Pg 4 Section A Wednesday, Feb. 9, 2011

MARANA WEEKLY NEWS
www.marana weeklynews.com

SB1171 would allow Marana to operate an efficient wastewater system for its residents

Mayor's Notes

Ed Honea
Marana Mayor

SOUTHERN Arizona has many things working in its favor: a desirable climate, breathtaking natural beauty, a world-class university and a highly skilled workforce. But without true regionalism in which every city and town is allowed to set its own course for success to the benefit of all who live here, Pima County will fall short of its limitless potential.

That's why the Town of Marana recently worked with members of the Southern Arizona delegation to introduce a bill at the Arizona State Legislature that would have a positive effect on our region. Senate Bill 1171 is all about water, which is necessary to create quality jobs for local citizens. Marana sits atop a rising aquifer and must ensure its long-term sustainability for its residents and businesses. Owning and operating an efficient wastewater system is required to guarantee that sustainability.

Even though we don't often think about it, wastewater is a major part of our region's future. State law requires that every gallon of water pumped from the ground be replaced by another gallon of available water resource. That's where effluent comes into play. Using effluent helps municipalities avoid paying large sums to acquire water from other sources, keeping residents' and business owners' monthly bills affordable.

SB 1171 would transfer to the town pipes located in Marana which were already paid for by Marana citizens and businesses. While Maricopa County Superior Court has already awarded the town most of the pipes within its boundaries, the bill would finalize that transfer and allow Marana to take ownership of a wastewater plant that serves only its citizens. The bill also requires the town to pay any debt associated with that treatment facility, ensuring there is no additional cost to Pima County ratepayers. Without this legislation, Marana would be required to purchase pipes that Pima County never paid for and a plant that the county's citizens have already funded through fees charged whenever a new home or business is built in the region.

SB 1171 would give Marana the same rights as every other city and town in the state outside of Pima County. Marana would be able to construct additional plants and pipes throughout the community that would facilitate economic growth and job creation in a time that such activity is desperately needed by our state. The town has conducted multiple studies that prove there's an alternative to Pima County's rapidly rising sewer rates and ensure a competitive business climate for our region's future.

Pima County has provided sewer service to Marana by contract since 1979 and has mismanaged the existing system, even drawing the ire of federal and state regulatory agencies. The county faces a $1 billion bill to bring both of its regional plants into compliance with federal regulations while, at the same time, wasting enough water resource to serve 90,000 homes every year by sending effluent down the Santa Cruz River into Pinal County. After years of failing to properly plan for maintenance and improvements, the county is funding these necessary upgrades by charging astronomically higher rates for sewer service. In a time of economic crisis, many citizens across Pima County are paying more for the wastewater portion of their bills than what they are charged for drinking water, our most precious resource. This type of mismanagement is unacceptable and our citizens deserve better.

SB 1171 would allow Marana to operate an efficient wastewater system for its residents and businesses so that they can create an atmosphere of economic prosperity. Every city and town must be able to determine its own future in a practical and responsible manner. That's all Marana wants and those goals can be reached to the benefit of the entire region.

MARANA Weekly NEWS

Current E-Edition

3029 S. Kinney Rd., Tucson, AZ 85713 • Ph: 520-578-1505 • Fax: 520-908-0455
E-EDITION LAST UPDATED: Tuesday, March 01, 2011 7:41:00 PM

Wastewater rights through SB 1171 still on track

Posted: Wednesday, Feb 9th, 2011
By Chuck Barth

MARANA — A bill in the state senate that would allow towns and cities to take control of their own sewer systems took several steps in this legislature this past week.

Senate Bill 1171 passed through the republican caucus and then hit the senate floor for a second reading which it passed by voice vote on Thursday.

A final vote in which senators will actually cast a vote by pushing a switch is set for early this week. From there, the measure must pass through the house.

"We had three sponsors in the senate and six in the house," said Marana Mayor Ed Honea. "All of the senators from districts 25, 26 and 30 sponsored it in the senate, and all of the house people from 25, 26 and 30 sponsored it in the house.

"We're hoping this is taken care of before the knock down drag out of the budget really takes affect," Honea said. He added there is work going on in committees and by individuals concerning the budget.

"We feel pretty good," added Honea. "We've moved through everything without any glitches so far. So we're reasonably confident that this will pass through."

