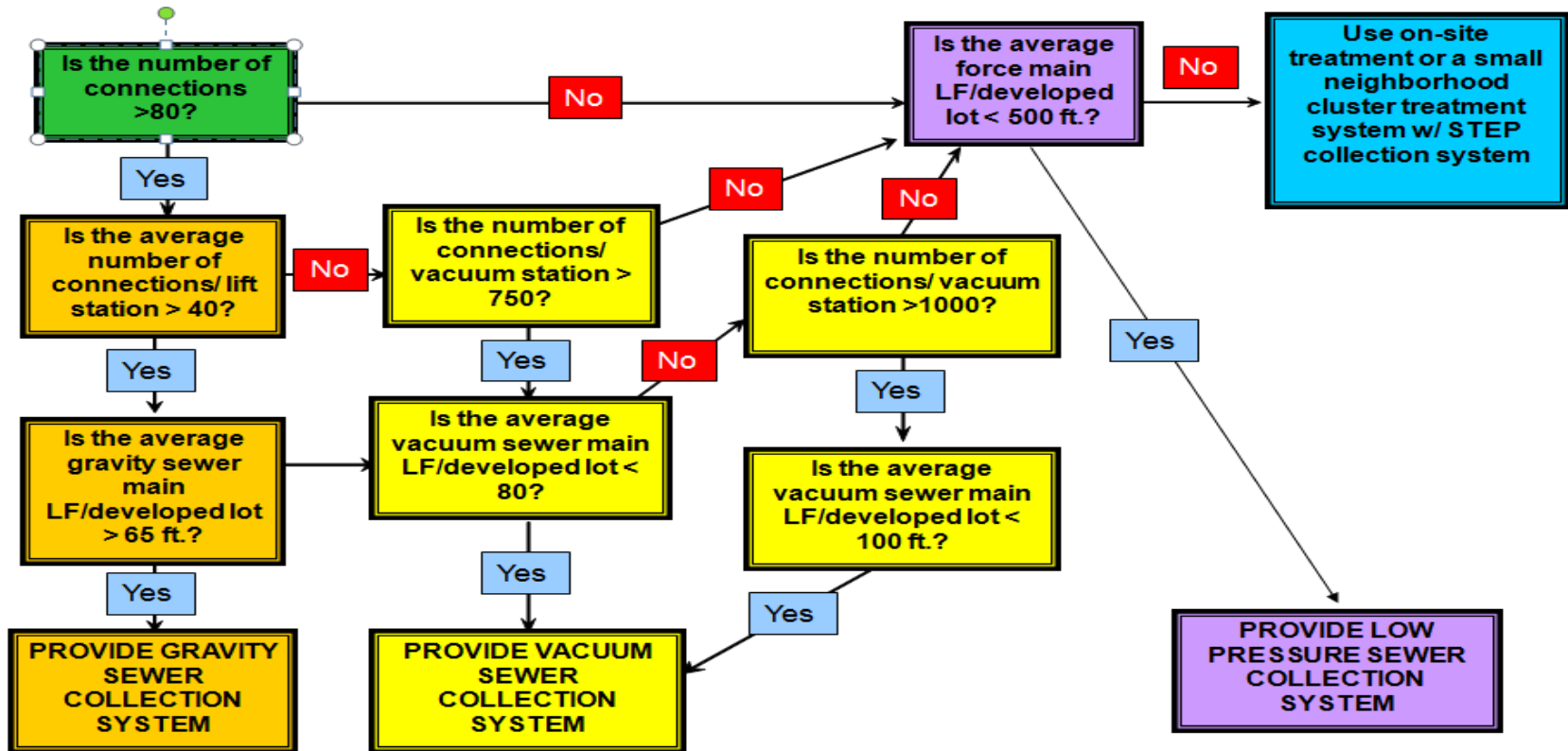
CRWS PARTNERSHIP

- **ILA with Monroe County**
 - Monroe County provides funding through State Grants, property assessment, SRF and other means
 - Monroe County owns all constructed infrastructure
 - FKAA designs, constructs, operates and maintains the system under a 99 year lease.
 - And of course, major decisions are made by “committee”.
 - BTW---The ILA is on its tenth amendment!

So we began design in 2007 and at first, everything went just fine.

- Selected consultants
- Broke project into bite-size pieces. Collection system was broken up further into inner and outer islands. Advanced Wastewater Reclamation Facility (AWRF) and transmission system rounded out the design approach.
- Developed a preliminary design report and a decision-making tool and tested it.

Wastewater Collection System Decision Tree



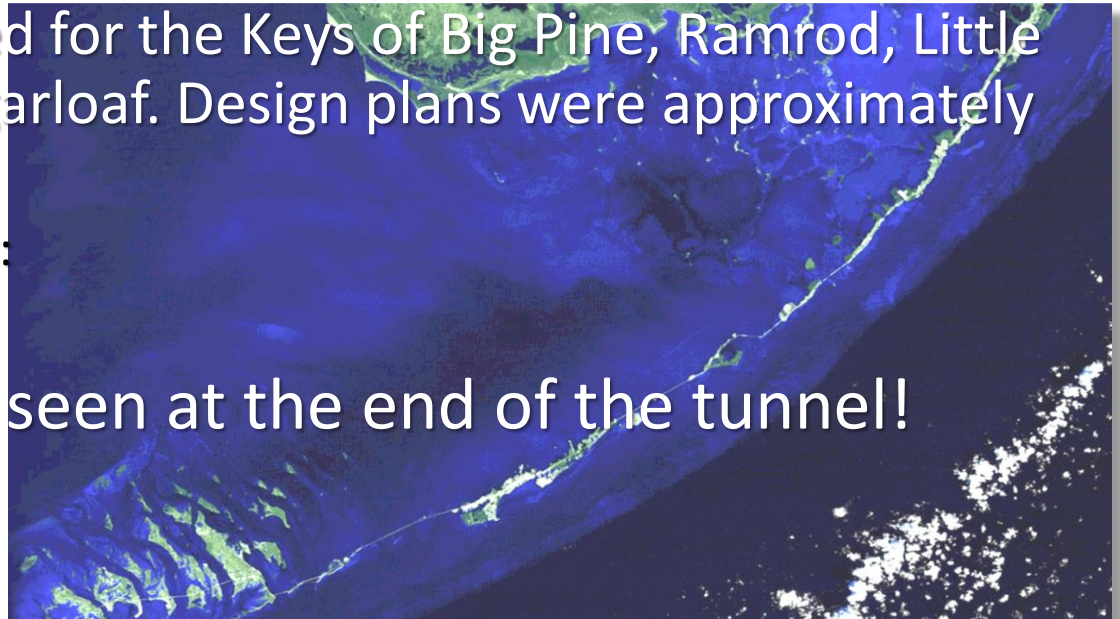
Note: The maximum average linear feet of force main per developed lot was calculated based on a life cycle cost of \$36,000 for an on-site OWNRS treatment system.

Connecting the Keys

- **By 2009:**
 - Wastewater facility was sited/permitted. Plans were 90% complete.
 - The Inner Islands collection system designs for Cudjoe, Summerland, and Sugarloaf Keys were complete with permitting nearly completed.
 - Outer Islands collection system mapping and preliminary design report was completed for the Keys of Big Pine, Ramrod, Little Torch and Lower Sugarloaf. Design plans were approximately 30%.

As far as getting it on the street:

Illumination could be seen at the end of the tunnel!





Wacky STRIKES!



Pencils down!

After rushing to get the project out to bid and at least attempt to meet the 2010 deadline.....

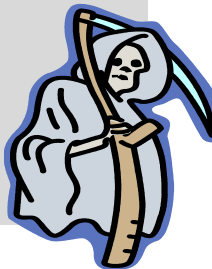
OUR INTERLOCAL PARTNERS DEFUNDED THE PROJECT. THE INCOMPLETE DESIGN EFFORT, PRE-QUALIFIED CONTRACTORS AND CONSULTANTS WERE ALL MOTH-BALLED.

BAD KARMA BEGAN TO GROW.

TIME PASSES.....

ISSUES BEGAN TO PILE UP

- The State-Mandated 2010 deadline could not be met and a building moratorium threatened.
- To accommodate the shortage in funds, the specifications and design features were revised, reduced or removed if not critical to capital construction (meaning ongoing operating costs would likely be impacted).
- The original design team players (who were excellent) began to disperse/retire/die.
- Specifications, especially those for the AWRF, began to age.
- The heavily subsidized assessments were politically fixed at a “Not to exceed” \$5700 per EDU--- which did nothing to help the funding problem.
- Public outreach was placed on hold (remember this one!)



In spite of everything, paradise continued unabated



Pencils Up!

After gathering dust for nearly 3 years, the project was restarted in a rush of activity.....

The Florida Legislature extended the deadline 5 years, pledged \$50 million if construction contracts could be executed by early 2013. Our Interlocal Partners pledged a one penny sales tax (referendum passed Nov. 2012) and began mailing out assessment letters.

THE PROJECT WAS ON!

Connecting the Keys --- Reloaded

- Most of the Inner Islands collection design was “shovel ready”, but some permits had expired and GCs had again to be re-qualified.
- The AWRP permits, although aged toward their renewal dates, were in hand but the design was incomplete and in some cases obsolete.
- The Outer Islands collection system project design/permitting could not be completed in time so a Design/Build delivery method was chosen and a qualification/selection process was needed.
- The transmission design component for the Inner Islands was approximately 60% complete and unpermitted.
- We still hadn't figured out how to cross our mile-wide waterway!

PANIC ENSUED!



MORE ISSUES HAD ACCUMULATED

We added a few more

- In spite of the \$16,000 per EDU overall projected cost, the assessments were lowered to \$4500 per EDU for ALL.
- The Staff-proposed “Customer License Agreement” which would allow for the installation and maintenance of grinder pump stations on private property was rejected in favor of a “Blanket Easement” across each lot-- -which **greatly** “concerned” (more like ticked off!) customers.
- The Design-Build Qualification Selection Committee had a “Ringer” that heavily favored a small local contractor.
- The Staff-recommended “Progressive” Design/Build process was dismissed in favor of a “lowest price” which caused two of the most qualified D/B bidders to drop out.

Keys **Wacky** Bid Process

Late 2012

In spite of the bruising selection process,
we ended up with good bids. *(better to be lucky than to be smart)*

- AWRF site work and construction - **\$21,872,000**
- Inner islands collection system - **\$35,722,810**
- Outer islands collection system - **\$79,813,000**
- Awards ready January 2013

We got it done!

We were in the clear!





Wacky STRIKES AGAIN!



BID PROTESTS

- Two of the three pending awards received formal bid protests and the first of the “public records” requests began to stream in.
- Protests were formally heard and dismissed by FCAA Executive Director as per FCAA rules (Jan 13) And NOAs were issued.
- The Inner Islands bid protester walked away but---- the Outer Islands protester (the local guy) filed for temporary injunction in Circuit Court to hold up the project. The State deadline for signing contracts loomed.
- In the complaint, FCAA was accused of violating its own rules; acting “arbitrarily and capriciously” awarding a contract to a nonresponsive bidder.
- Depositions were taken and the case was heard on February 4, 2013 by the 16th Judicial Circuit.



