KW RESORT UTILITIES Corp. ***e-Newsletter***

Providing Environmentally Friendly & Cost-Efficient Wastewater Solutions for the Lower Florida Keys

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-- Customer Pipe Line --

Your Direct Connection to KW RESORT UTILITIES Corp.
Wastewater Questions & Solutions

KW RESORT UTILITIES Corp. will publish the monthly *Pipe Line* as another way to better serve and communicate with our utility customers. *Pipe Line* will address questions concerning important issues of installing wastewater systems and sewage treatment for the Lower Florida Keys.

This Month's Question…
The Monroe Board of County Commissioners (BOCC) is reviewing two primary sewer systems for moving wastewater from South Stock Island dwelling units to a central sewage treatment plant:

a.) Vacuum Suction System…….to: Pull Wastewater.

- or-

b.) Gravity Forced Pump System to: Push Wastewater.

Which system is better for the Lower Keys, push or pull and why?

Pipe Line Responds…
Either a Gravity or Vacuum System is preferred over the cesspits or septic tanks that do *not* conform to county and state government standards.

The environmentally preferred approach to handling wastewater is to pipe it from the owner's property to a treatment facility where sewer water is treated and converted into safe usable water for landscaping, etc.

Cesspits and septic tanks keep contaminated water near the dwelling unit. In the porous coral rock of the Keys sewer water can seep into the environment creating near shore water pollution.

The state of Florida has ordered that all the homes and businesses in the Keys be hooked to a state-approved wastewater treatment system by 2010.

Communities or any dwelling not connected to an approved treatment system by the deadline face significant state fines and penalties.

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The deadline for connecting every Florida Keys residence and business to a sewer treatment plant is just--64 months from September 2004. That's about one new car loan until the state deadline.

The time for action is now!

It is time to install pipe in the ground to handle wastewater. The decision to install a system has been made and a date has been set by the state.

Herein (the ground) is the question…to pull or push wastewater?

What is the difference between the Push verses Pull System?

Push Method:
Gravity-Forced Systems have been deployed since the creation of sewer systems. The benefit is gravity does the work--but only to a point. For a home on top of a hill, the flow goes downhill.

Gravity Systems can work in two ways:

1.) Lift Pump System:
In flat terrain areas such the Keys, a downhill effect to flow wastewater must be created by digging deep sloped trenches from the surface to a depth of up to 20 feet below the surface.

At the bottom of the slope, up to 20 feet below the surface, the wastewater must then be raised back up to the near surface level with an electric pump, known as a lift station so it may again flow downhill.

This process continues through a series of sloped downhill pipes and electric pump lift stations until the wastewater reaches the sewage treatment plant. The City of Key West installed such a system over 50 years ago.

2.) Push-Forced Pump System:
Gravity moves wastewater from the dwelling to the street where a series of electric pumps are used to force and push the flow to the central sewage treatment plant. Pipe is laid at normal below surface levels since pressure is now being used to push wastewater in lieu of gravity.

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Pull Method:
Vacuum Suction System technology for moving wastewater was introduced within the past couple of decades as a more cost-efficient system when the use of a gravity method is more difficult and expensive to install.

A vacuum system works much like a household vacuum cleaner.

The vacuum line is placed about 3 feet below the surface. Wastewater is *pulled* by a single central vacuum system located at the sewage treatment plant.

The Pull Vacuum System and the Push Gravity-Forced method are the two wastewater systems under review by the BOCC for South Stock Island.

What are the benefits of installing the Vacuum Pull System over the Gravity Push-Forced Method for South Stock Island wastewater flow?

We do not need to dig very deep for the answer…
In flat terrain coastal areas digging deep trenches up to a depth of 20 feet is extremely costly due to the water table just below the surface. A Vacuum System line installation is only 3 feet below the surface making it considerably less expensive to install as well as faster and far less intrusive for residents and businesses.

Less expensive…
In place of numerous Push Forced electric pump stations located throughout community neighborhoods, the Vacuum System pump has a single station situated at the treatment plant. This difference makes the Vacuum System significantly less expensive to both install and to operate. There's less moving parts!

Failsafe system…
The Vacuum System pumps are located in a single Category 5 building at above storm surge levels. An automatic back-up generator is ready on line and will operate the vacuum pumps during power outages.

A recent example of Vacuum Systems benefits is Hurricane Charley.

Sanibel Island and Pine Island Gravity Systems were still not operating in late August, more than two weeks after the storm. The electric pumps located throughout communities cannot all have back-up generators in place creating sewage problems.

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However, *the City of Englewood*, Fla. on the Gulf of Mexico and adjacent to Punta Gorda and Port Charlotte *in the force of the Category 4 Hurricane Charley never lost its Vacuum Pump Sewer System.* This is the identical Vacuum System presently operating on Stock Island using the same pump manufacturer, Air Vac.

It works...
The difference in what the Sanibel & Pine Island residents now confront and what the community of Englewood has been spared was the choice made in wastewater systems.

Vacuum Wastewater Systems are much more likely to operate during and after a hurricane.

Health safety…
There is enough clean up to manage after a major storm; having an operating sewage system is critical to both health safety and the environment.

Environmental protection…
Should a Vacuum System line break due to any accident, the suction system will immediately lose its seal. This will automatically stop the *Pull Flow* action preventing sewage from leaking into the environment.

In contrast, when a Gravity System line breaks, the nearby neighborhood pump station will continue to run--pumping raw sewage into the environment--until an operator can be located to shut down the pump and stop the sewage leak.

Recommended for Stock Island by respected wastewater engineering firms...
Two respected Keys engineering companies with decades of Keys wastewater management experience, the Weiler Co. and CH2M Hill, have recommended from the beginning a Vacuum System for Stock Island and other Keys communities. Both companies have recently reaffirmed their recommendations for the balance of the South Stock Island wastewater project.

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The Monroe Board of County Commissioners is seeking the best alternative...

The BOCC commissioned a well known engineering firm, URS, to perform a cost analysis between the installation of a Vacuum System compared to that of a Gravity System (or using both) for the remaining dwellings on Stock Island in need of a sewer hook up.

URS has a great deal of experience with both Gravity and Vacuum Systems. URS has designed and installed Vacuum Systems in flat coastal communities

On August 11th URS advised the BOCC at a special commission meeting (held to address Lower Keys wastewater concerns) that *a Gravity Forced System will most likely be more costly than a Vacuum System for South Stock Island.*

The *final results* of a wastewater system cost analysis performed by URS for South Stock Island *will be submitted to the BOCC this September*.

Should you have further questions or concerns about wastewater issues in the Lower Florida Keys, KW Resort Utilities *would like to hear from you*. This e-Newsletter and other information are posted on our web site: KWRU.com

Please contact us as shown below and we will be happy to respond.

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