Honea went on to say that Marana has been trying to negotiate with Pima County for over five years now. The town also took the county to court.

For the complete article see the 02-09-2011 issue.

2·16·11

End to water war unlikely

Marana officials uninterested in latest county offer

End to water war unlikely By **Patrick McNamara,** The Explorer Explorer News | **0 comments**

Pima County officials have written a proposal designed to end the stalemate with Marana over wastewater treatment.

In a letter to Marana Town Manager Gilbert Davidson, Pima County Administrator Chuck Huckelberry said the county would continue to provide all existing wastewater services in addition to allowing Marana access to the effluent produced at treatment facilities.

Marana officials rebuffed the offer, saying it doesn't do enough to satisfy the town's interests.

"He (Huckelberry) really hasn't offered anything of substance," Davidson said, adding that the proposal looks the same as an offer the town previously rejected. "They put in more verbiage, but it's the same exact offer made five years ago."

Huckelberry disputes the characterization.

"It's completely different," he said.

In particular, he said the current offer allows Marana to access all the effluent attributed to the town's water utility without reductions for Southern Arizona Water Settlement Act or other obligations that water providers have to meet.

The prior agreement included such reductions in effluent totals the town could access, Huckelberry said.

The proposal comes in response to a bill moving through the Arizona State Legislature that Marana lobbied for.

The bill would allow municipalities to take over a county-owned wastewater treatment plant if the facility stands within the town borders or at least 75 percent of the waste stream emanates from the town. Marana officials have not yet responded to the county with a list of terms that it would agree to. Gilbertson told The Explorer, however, that the proposed legislation effectively outlines what the town would agree to.

"Our terms are the legislation," Davidson said. "The legislation makes us whole."

Marana officials want a treatment facility to gain access to effluent, which the town needs to ensure future growth. State laws require communities to ensure long-term water supplies and mandate gallon-for-gallon recharge for groundwater use.

"Certainly the reason we want to operate our own wastewater system is water," Davidson said.

County officials oppose the legislation, saying it would defeat the goals of regionalism and ultimately forfeit to Marana assets that sewer ratepayers throughout the county paid for.

"That's completely unacceptable to us," Huckelberry said.

Marana and Pima have been at odds over a small wastewater treatment facility the county owns in the north end of Marana. The town attempted to annex the property and takeover the facility in 2007. A lawsuit ensued that remains pending.

Huckelberry said Marana's efforts for a legislative fix to the ongoing dispute don't address the potential costs to town residents. He said sewer rates are currently equalized throughout the county's service area but would increase substantially for Marana customers if the town acquired the disputed treatment facility.

"Obviously, in the Senate we lost the political fight, but it's one that's been waged with incomplete information," Huckelberry said.

Davidson has said that the county has used its control over wastewater hookups to stifle growth in Marana. In particular, Davidson charges that the county delayed and eventually derailed a proposed hospital in the town.

"Our response from the county was that they were not going to put in the capacity (for the hospital)," Davidson said.

Huckelberry also wrote a lengthy rebuttal to the claim, which Gilbertson made again on Feb. 2 before the Arizona Senate's Water, Land Use and Rural Development Committee.

"The county was willing to serve the facilities and enter into a legal agreement to do so; however, the developer failed to perform its obligations under the agreement," Huckelberry wrote in a Feb. 10 memo to the board of supervisors.

The county administrator said developers of the proposed hospital allowed its construction authorization to lapse, which derailed the project, not county actions.

Davidson also said that the county and Huckelberry have been duplicitous when dealing with other issues important to Marana's future.

He points to the county's seeming about-face on the Tangerine Road Landfill.

Going back to 2008, and possibly earlier, Huckelberry and other county officials have said they intend to close the Tangerine Landfill because the site had reached its capacity. By summer 2010, however, the county decided the landfill would remain open and operate as a waste transfer station.

The change occurred at a time when the town and county were at odds over another issue — a proposed privately run landfill in an area Marana had recently annexed.

Huckelberry and the board of supervisors opposed the Marana landfill proposal.

"I don't know what's true or not with him," Davidson said.