CASE DISMISSED!

- The circuit judge in a record-breaking turnaround time found in favor of FKAA on Feb. 19th 2013 and further ruled allowing for recovery of costs.
- Project could move forward without restriction.
- After 6 years of erratic progress, construction finally could begin.



The State Commencement Deadline was met

WE CELEBRATED!



Public Meetings

- So began a series of island-by-island public meetings that laid out the design plans for public review.
- Although the project was highly publicized in the media, most people were not aware that there were two types of wastewater services.
- Most connections were gravity but about 2300 residents were to receive LPS simplex grinder pump stations to be installed in their yards and powered by their residential electrical.
- Easement request mailings began to go out to the customers.

Pushback Begins

- We began to experience significant pushback by residents in low pressure service areas, mostly easement related.
- The design layouts came under increasing scrutiny and the public records requests escalated.

- ❖ A group emerged calling itself the:

‘The Sir Isaac Newton Coalition’

- ❖ Whose motto is:

“WE BELIEVE IN GRAVITY BECAUSE IT’S ALWAYS THERE FOR US”

Began lobbying the County Commission and FKAA Board to redesign certain low pressure areas to gravity service.

Connecting the Keys Pushback Begins

Right off their website– I'm not making this up!



Looks like Dudley Moore

So The Coalition sent out a complaint entitled **“FKAA And Monroe County Lies And Other CRWS Failures-Are these Crimes Or Violations Of FKAA And County Policy?”** and threatened to file in the same circuit court for a 90-day injunction against the project. A few of the accusations:

“FKAA intentionally promoted misinformation in order to keep the public in the dark”.

“FKAA used fabricated and flawed analysis in attempting to install grinder pumps”.

“FKAA failed to comply with public records request”.

“Their analysis consisted of fabricated numbers”.



**Wacky STRIKES
ARE YOU
KIDDING??**



Politicians Caved!

Let the redesign begin!

- After FKAA compiled costs for the gravity system re-design and demonstrated the magnitude of the cost increases: (not ever thinking they would actually go for it!)

Monroe County agreed to fund an **ADDITIONAL** \$15 million in gravity conversion.

- Converted about 1200 LPS EDUs at a total cost of about \$27,000 per.

(So much for our early economizing)

- We now are nearing \$200 mil TPC.



Connecting the **Wacky** Keys

Redesigning In The Middle Of Construction

Change orders were issued to very happy contractors with significant time and dollar increases (Beyond the 2015 deadline)

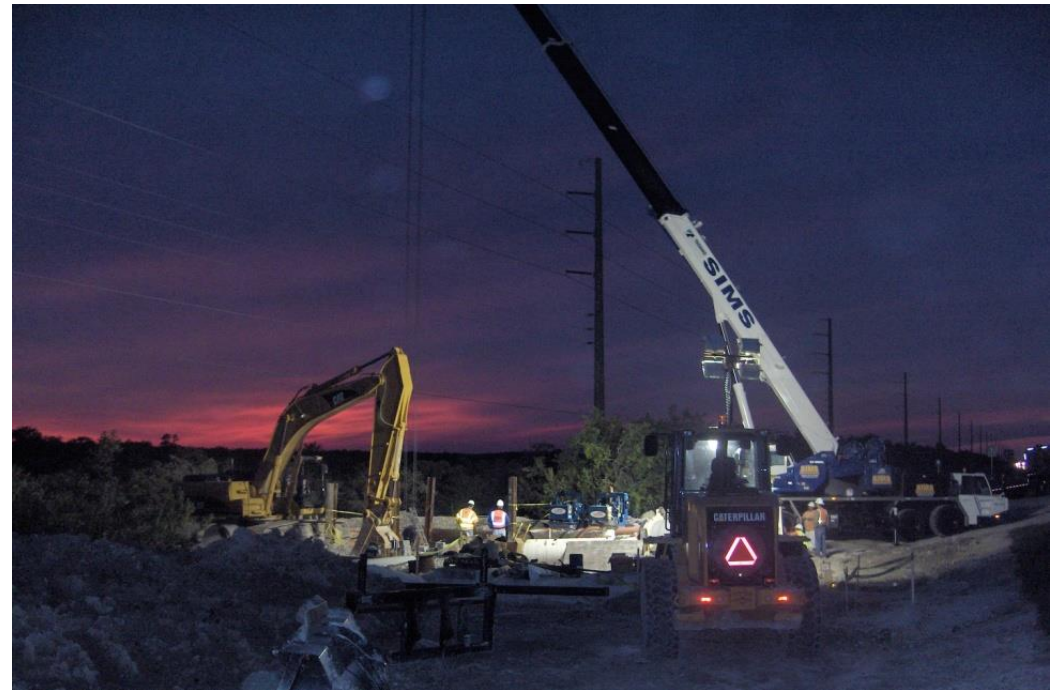
The redesign effort was finally completed and new FDEP

‘Minor’ Permit

Modification

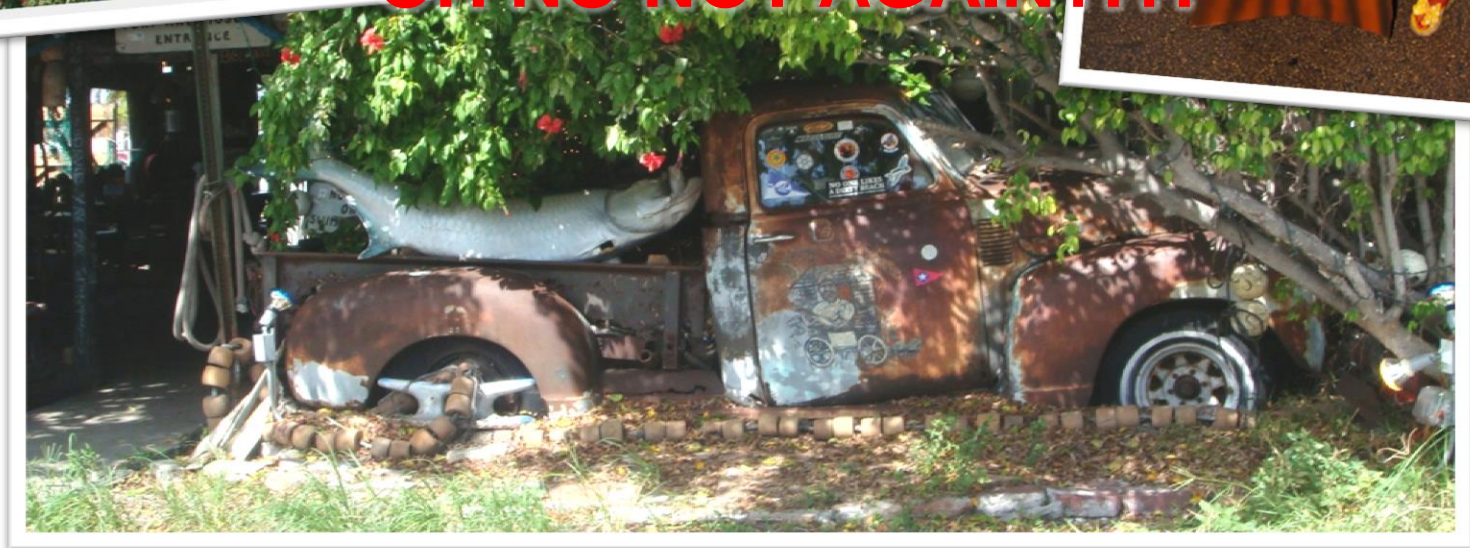
Applications

were filed.





**Wacky STRIKES
OH NO NOT AGAIN?!?!**



Connecting the **Wacky** Keys The Administrative Hearing Process

Each revised collection system permit application
Was challenged by:

“Dump the Pumps Inc.”—

Another group opposing
Grinder pump installations.

Ironic, Isn't it?

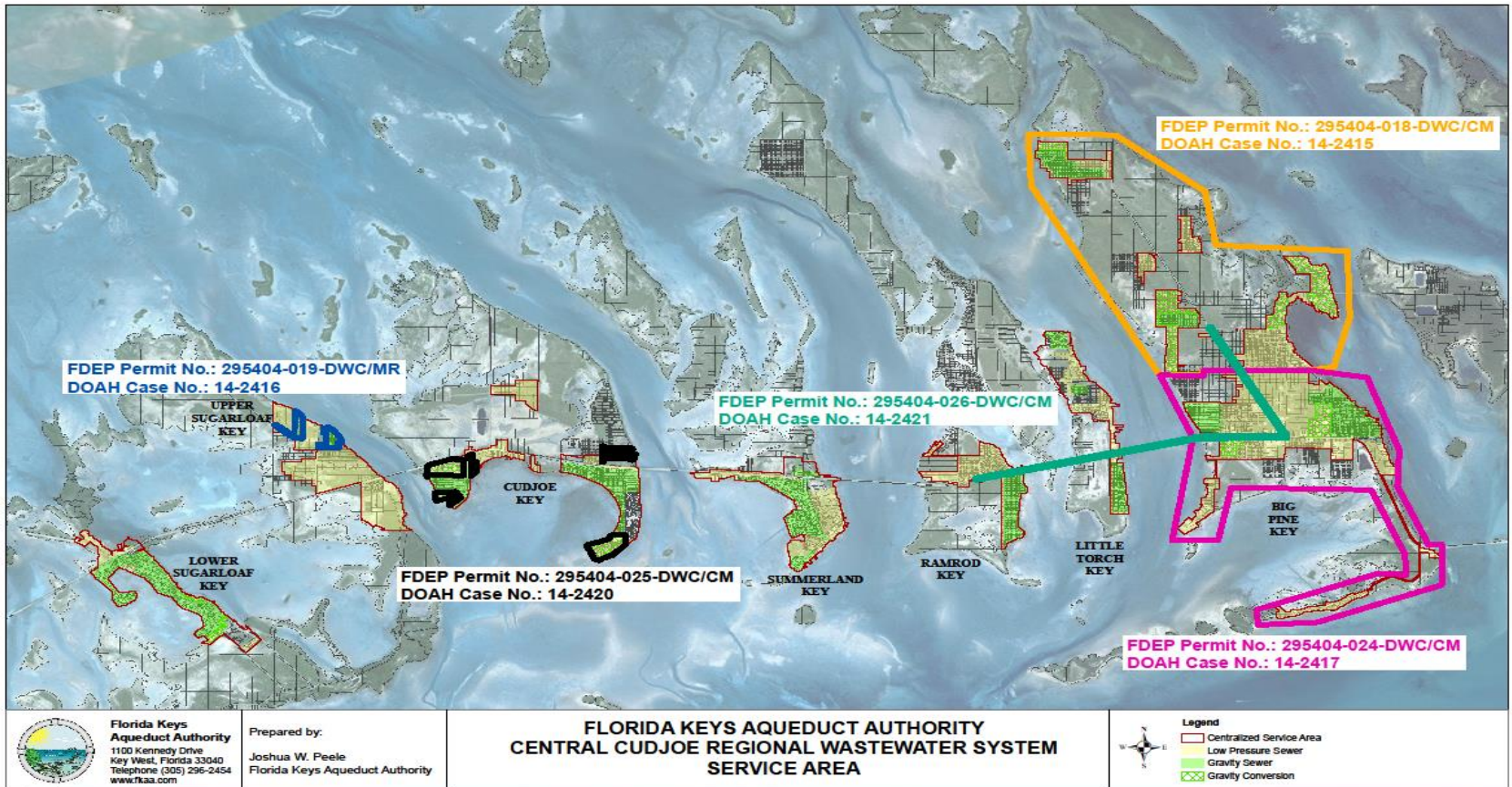
So the public records requests
& depositions continued.....

The lawyers were happy.



Construction Permits on Hold

Circa Spring 2014



THE MEDIA WAS HAPPY!

Key West Citizen • Tuesday, June 10, 2014

Protected plants hold up Big Pine sewers

Service reviewed land surveys and other habitat information along Key Deer Boulevard, Florida Keys Aqueduct Authority to back on trench projects because of possible damage to three plants—Big Pine Key partridge pea, wedge sponge and sand flux.

The work is part of the \$160 million Cudjoe Regional Wastewater project.

In addition, the proposed project could be impacting the endangered Key deer, Lower Keys marsh rabbit and silver rice rat, according to Fish and Wildlife Service Everglades area supervisor Donald Progulski. Progulski told aqueduct authority officials these three species could be utilizing "habitats on and near the project site for feeding, breed-

ing and sheltering," he wrote in a letter to the local public utility.

"We recommend that you immediately stop any additional disturbance activities that may result in further potential unauthorized spreading of federally listed species and obtain the appropriate incidental take authorization."

See PLANTS page 8A

THE KEY WEST CITIZEN • THURSDAY, FEBRUARY 27, 2014

Grinder pump debate could head to court

Group takes stand and revokes OK for workers to enter their properties

The group, Dump the Pumps, opposes Monroe County's and Florida Keys Aqueduct Authority's plans to place grinder pumps in people's yards, as part of a lower pressure sewer collection system. The grinder pumps are part of the \$160 million Cudjoe Regional Wastewater System, the last major sewer projects in the Florida Keys.

The group wants the Aqueduct Authority and the county to connect all homes and businesses from Sugarloaf Key to Big Pine Key to the more desirable gravity sewer systems.

Last month, the County Commission refused to shell out \$17.5 million to connect 915 homes on Big Pine Key and Little Torch Key. Instead opting to only connect 201 properties, which was not enough to appease Dump the Pumps members. The communi-

A group protesting the use of grinder pumps in a Lower Keys central sewer system expects to file a lawsuit by the end of the week and have embarked on a minor civil disobedience campaign.

See PLANTS page 8A

Letters to the editor

Lawsuit will answer query: Is the DEP above the law?

Is there a scandal and coverup in our state government that goes beyond Monroe County?

Dump the Pumps, Inc., (DTP) a local advocacy group, has challenged technical aspects of the design of the Cudjoe Regional Sewer System. This includes the fact that the Enviro-One grinder pumps specified and purchased by FCAA are not explosion-proof. These units have overload contacts and level switches in the motor and therefore must be...

See PUMPS, page 8A

Big Pine Key and below – area of super critical concern in grinder pump war

Posted on April 15, 2014 by Sloan



Scott asked to probe sewer project

Watchdog claims DEP, county and FCAA have 'intentionally misled' citizens

BY TIMOTHY O'HARA
Citizen Staff

Last month, the County Commission refused to shell out \$17.5 million to connect 915 homes on Big Pine Key and Little Torch Key. Instead opting to only connect 201 properties, which was not enough to appease Dump the Pumps members. The communi-

Walt Drabinski, on behalf of the group he founded called the Sir Isaac Newton Coalition, has asked Gov. Rick Scott and State Attorney General Pam Bondi to investigate and review the actions of the Florida Department of Environmental Protection (DEP), Monroe County government and the Florida Keys Aqueduct Authority (FCAA), which is overseeing construction of the Cudjoe Regional Wastewater System.

Drabinski argued that the DEP, the county and the FCAA "have intentionally misled the citizens of Monroe County about the plans for the Cudjoe Regional Wastewater System and that in doing so, they may have violated federal, state and local laws."

"The governor is our leader and the one person we must ultimately go to for protection," Drabinski wrote in his letter.

See SEWER, Page 8A

News-Barometer

March 7, 2014

Pump opponents to be disobedient

State DEP/Dump the Pumps stage meeting over battle

BY STEVE ESTES

News-Barometer Editor

ty's largest sewer collection system to date. The Cudjoe Regional is slated to serve just over 8,800 units at its inception, covering every one from Lower Sugarloaf Key to Big Pine Key.

In one agreement, the Monroe Board of County Commissioners agreed to eliminate 1,100 pumps at a cost of about \$12

A Lower Keys group that is staunchly opposed to the use of low-pressure

Residents threaten lawsuit if grinder pumps remain in plan

BY TIMOTHY O'HARA
Citizen Staff

Pumps" sent letters Saturday to the Florida Keys Aqueduct Authority and Florida Department of Environmental Protection (DEP), stating it intends to sue both agencies if the aqueduct authority does not remove the grinder pumps and low-pressure systems from the \$150-million-plus Cudjoe Regional Wastewater System plan. The group's

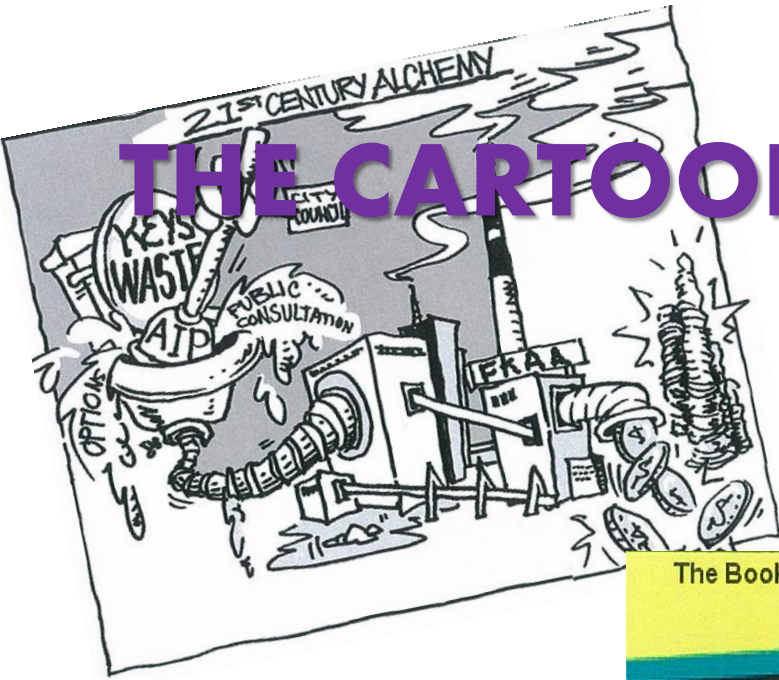
letters gave both agencies 30 days to remove the pumps or face a lawsuit in circuit court.

The 75-member group also sent a copy of the complaint to the Monroe County Commission, as it is overseeing the funding of the Cudjoe Regional System.

The group claims the aqueduct authority is not following the plans it submitted to DEP. The group is calling the installation of the grinder pumps an environmental disaster, saying the grinder pumps will fail during tropical storms and hurricanes when the power goes out.

See PUMPS, Page 8A

THE CARTOONISTS WERE HAPPY!

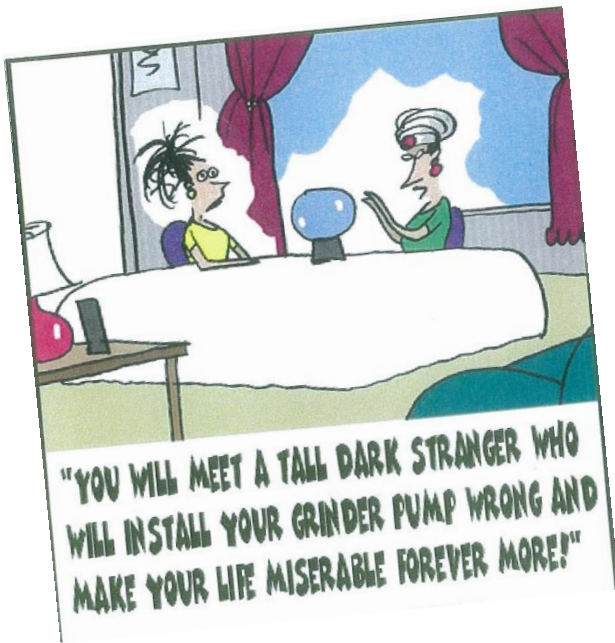


The Book every Monroe Moron should read.

Printed in China

GRINDER PUMPS FOR DUMMIES

See how you can beat the high cost of installing a Grinder Pump by simply dropping in a handful of sand or gravel every day. Let the company fix it once a week and go bankruptured! After all, it's only YOUR TAX MONYE they are blowing in the wind! You can also UPS the STUFF to the Governor's Office Collect!

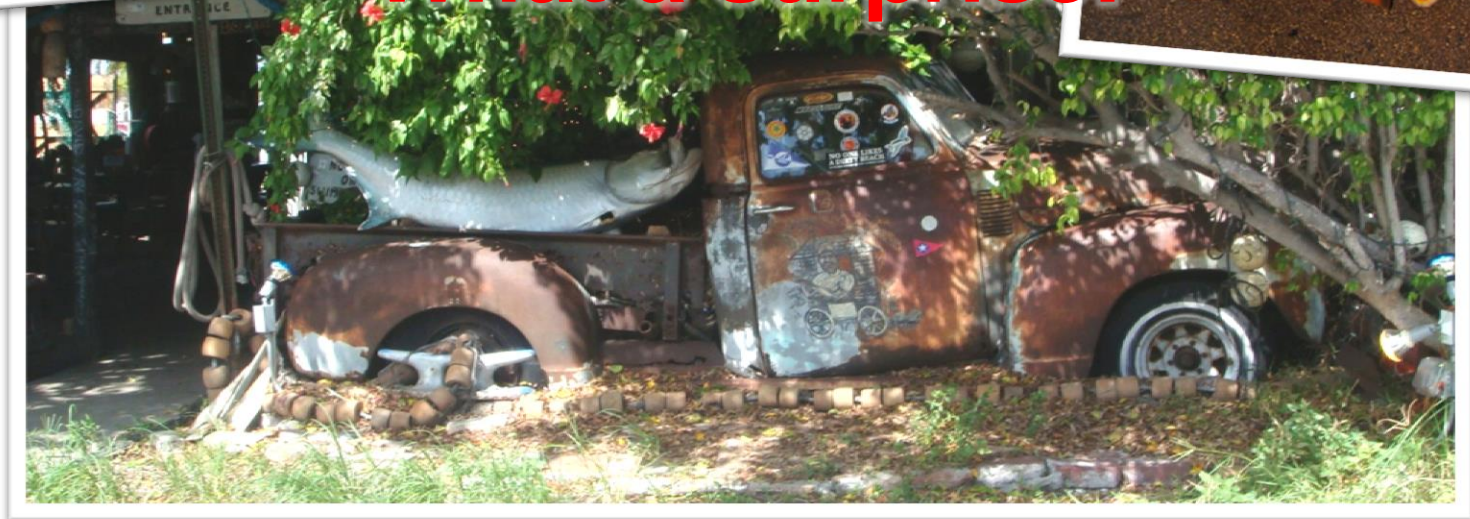


Connecting the **Wacky** Keys GRINDER PUMPS PUBLIC ENEMY NUMBER ONE!