Copyright 2011 The Explorer. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Gray speaks out on landfill, wastewater

Posted: Wednesday, February 16, 2011 6:00 am | *Updated: 8:36 am, Wed Feb 23, 2011.*

On March 8, Marana voters will determine who will fill two open seats on the Marana Town Council. In last week's paper, The Explorer ran responses to questions about issues impacting the town from three of the four council candidates: incumbents Russell Clanagan and Roxanne Ziegler, and newcomer David Bowen. This week, candidate Jeffrey Gray weighs in on the same issues regarding the Marana Regional Landfill and Marana's wastewater.

In November, the Marana Town Council voted for a zoning change that would allow the commercial landfill on 480 acres of land newly annexed into the town limits. Gray feels the decision, while controversial, was necessary.

"The problem with trash is that everybody wants their trash taken away on its regularly scheduled day but nobody wants the facility where it goes to on their doorstep," Gray said. "However, the reality of the situation is that Marana can no longer depend on Pima County to provide services to its residents. In order for Marana to take control of its own future, it's time to build this facility."

Gray feels any questions regarding the project have been answered. He feels there has been no wrong-doing by Councilman Herb Kai, who owns part of a parcel where the landfill would be built.

"Herb Kai did not take part in any of the votes related to this matter. Also, DKL Holdings has already completed hydrology, environmental, archeological, transportation and species studies alleviating concerns on these issues," Gray said.

The candidate would like to see a portion of the new landfill's dump fees directed toward Marana's infrastructure improvements and public safety.

Regarding the question whether Pima County relinquish control of the wastewater treatment services to Marana, Gray feels the battle over wastewater in Marana is a "battle over growth, who controls it and were it goes.

"Marana has gone from negotiation to litigation and finally legislation. SB1171 would allow Marana to take over control of a wastewater plant that only serves its residents. The bill would also require Marana to pay any associated debt related to the treatment facility, which would relieve Pima county ratepayers of any additional costs," Gray said.

The candidate believes Marana's owning its own wastewater plant would allow it to be more competitive in bringing companies as well as jobs to the area. In addition, he feels access to wastewater would allow Marana to recharge water and keep potable water rates down.

"Nearly every other town in Arizona treats its own wastewater and has control over the effluent often used for recharge. This allows those cities and towns the ability to determine their own futures, which is all Marana is asking for," he said.

Copyright 2011 The Explorer. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

MARANA Weekly NEWS

Response to Mayor Honea's column on SB1171 wastewater plan

Posted: Wednesday, Feb 16th, 2011
By Chuck Huckelberry, Pima County Administrator

THERE are four statements made by Marana Mayor Ed Honea that are incorrect and require factual response. They are:

1. "Without this legislation, Marana would be required to purchase pipes that Pima County never paid for and a plant that the county's citizens have already funded through fees charged whenever a new home or business is built in the region."

While developers in large part install sewer lines to serve subdivision developments and such lines are paid for by developers, in the case of transmission mains or facilities that provide wastewater service and conveyance beyond the subdivision boundary, the county allows the developer to receive what have been known in the past as connection fee credits for such facilities. These credits are simply deep discounts to developers for constructing these offsite or augmented conveyance pipelines; hence, the discount becomes a subsidy paid for by all wastewater ratepayers.

The same is true of the plant in question - the Marana Wastewater Treatment Facility. Its present capacity has required the investment of nearly $30 million of county wastewater funds paid for by all ratepayers. To date, only $6 million in connection fees has been collected from Marana residents for this facility.

In addition, the Continental Pumping Plant was initially constructed by an area developer; however, the county was required to invest an additional $2 million in this facility that serves primarily Marana residents. This investment was necessary to upgrade the pumping plant's capacity and rehabilitate the facility due to years of inactivity caused by an inaccurate forecast of expected usage and growth. We also plan this year to spend another $2.8 million of regional taxpayer money to further upgrade the pumping facilities. These funds have not been recovered from Marana wastewater ratepayers.

2. "Pima County has provided sewer service to Marana by contract since 1979 and has mismanaged the existing system, even drawing the ire of federal and state regulatory agencies."

Pima County has been acknowledged by State and Federal regulatory agencies for consistent and outstanding water quality production from our wastewater facilities and has received many Silver, Gold and Platinum awards from 2003 through 2009 from the National Association of Clean Water Agencies - a far cry from mismanaging the system.