Wacky STRIKES
What a surprise!



Connecting the Keys

OH NO! MORE WACKY!

Another newly formed group---'Dig Deep Cudjoe' challenged the already installed Class V injection Wells at the AWRP. Soon, they were joined by another group 'LAST STAND' which has special interests in Keys Water Quality.

Note: The FCAA considers itself an environmental organization, regularly works with other environmental groups and respects their positions



Connecting the **Wacky** Keys More Challenges

- The groups emerged just as the wastewater treatment facility construction permit was coming up for its five year renewal.
- Concerned about upwelling of nutrients (AWRF is full AWT), they mounted a permit challenge.
- More challenges—public records requests.

Dig Deep fights for deeper wells FKAA plans 4 shallow wells to pump effluent to 120 feet

BY TIMOTHY O'HARA
Citizen Staff

Residents near a proposed Lower Keys sewer treatment plant have banded together to fight a plan to pump treated sewage water down a shallow injection well.

The group, Dig Deep Cudjoe, has lobbied the Florida Keys Aqueduct Authority to dig deeper injection wells at the treatment plant for the Cudjoe Regional Wastewater Treatment System, which is currently under construction on Blimp Road on Cudjoe Key. Group representatives met with aqueduct authority representatives on Thursday to voice their concerns. The aqueduct authority is planning to dig four "shallow wells," which would only pump the treated effluent to roughly 120 feet. Dig Deep opposed to roughly \$6 million for a deep well, according to aqueduct authority officials.

THE KEY WEST CITIZEN ♦ WEDNESDAY, AUGUST 6, 2014

Letters to the editor

Injection wells: Let's do it right for once; dig deep

I can't let this go any longer. In my other life, I did quite a bit of diving up north. In the 1950s and '60s, I saw Lake Erie dying from the bottom up. In the past 39 years, I've been a witness to the ever-accelerating demise of our Keys underwater envi-

friendly wetlands there. We should not even think of gambling with this rare asset. We should not be crunching the numbers (940,000 gallons/day) to squeeze under the state's deep injection threshold. We know our environment is stressed already, so why are we chancing pushing it over the top?

Even if the effluent is safe enough

Aqueduct Authority to dig 4 injection wells

BY TIMOTHY O'HARA
Citizen Staff

Two Florida Keys environmental groups are requesting the Florida Keys Aqueduct Authority construct deep injection wells for disposal of treated sewage at the Cudjoe Regional Wastewater Treatment Plant, which is currently under construction on Blimp Road on Cudjoe Key.

"Taxpayers voted to pay an extra one-cent infrastructure sales tax for exactly this kind of expenditure, and now is the time to do it, before the plant even begins to treat sewage."

Naja Girard
President, Last Stand

would only pump the treated effluent to roughly 120 feet deep. The group, Last Stand, sent letters to Florida Department of Environmental Protection (DEP), the aqueduct authority and each Monroe County commissioner that cited state regulations, insufficient treatment, and danger to sea life as reasons why the plant should be required to build deep injection wells. "DEP requires sewage plants that have the potential to treat one million gallons a day to use deep well disposal," said Naja Girard, president of Last Stand, a watch-dog group that has operated in the zone.

See WELLS, Page 8A

Connecting the **Wacky** Keys More Press

Grinder pumps: Will they mean the end of Key Deer?

Commissioner George Neugent states that a pressure sewage system with grinder pumps, is the optimum sewage collection system for Big Pine Key. He says grinder pumps require less excavation and have a smaller footprint. While these may or may not be immediate benefits of a pressure sewage system, we need to consider the impact of alternative systems, long-term environmental issues and the unintended consequences of this political

CUDJOE KEY

Deep well deal in the works

BY TIMOTHY O'HARA
Citizen Staff

Residents and the Florida Keys Aqueduct Authority are close to reaching an agreement to construct a deep injection well at the Cudjoe Regional Wastewater System plant.

The agreement calls for the aqueduct authority to immediately start applying for state Department of Environmental Protection (DEP) permits for the well, aqueduct authority Executive Director Kirk Zuelch said.

Group seeks ruling to stop Big Pine sewers

BY STEVE ESTES *Sept. 5, 2014*
News-Barometer Editor

The grass roots group Dump the Pumps Inc. is still waiting for the courts to schedule a hearing on its motion for an injunction against continued sewer line work on the north side of Big Pine Key by contractors for the Florida Keys Aqueduct Authority.

The group, which has been fighting against the inclusion of low-pressure grinder pumps in the Cudjoe Regional Wastewater System, filed for an injunction to force contractors to cease work two weeks ago.

The injunction request covers only the Big Pine north area right now.

Cudjoe sewers might get deep-well injection

It would add some \$7 million to construction

By KEVIN WADLOW
Senior Staff Writer
kwadlow@keynoter.com

Oct. 17 because of other meeting conflicts.

Kolhage's resolution says the county should exceed minimum environmental requirements on effluent discharge "in order to protect and safeguard the quality of valuable nearshore waters of the Florida Keys."

A new deepwater injection well for treated wastewater, with costs estimated at nearly \$7 million, will be proposed Friday to Monroe County commissioners as an

the significantly higher price.

The depth of injection wells was among Monroe County sewage issues debated at a state administrative law hearing held earlier this month. The judge had not issued a ruling at press time.

Conservation groups and private citizens in July jointly filed an appeal over renewal of state permits that allow the Cudjoe plant to

State rules allow treatment plants to use shallow-water wells for average daily discharge of fewer than 1 million gallons of effluent per day. Estimates

commissioners are scheduled to consider:

- Changes to the county land-use plan that would allow governmental agencies to dredge or vacuum several feet of organic material from canals to help restore water quality.
- Hear a report on the structural soundness of the Sugarloaf Fire Station to determine if it would be more cost-effective to add new facilities at the decades-old building or construct a

SEWER CONSTRUCTION

Ruling near in grinder-pump case

Construction of sewer system is basis of appeals

By KEVIN WADLOW
Senior Staff Writer
kwadlow@keynoter.com

ered pumps filed recommendations that amount to closing arguments on Nov. 24.

Lower Keys citizens group that counts more than 250 members, strongly opposes use of the grinder pumps for a portion of the approximately 9,000 sewer connections.

the opinion written by attorneys for Dump the Pumps Inc., a Lower Keys citizens group rather than gravity-based systems, which are planned for about 83 percent of the Keys sewer network, "would pose a significant health risk [and] environmental risk in the opinion of the Florida Department of Environmental Protection."

ly real and immediate threat of injury, relying instead on pure speculation and conjecture," says the FKA legal recommendation.

"Low-pressure sewer systems are a proven technology... The record clearly establishes that such projects have been successfully implemented and have done so in Florida and

Commissioner Comments on Wacky

Jon Iglehart
The Department of Environmental Protection

Afternoon Jon,

Speaking out as one the few that can truly say, "We accepted the challenge to accomplish the task of FS99-395. From inside the arena and with tenacity and persistence, we weathered the slings & arrows from beginning to end while refusing to be distracted by those that would debase our accomplishment(s) and cause."

I know that **this flippant litigation and now trumped issue over Deep well injection vs Shallow well injection, the system design and then then the shameful use of the ESA as a disruptive tool in a transparent ruse to interrupt progress on the Cudjoe Regional Project will fail.** This group has not made any effort to use the local platform(s) of the BOCC or FCAA to civilly discuss the facts of the issue but rather gin up the uneducated.

We, amongst the champions and agencies, who have worked tirelessly and passionately for twenty years to bring central collection and advanced treatment for the sewage and storm waters that have been allowed to run unabated into nearshore waters for generations, should not be distracted by those who espoused - "the solution to pollution is dilution." And now having drug them to the table, kicking and screaming, they want to give the appearance of giving a Damn.

We all have always openly solicited and taken positive/negative/indifferent public input, respectfully, and still do.

Jon Iglehart I applaud you as a true champion and leader along side our partner the FCAA, The Department of Environmental Protection, NOAA & EPA. But most especially to Secretary Vineyard and Governor Scott whose leadership and contributions (more funding to the table, since the start, than all other administrations combined) bring consummation to this project - a minor miracle. This, in conjunction with the Funding from the State, **is without question the greatest accomplishment in Monroe County since the Florida East Coast Railway.**

With kindest regards, I remain Sincerely,
George Neugent
Monroe County Commissioner

Nice words but even so, we got hit with another petition!

“VERIFIED PETITION FOR FORMAL ADMINISTRATIVE HEARING, REQUEST FOR MEDIATION AND MOTION TO INTERVENE”

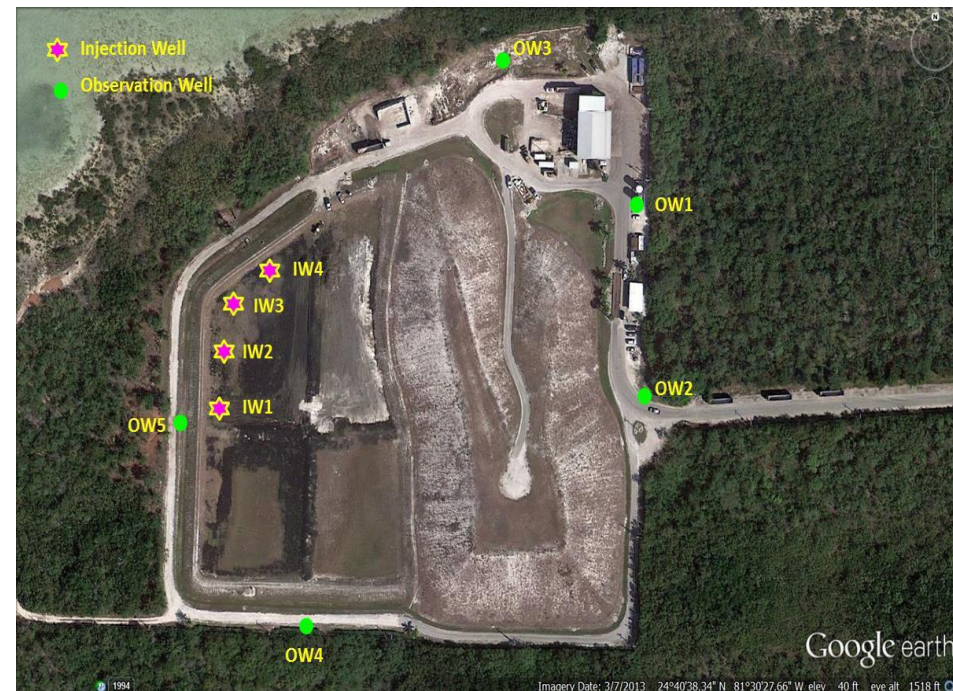
They went ahead and filed anyway.

Hearing scheduled Summer 2015.

In the interim, we volunteered to perform a complex dye tracer test in order to ascertain any direct connections to surface waters surrounding the AWRF from the injection zone.

DYE TRACER INJECTION TESTING

- Contracted with FIU to provide extensive monitoring of potential hydraulic connection between the shallow injection wells and surface waters.
- Two different fluorescent tracer dyes were proposed.
- Graduate students and equipment were mobilized on-site.
- A plan was proposed and approved by FDEP.





**Wacky STRIKES
A New Years Gift!**



DYE TRACER INJECTION TESTING

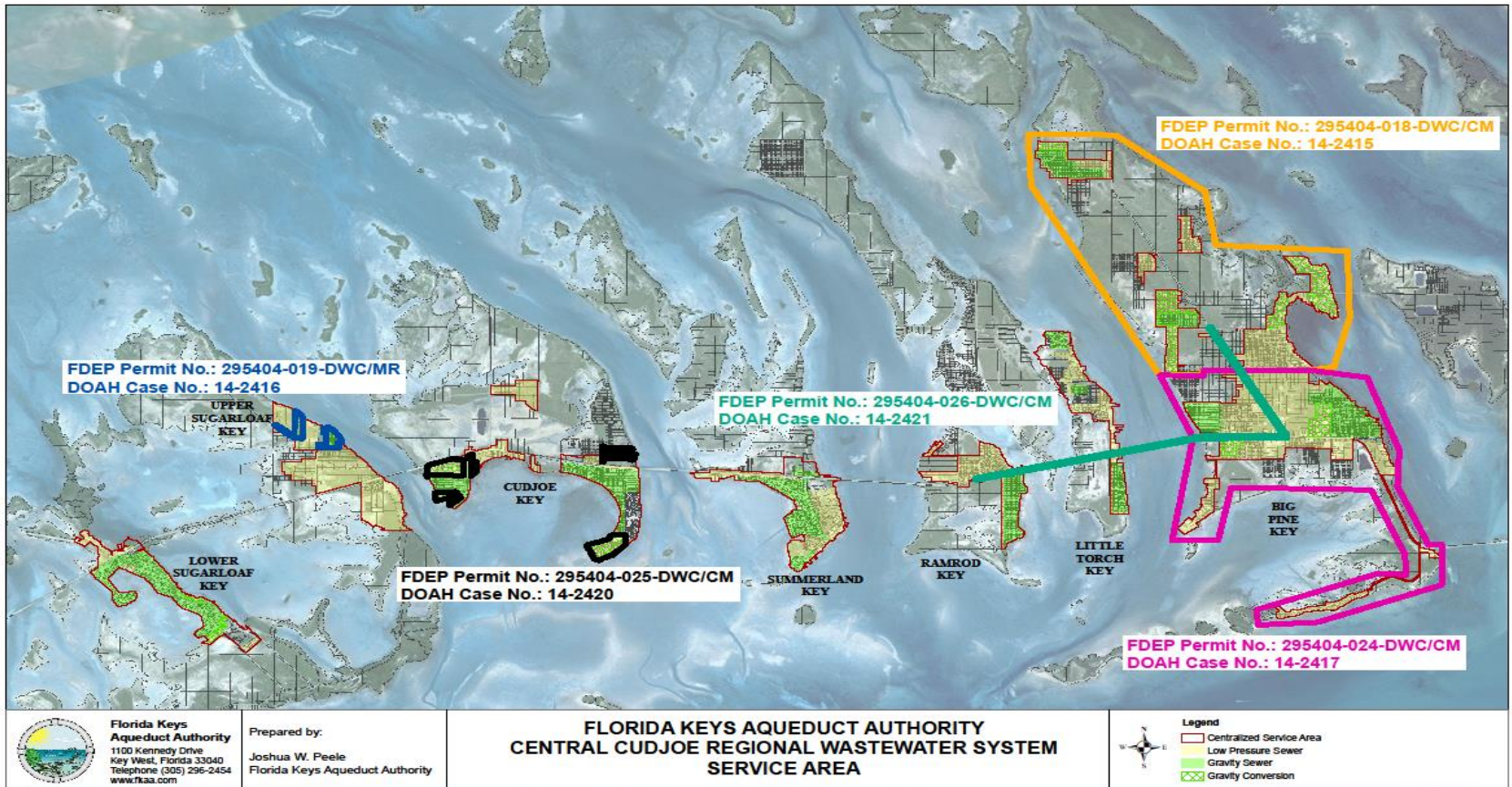
- The United States Department of the Interior US Fish and Wildlife “Service” informed us that prior to tracer test commencement, we were to apply for a special “RESEARCH PERMIT” before we could access the surface waters requiring monitoring.
- We dutifully applied and waited:
- And waited:
- And then went ahead and began sampling anyway.
- The SERVICE finally got back to us indicating that a permit was not necessary! BUT...
- They issued a letter in mid-March objecting to the test methodology and suggested that the AWRF operation may be violating the Endangered Species Act.
(more on this later)
- So again, all was **Wacky**



REMEMBER THESE????

Construction Permits on Hold

guess what happened?



Florida Keys
Aqueduct Authority
1100 Kennedy Drive
Key West, Florida 33040
Telephone (305) 296-2454
www.fkaa.com

Prepared by:
Joshua W. Peele
Florida Keys Aqueduct Authority

**FLORIDA KEYS AQUEDUCT AUTHORITY
CENTRAL CUDJOE REGIONAL WASTEWATER SYSTEM
SERVICE AREA**



Legend
Centralized Service Area
Low Pressure Sewer
Gravity Sewer
Gravity Conversion

CASE DISMISSED!

- Exactly 2 years after issuing Notice Of Awards for construction contracts, the 16th Judicial Circuit Court struck down the emergency injunction to stop the project.
- Then in early Feb 2015, the Administrative Law Judge issued her 96 page order recommending that all permits be approved.
- Finally at the end of March, the Final Order approving the permits was issued by FDEP and we were OK to go!
- After nearly a year on hold, FDEP approved the “minor” permit modifications.



HALLELUJAH!



The Long legal battle was over!

WE CELEBRATED AGAIN!



Although you never know!

THE KEY WEST CITIZEN ♦ WEDNESDAY,

MONROE COUNTY

Judge rules in favor of FKAA

BY TIMOTHY O'HARA
Citizen Staff

A state administrative law judge has ruled the state permits to build the Cudjoe Regional Wastewater System are valid and work on the system can continue.

The \$165 million central sewer project will serve residents and businesses from Big Pine Key to Sugarloaf Key.

Dump the Pumps, a grass-

LOWER KEYS

Dump the Pumps might appeal

By KEVIN WADLOW
Senior Staff Writer
kwadlow@keynoter.com

The Dump the Pumps group still wants to block the use of grinder pumps in parts of the Lower Keys wastewater system despite a state judge's ruling Tuesday on contested permits.

"People are doing their homework now" on possible challenges to a recommended order issued by a state administrative judge, Dump the Pumps President Benke

ers about what 'might' occur is not sufficient to carry their burden" to show the permits should be denied, Sellers concluded in the 96-page order.

Grinder pumps are a low-pressure, electric-powered system that churns waste in a holding tank before pumping it into the sewer system, which with related road work is estimated to cost \$185 million for 9,000 connections. About 15 percent of the connections are slated to receive grinder pumps. The system goes from Cudjoe through

to handle emergencies.

"Petitioners failed to prove, by a preponderance of the competent substantial evidence, that the wastewater collection systems at issue, as designed, do not comply with DEP rules and applicable technical standards and requirements, resulting in environmental harm and property damage," Sellers wrote.

Engineering staff with the Florida Keys Aqueduct Authority (overseeing the project for Monroe County)

Remember the: DYE TRACER INJECTION TESTING?

- After injecting several million gallons of drinking water, shipped 110 miles at great expense:
- 60 gals of fluorescent tracer dye was injected:
- Graduate students and equipment were mobilized on-site working day and night:
- And while under constant media barrage:
- Guess what happened next!?!?

Lawyer: EIS for sewers is 'fake'

Governments threatened with lawsuits

By KEVIN WADLOW
Senior Staff Writer
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at Monroe County's wastewater treatment plant in the Lower Keys. In addition, an attorney for a Lower Keys commercial fisherman filed the county and federal environmental effects of a dam

Pine Key, will serve around 9,000 homes and business when complete. Current estimated cost is \$185 million. Clear "and imminent violations" of the Endangered Species Act and federal environmental

Wastewater Treatment Plant," wrote Caron Balkany, attorney for plaintiff Mike Laudicina. Balkany, in a March 13 letter to commissioners charged that a 147-page document submitted by the Florida Keys Aqueduct Authority on environmental

Zuelch response 'That's nonsense'

From Sewers, 1A

for Monroe County except never represented it as anything other than that." The 2010 document was

THE KEY WEST CITIZEN • WEDNESDAY, FEBRUARY 25, 2015

Sewer lawsuits moving forward

BY TIMOTHY O'HARA
Citizen Staff

As one lawsuit dealing with central sewers in the Lower Keys is winding down, two more are ramping up. The environmental group Last Stand is challenging a Florida Department of

Sewers

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Fishermen Don DeMaria and Mike Laudicina want the Florida Keys Aqueduct Authority to construct a deep well there as well. They have yet to have a hearing date set.

Last Stand contends the KW Resort Utilities should construct a deep injection well to handle the treated effluent of the businesses and residences on Stock Island, instead of installing two more shallow injection wells. It currently has two shallow wells that handle an average roughly 500,000 gallons a day of treated effluent.

The private utility company

Continued from Page 1A

Cudjoe regional faces another challenge

filed by Cudjoe Key fishermen Mike Laudicina, challenges injection wells at the Florida Keys Aqueduct Authority (FKAA) plans to install at the site of the Blimp Road. Laudicina wants the intent to sue four federal agencies he claims failed to conduct the proper studies that are required by the Endangered Species Act and the National Environmental Policy Act, and designed to protect federally listed endangered species. The notice must be filed prior to a person suing a federal government agency. The intent letter names the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration (NOAA) and

See WELLS, Page 3A

tion wells located at the Cudjoe Regional Wastewater Treatment Plant," Balkany write in the intent to sue

water table, he said. If the test proves the effluent can leach out, then a deep well will be built and federally protected species found there. Given the lack of information we have received, we have not



Wacky BLINDSIDE!



FDEP STRIKES!