The National Pollution Discharge Elimination System permitting process is authorized by the Clean Water Act administered by the US Environment Protection Agency and the Arizona Department of Environmental Quality. The permits issued to wastewater facilities have a limited time period. When renewing our permits for our discharges to the Santa Cruz River, the county was required to adhere to the most current water quality standards of the Clean Water Act. Achieving these standards required the upgrades presently being constructed at the two regional facilities - Ina Road and Roger Road.

Within the past eight years, Pima County has expanded and upgraded all of our subregional wastewater facilities to modern, state-of-the-art treatment facilities producing the highest quality effluent. These facility upgrades and expansions include Green Valley, Corona de Tucson, Avra Valley, Randolph, and Marana.

3. "The county faces a $1 billion bill to bring both of its regional plants into compliance with federal regulations while, at the same time, wasting enough water resource to serve 90,000 homes every year by

sending effluent down the Santa Cruz River into Pinal County."

The county owns very little of the wastewater discharged to the Santa Cruz River. The effluent produced at the Ina Road and Roger Road facilities is owned primarily by the US Bureau of Reclamation by virtue of the Southern Arizona Water Rights Settlement Act and the City of Tucson. Pima County has no control over the use of this effluent; hence, the allegation we are wasting this water is a gross misrepresentation of a complex water issue.

Discharge effluent actually enters the aquifer through percolation and recharges our groundwater. In fact, Mayor Honea has indicated that Marana "sits atop a rising aquifer." This is a direct result of these wastewater discharges over the past years.

4. "After years of failing to properly plan for maintenance and improvements, the county is funding these necessary upgrades by charging astronomically higher rates for sewer service."

The sewer fees charged by Pima County presently average approximately $31.64 per month for a typical residential user. This rate is comparable to major communities the size of our urbanized region. Our average single-family monthly sewer bills are 40 percent lower than Fort Worth, Texas and Oklahoma City, Okla., and 60 percent lower than San Diego, Calif. Statewide, our fees are higher than Mesa, but lower than Phoenix and Glendale. Our sewer fees are the primarily source of revenue to finance the major upgrades now under construction. These upgrades are being financed entirely by local wastewater ratepayers.

For the complete article see the 02-16-2011 issue.

Page 4 Section A Wednesday, Feb. 16, 2011 MARANA WEEKLY NEWS www.maranaweeklynews.com

Response to Mayor Honea's column

County News

Chuck Huckelberry
Pima County Administrator

THERE are four statements made by Marana Mayor Ed Honea that are incorrect and require factual response. They are:

1. "Without this legislation, Marana would be required to purchase pipes that Pima County never paid for and a plant that the county's citizens have already funded through fees charged whenever a new home or business is built in the region."

While developers in large part install sewer lines to serve subdivision developments and such lines are paid for by developers, in the case of transmission mains or facilities that provide wastewater service and conveyance beyond the subdivision boundary, the county allows the developer to receive what have been known in the past as connection fee credits for such facilities. These credits are simply deep discounts to developers for constructing these offsite or augmented conveyance pipelines; hence, the discount becomes a subsidy paid for by all wastewater ratepayers.

The same is true of the plant in question – the Marana Wastewater Treatment Facility. Its present capacity has required the investment of nearly $30 million of county wastewater funds paid for by all ratepayers. To date, only $6 million in connection fees has been collected from Marana residents for this facility.

In addition, the Continental Pumping Plant was initially constructed by an area developer; however, the county was required to invest an additional $2 million in this facility that serves primarily Marana residents. This investment was necessary to upgrade the pumping plant's capacity and rehabilitate the facility due to years of inactivity caused by an inaccurate forecast of expected usage and growth. We also plan this year to spend another $2.8 million of regional taxpayer money to further upgrade the pumping facilities. These funds have not been recovered from Marana wastewater ratepayers.

2. "Pima County has provided sewer service to Marana by contract since 1979 and has mismanaged the existing system, even drawing the ire of federal and state regulatory agencies."

Pima County has been acknowledged by State and Federal regulatory agencies for consistent and outstanding water quality production from our wastewater facilities and has received

Page 4-Section A Wednesday, Feb. 16, 2011 MARANA WEEKLY NEWS www.maranaweeklynews.com

on SB1171 wastewater plan

many Silver, Gold and Platinum awards from 2003 through 2009 from the National Association of Clean Water Agencies – a far cry from mismanaging the system.