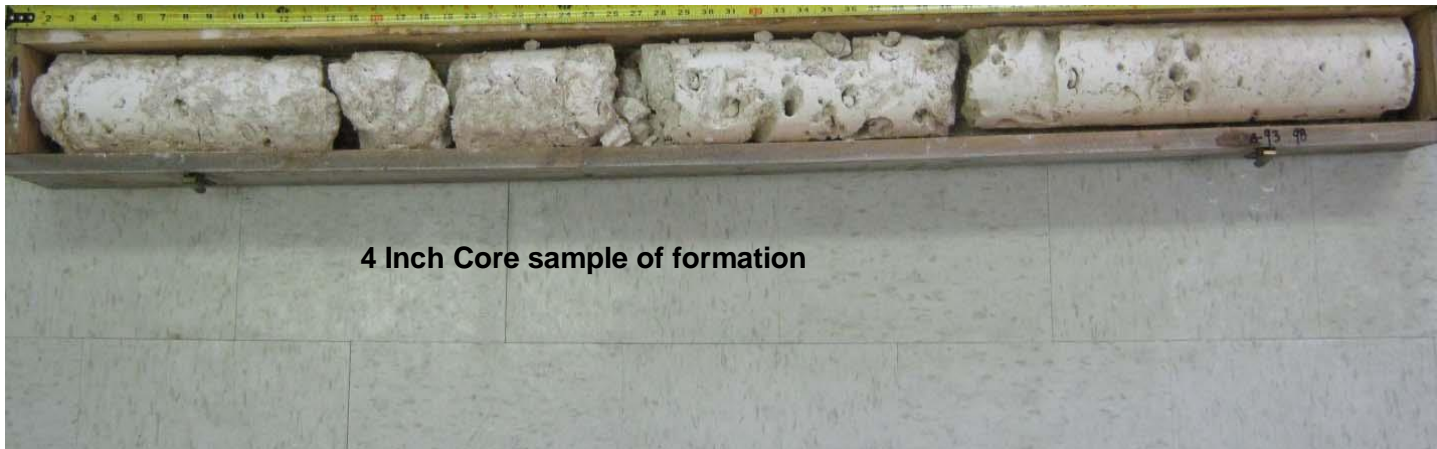
- After finding no statistical trace of surface water dye:
- After granting substantial completion to the AWRP contractor and staffing the facility with operators on a 16 hour per day basis:
- After filing for Certification of Completion (April 2015):
- After providing reasonable assurance that the shallow injection wells were installed and operating as designed:
- 1200 Connection letters were ready for mailing.
- FDEP Fort Myers referred Completion Certification to Tallahassee and we got a call.
- FDEP Tallahassee was not convinced that the Class 5 wells would work. They wanted more testing.
- DO NOT COMMENCE CONNECTIONS!



FDEP STRIKES!

After Discussions with Tallahassee:

- We commissioned a geotechnical firm to drill 15 additional monitoring Wells, and provide a 130 foot rock core sample for analysis.
- We commissioned a third-party firm to conduct additional aquifer performance testing to scientifically assess transmissivity and hydraulic conductivity of the injection zone (Which had been done once already!) The standard well development testing was apparently no longer good enough.
- We hosted the state geologist to come down and analyze the core samples.



FDEP STRIKES!

Meanwhile legal negotiations were being held to determine reasonable settlement conditions.

And the media was still going to town!

Shallow well tests show no leakage, FCAA says



BY TIMOTHY O'HARA
Key West Citizen

Tests have so far shown that nothing from the shallow wells at the Cudjoe Key sewage treatment plant is bubbling up to the surface or leaking into the ground water table, Florida Keys Aqueduct Authority officials said.

Residents on Blimp Road after injection well, which would push the treated effluent thousands of feet deeper into the ground. The FCAA, with a DEP official monitoring, started the pressure tests last week. The Aqueduct Authority first conducted a step test in which they pushed 250 gallons of water a minute down the wells, then 450 gal-

gallons the FCAA estimated to be the daily average. The FCAA pushed 650 gallons of water a minute into three of the four wells simultaneously for as long as three hours, according to Aqueduct Authority engineer Tom Walker.

"There was no change in the elevations in ground-water table in the aquifer,"

THE KEY WEST CITIZEN ♦ SUNDAY, JULY 5, 2015

FKAA to apply for deep well this week

BY TIMOTHY O'HARA
Key West Citizen

The Florida Keys Aqueduct Authority is scheduled to file its application for a deep injection well for the Cudjoe

Applicati

Continued from Page 1

dump site up to the or into the ground table, Zuelch said.

The Aqueduct will also drill 15 s and conduct pre to see what c Zuelch said. T should begin wit two weeks.

Construction on Blimp Road but the Aqueduct is waiting to o

THE KEY WEST CITIZEN ♦ SUNDAY, AUGUST 9, 2015

Recent well testing raises more concerns

This letter addresses the most recent well testing.

I can show you photos of excavations at the site showing tunnels, and layers of muck between layers of rock. The well videos from a lowered camera show tunnels and coarse holey rock starting at about 85 feet.

There is absolutely no way that injected water does not escape rapidly.

I firmly believe this last test is just more deceit from people who got caught pulling another fast one over the public and now are trying to save their face using our money. Call their bluff.

I believe that the more they get away with, the more tricks they try. We need some honesty and transparency at Florida Keys Aqueduct Authority for a change. Don't we pay those fat executive salaries? I think we deserve more than smooth, confident rhetoric and spin.

As for the DEP representative on-site during testing, Deb Curley from Last Stand reported that he told her that it is impossible for leachate to be flushed from the area because the injected effluent would have to rise up into trash mountain first!

I wonder if his opinion would change if he saw the yellow leachate filling excavations during construction? Or the orangish leachate running out of trash mountain and overflowing the ditch and across the road into the refuge after heavy rains?

Do you think his witnessing of the testing is worth much? I am convinced that the rubbery "tarp" put over the mountain almost 20 years ago is ruptured and leachate production is now accelerating with every rainfall.

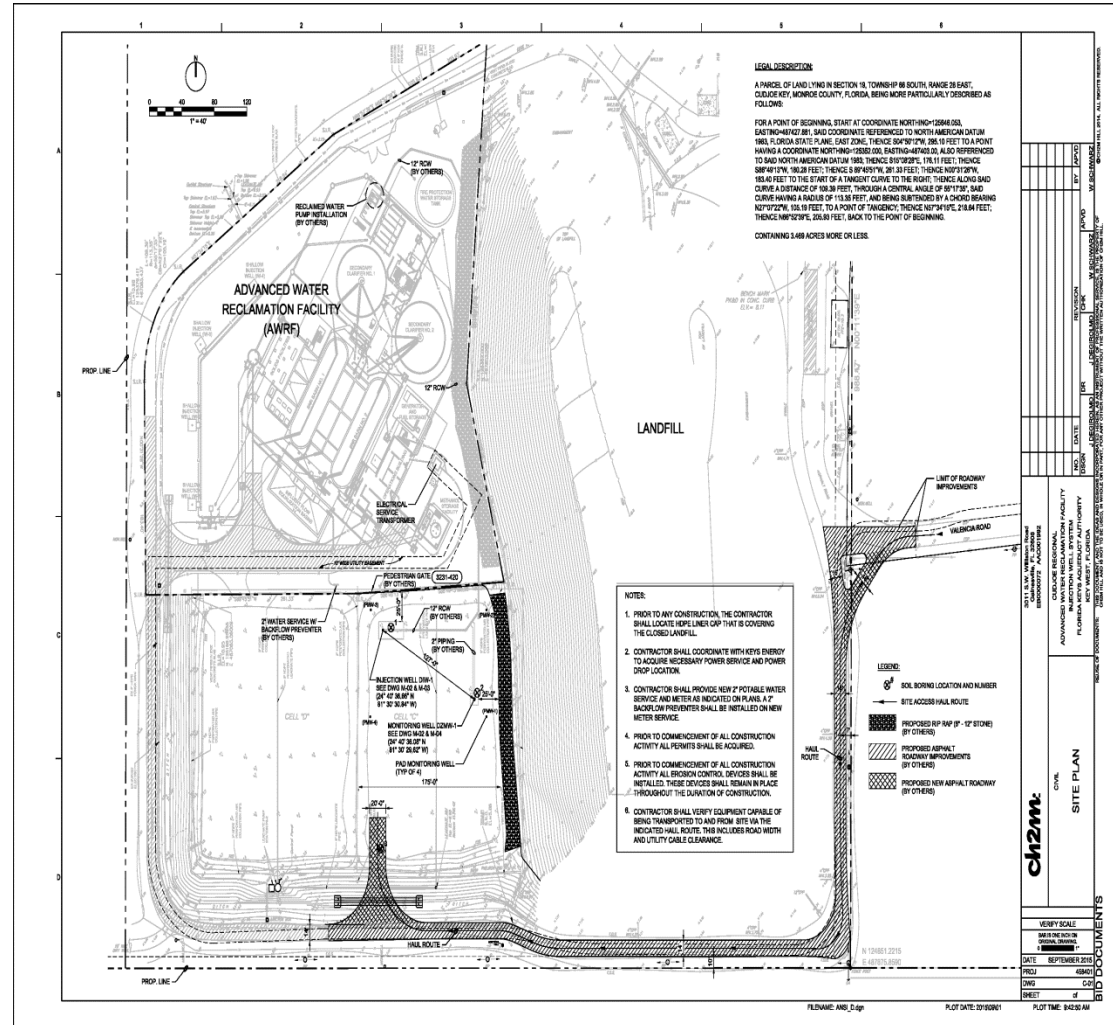
John Prosser
Big Pine Key

More Construction!

In an attempt to settle the Lawsuit and avoid another DOAH process, the County voted to provide an additional \$8 million for DIW construction.

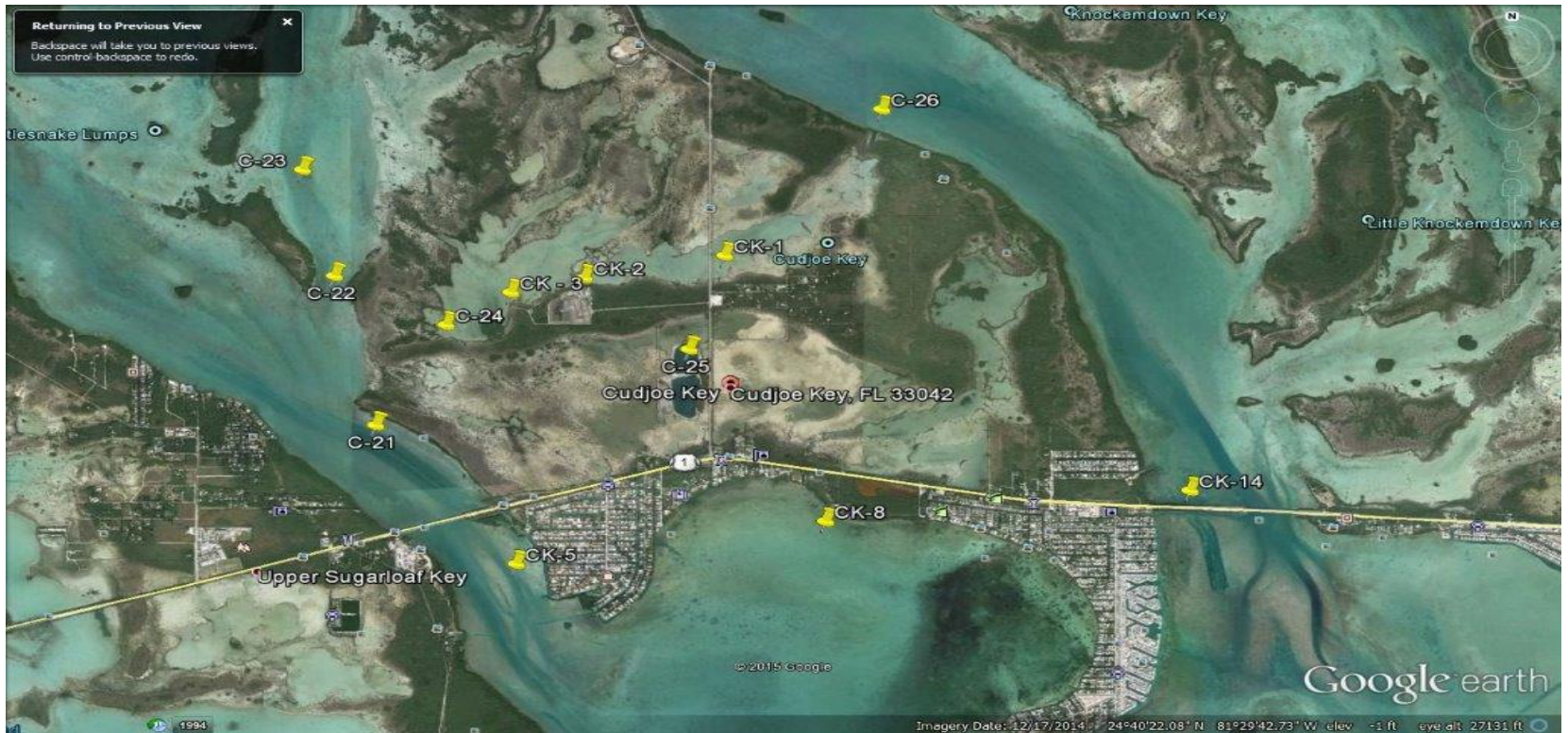
The new activity involved modification of the existing Landfill permit and Stormwater ERP, access road paving and grading, removal of the adjacent disposal cell contaminated material and liner including disposal of 7000 tons of tire chips, and the design and bid of a new class V DIW and monitoring well.

Special Conditions: DIW to be constructed using Class I standards assuming the presence of a USDW.



More Monitoring!

- We also agreed to do extensive surface water quality monitoring in and around the disposal area.



DIW Permitting Fast-tracked “Helping Hand”

- DIW Pre-application meeting -- July 2015
- Letter application to modify Abandoned Landfill Permit—August 2015
- Stormwater ERP “De-Minimus” Permit Approval—November 2015
- Modification of existing AWRP permit (still under renewal challenge) to include DIW pumps and piping---a “phone” approval.
- Renewed permit to be issued when DIW complete (Expected to be Halloween 2016, how appropriate) almost 4 years after the renewal application was filed.
- DIW Construction Permit Issuance– September 2015 Public Hearing, October NOI, Final in hand 2 weeks later. SIX WEEKS!
- Bids were solicited and of the two bidders, Layne Christensen Company at \$4.046 million was the apparent low bid.
- Notice to proceed was issued December 22, 2015 -- contractor is mobilizing.

AWRF CLEARANCE AT LAST

After being on hold since April 2015, the FDEP sent us a "courtesy letter" dated October 15, 2015 that said:

Re: Monroe County - DW

**Cudjoe Regional Wastewater Treatment Plant
Including Underground Injection Wells.**

Facility No: FLA671932

Permit Numbers: FLA671932-001, 295404-001,
295404-002, 295404-003, and 295404-004.

“On April 20, 2015, the Department received the Notification of Completion of Construction [DEP Form 62-620.910(12)] for the facility referenced above. Thank you.

On October 13, 2015, the Department confirmed the above referenced permits as final agency action”.

“The Department has no objection to placing the referenced facility into operation”.

Wow---After being on hold 6 months. WHAT AN ANTICLIMAX!☹️

MEDIA FRENZY CONTINUES

Two parties drop Cudjoe wastewater plant lawsuit

BY TIMOTHY O'HARA
Key West Citizen

Two fishermen have agreed to withdraw from a lawsuit challenging the opening of the Cudjoe Regional Wastewater Treatment System plant.

"We've had two lawyers handling the case for over a year now; they did it for free because it's such an important issue. But now they've both had to withdraw from the lawsuit."

Don DeMaria and Mike Laudicina
Two fishermen who filed suit against the Cudjoe wastewater treatment plant

support of the community, we've already won the main thing: a clean well. We don't want to change the gas disinfection process, which uses chlorine, which is expensive. We now got into monitoring wells. Earlier this year...

Testing at Cudjoe plant waste of public funds

Recent testing by FKAA at Cudjoe Key was a waste of public funds. The announced results intentionally distort what actually took place.

Testing was supposed to settle safety concerns over using shallow sewage disposal wells, rather than waiting for the much safer deep well.

Shallow wells, drilled typically 60 to 90 feet into the porous limestone of the Keys, allow nutrients, living viruses and pharmaceuticals to end up in the ocean.

FKAA leaves residents no time to connect

Editorial

On Monday, 1,100 homeowners on Cudjoe Key received from the Florida Keys District Authority that they have less than 30 days to abandon their septic systems and proceed with the structure to hook into sewer lines for the Cudjoe Regional Wastewater Plant. Homeowners were given website with instructions

system prior to being charged for it, perhaps residents of Cudjoe Key wouldn't be so irate. Of course, the FKAA is hiding behind a county statute that states that once the plant is operational, residents have 30 days to hook into it, which is far more stringent than the state's statute of

THE KEY WEST CITIZEN ♦ FRIDAY, OCTOBER 30, 2015

Cudjoe residents question FKAA at meeting

BY TIMOTHY O'HARA
Key West Citizen

Cudjoe Key residents

Cudjoe

Continued from Page 1A

"It's not fair to make people pay for a service they are not receiving," Cudjoe Key resident Joe Bozik said. "Everyone should pay a base fee or no one should," Bozik added about making everyone served by the sys-

ed the Zuelch a private association the appearance of certain groups get partial treatment from FKAA," Higgins wrote an email to Zuelch at the meeting. "It is my understanding that the October 23

Judge limits sewer challenge

BY TIMOTHY O'HARA
Key West Citizen

A hearing judge limited the scope of a challenge to a state permit needed to open and operate the Cudjoe Regional sewage treatment plant.

Administrative law judge Cantor denied the Cudjoe Gardens and Sugarloaf Shores property owners' request to continue a hearing scheduled for the week of Oct. 26, while the groups try to settle with the Florida Keys Aqueduct Authority and Monroe County.

Bram ruled Tuesday the homeowners associations can only challenge the 2014 renewal of the state Department of Environmental Protection (DEP) permit, not the initial permit issued in 2009. When the groups first filed the challenge, they limited the scope to the 2014 renewal. They later tried to broaden

it to the 2009 permit, but the judge ruled against it earlier this week.

"Petitioners contend the Department (DEP) had no authority to issue a permit in 2009 that authorized both construction and operation of the two under-

See SEWER, Page 8A

FKAA: Connect within 30 days

BY TIMOTHY O'HARA
Key West Citizen

The Florida Keys Aqueduct Authority mailed out letters Friday telling 1,100 Cudjoe Key residents and business owners they have 30 days to connect to the Cudjoe Key Regional central sewer system. FKAA executive director Kirk Zuelch said Tuesday that residents

and business owners should start discussions with licensed contractors and begin the necessary paperwork, Zuelch said. On Thursday, the Florida Department of Environmental Protection gave approval to the FKAA to start using the Cudjoe Regional plant on Cudjoe Key. On Friday, the FKAA mailed out letters telling residents and business owners

ers that they have until Nov. 16 to connect to the system. The Monroe County Commission passed an ordinance in 2002 that makes connection to central sewer systems in populated areas like Cudjoe Key mandatory and gives property owners 30 days to connect to the system after its made available to them. State statute gives

but the statute also allows local governments to impose its own connection deadlines. Cudjoe Key is the closest to the central sewer plant and the infrastructure is complete and in place to serve that island, Zuelch said. The FKAA has received phone calls from people inquiring about



Wacky is here to stay!



US Fish and Wildlife Serve and Volley

The "Service" manages the wildlife refuge on Big Pine Key under a State of Florida land lease agreement.

- **BACK**---The Service evoked NEPA under the federal funding rule using SRF as the thread.
- ❑ **FORTH**--EPA wrote to the Service a Trieste schooling them on the difference between federal and state SRF funding programs.
- **BACK**---The Service insisted on a Section 7 consultation under the Endangered Species Act.
- ❑ **FORTH**--FKAA Performed an ESBA (endangered species biological assessment) of the entire island and submitted-- finding of no significant impact.
- **BACK**---The Service insisted we were trespassing on refuge lands and required access permit applications.
- ❑ **FORTH**--FKAA produced utility easements providing clear legal access. (Water and electric are there already).
- **BACK**---The Service insisted that the shallow injection wells (120 feet) would result in massive upwelling onto Refuge lands resulting in trespass and impacts and insisted that we test for a battery of pharmaceuticals.

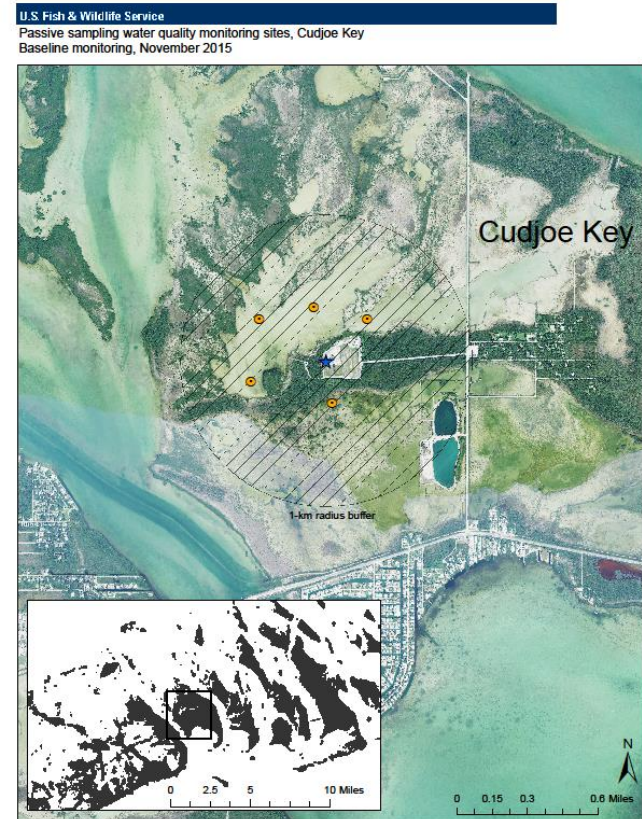
US Fish and Wildlife Serve and Volley

➤ **BACK**---The Service went ahead and volunteered micro-constituent background sampling (\$27,000 their cost) and is requiring under a "Special Use Permit" that 4 or more subsequent samplings be conducted by FCAA. Any anomalies will have to be "mitigated".

□ **FORTH**--The FCAA demonstrated the conductivity of the system, presented a complete report of hydraulic testing and gave an oral presentation of the findings demonstrating minimal (less than 1 inch) of hydraulic gradient immediately adjacent to the injection zone. The injection zone is highly permeable, surface upwelling is not hydraulically possible.

➤ **BACK**---The Service remains unconvinced and insists on a Special Use Permit. They are still playing.

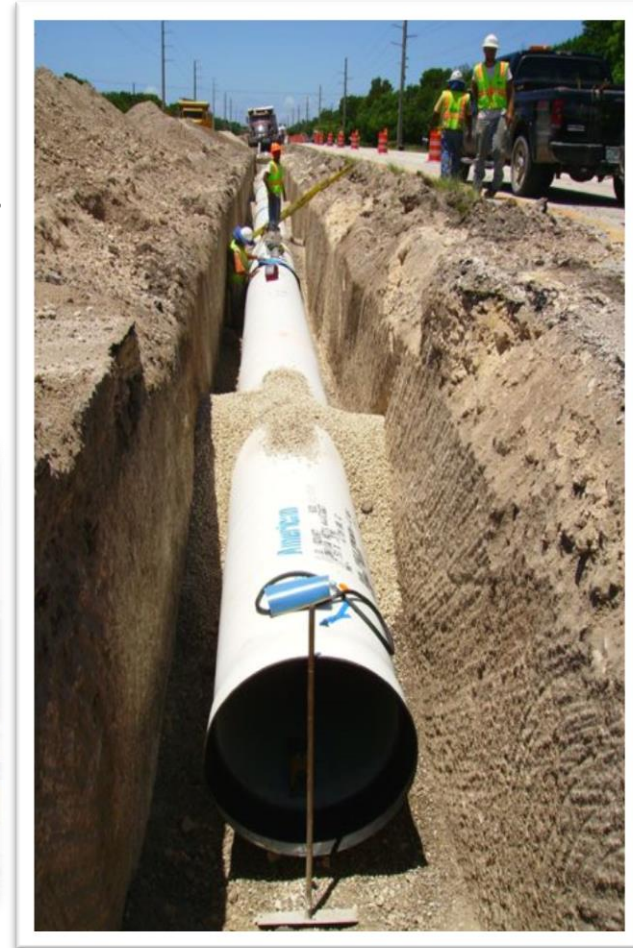
We took our racket and went home.



Connecting the **Wacky** Keys Still Moving Forward

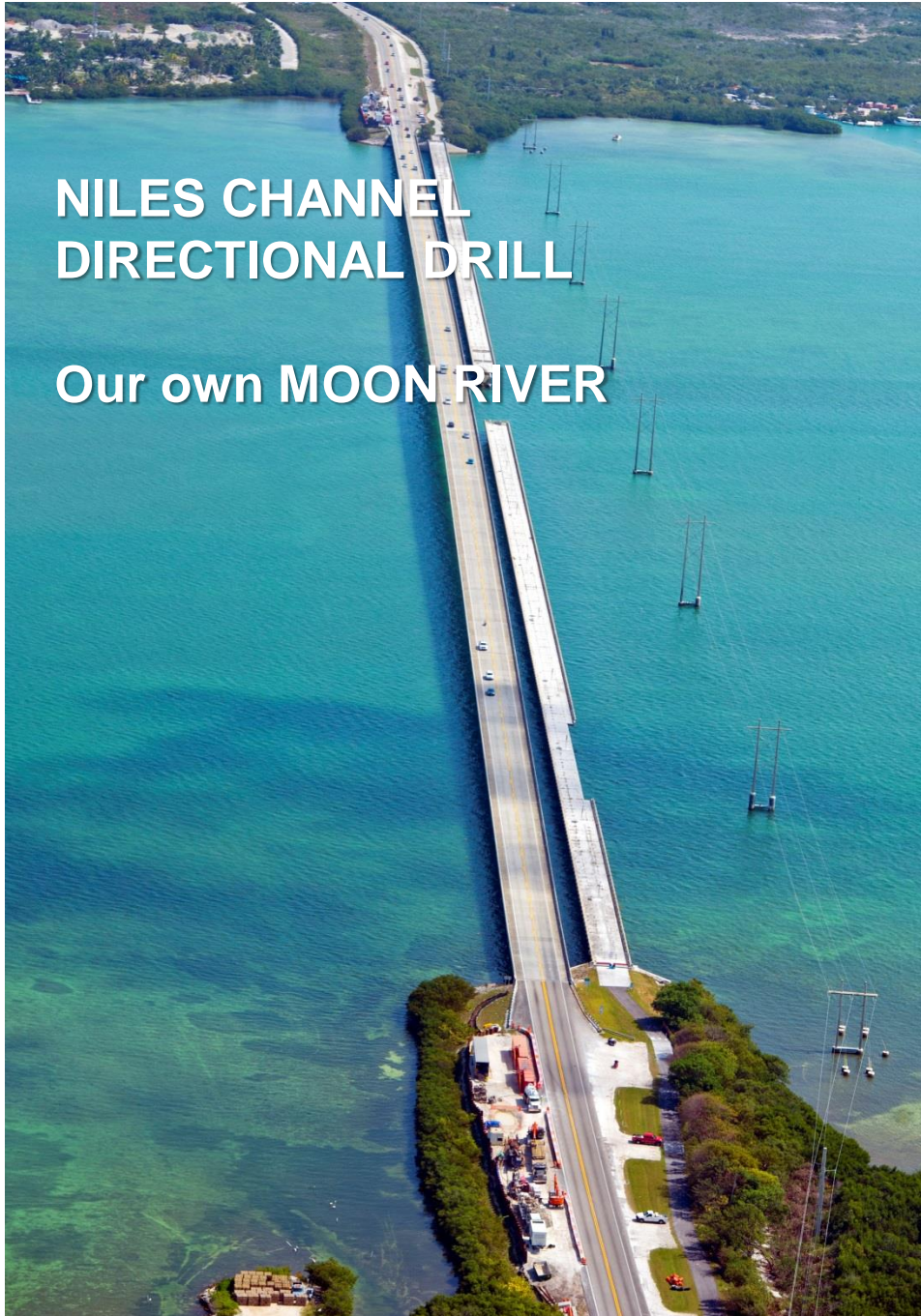
In the meantime construction proceeds to conclusion.

- The three inner islands: Cudjoe, Sugarloaf and Summerland are wrapping up-300+ and growing.
- Almost 700 grinder stations have been installed so far. About 1000 easements are in hand.
- About 130 miles of the almost 150 miles of pipe is in the ground.



- AWRP is running and treating as we speak! (Still no permit).

**NILES CHANNEL
DIRECTIONAL DRILL**
Our own MOON RIVER



Connecting the Keys

Wacky is still here!



Connecting the **Wacky** Keys FUTURE CHALLENGES

Dealing with Hurricanes

Surge and low-lying islands = problems during events

- Minimize large bridge crossings
 - Emergency agreement with FDOT for failures
- Emergency power and added fuel supplies
- Elevated electric gear

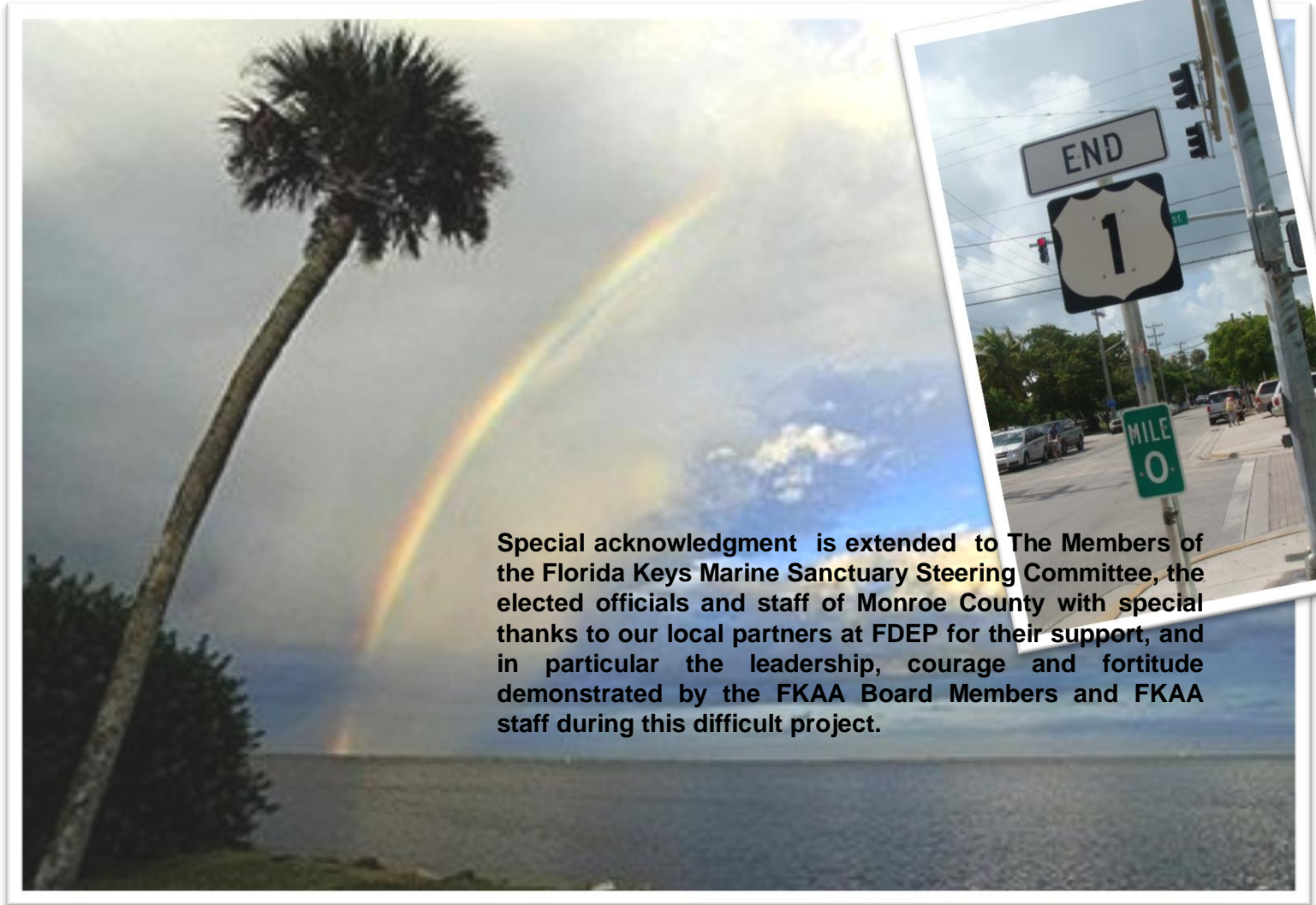


Connecting the **Wacky** Keys

Wish us luck! (PLEASE!)



Connecting the **Wacky** Keys Thanks for Your Attendance



Special acknowledgment is extended to The Members of the Florida Keys Marine Sanctuary Steering Committee, the elected officials and staff of Monroe County with special thanks to our local partners at FDEP for their support, and in particular the leadership, courage and fortitude demonstrated by the FKAA Board Members and FKAA staff during this difficult project.

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