The National Pollution Discharge Elimination System permitting process is authorized by the Clean Water Act administered by the US Environment Protection Agency and the Arizona Department of Environmental Quality. The permits issued to wastewater facilities have a limited time period. When renewing our permits for our discharges to the Santa Cruz River, the county was required to adhere to the most current water quality standards of the Clean Water Act. Achieving these standards required the upgrades presently being constructed at the two regional facilities – Ina Road and Roger Road.

Within the past eight years, Pima County has expanded and upgraded all of our subregional wastewater facilities to modern, state-of-the-art treatment facilities producing the highest quality effluent. These facility upgrades and expansions include Green Valley, Corona de Tucson, Avra Valley, Randolph, and Marana.

3. "The county faces a $1 billion bill to bring both of its regional plants into compliance with federal regulations while, at the same time, wasting enough water resource to serve 90,000 homes every year by sending effluent down the Santa Cruz River into Pinal County."

The county owns very little of the wastewater discharged to the Santa Cruz River. The effluent produced at the Ina Road and Roger Road facilities is owned primarily by the US Bureau of Reclamation by virtue of the Southern Arizona Water Rights Settlement Act and the City of Tucson. Pima County has no control over the use of this effluent; hence, the allegation we are wasting this water is a gross misrepresentation of a complex water issue.

Discharge effluent actually enters the aquifer through percolation and recharges our groundwater. In fact, Mayor Honea has indicated that Marana "sits atop a rising aquifer." This is a direct result of these wastewater discharges over the past years.

4. "After years of failing to properly plan for maintenance and improvements, the county is funding these necessary upgrades by charging astronomically higher rates for sewer service."

The sewer fees charged by Pima County presently average approximately $31.64 per month for a typical residential user. This rate is comparable to major communities the size of our urbanized region. Our average single-family monthly sewer bills are 40 percent lower than Fort Worth, Texas and Oklahoma City, Okla., and 60 percent lower than San Diego, Calif. Statewide, our fees are higher than Mesa, but lower than Phoenix and Glendale. Our sewer fees are the primarily source of revenue to finance the major upgrades now under construction. These upgrades are being financed entirely by local wastewater ratepayers.

County points to high cost of Marana treatment

Wastewater facility battle continues

Posted: Wednesday, February 23, 2011 6:00 am | *Updated: 3:02 pm, Tue Feb 22, 2011.*

County points to high cost of Marana treatment 0 comments

Pima County officials have come out with another reason why wastewater treatment should remain under a single, region-wide entity — cost.

In the ongoing dispute over ownership of a small wastewater treatment facility in northern Marana, the county has released an economic analysis that shows the costs of treatment at the Marana Wastewater Treatment Facility run more than five times those of other county facilities.

Jackson Jenkins, director of the Pima County Regional Wastewater Reclamation Department, presented the analysis to the Marana Chamber of Commerce on Tuesday, Feb. 15.

According to the analysis, the low capacity at the facility contributes to the difference in treatment costs.

The Marana facility costs about $4,100 to treat an acre-foot of wastewater, compared to $720 to treat the same volume of water at the Ina Road Wastewater Treatment Facility.

The Marana facility serves the Gladden Farms area, while the Ina Road facility serves the Continental Ranch and Dove Mountain areas of town.

County officials estimate the average cost per acre-foot for treatment throughout the system costs $664. An acre-foot equals about 325,000 gallons.

Costs are kept lower for ratepayers throughout the county's service area because they are based on the average costs of treatment.

The county estimates that treatment costs to Marana residents would increase by 13 percent, while costs for conveyance and pumping waste to the facility would increase eightfold from $5 to $40 per year if the town took over the facility.

The analysis follows a thus-far successful effort on the part of Marana to get a law passed in the Arizona Legislature that would allow a city or town to take over county-operated sewer systems.

The proposed law, SB 1171, has met with approval from the full Arizona Senate and awaits movement in the House. The entire delegations from Legislative Districts 25 and 26 endorsed the proposal.

The districts include all of Oro Valley and Marana and much of Pima County.

Marana Chamber president Ed Stolmaker said the organization supports the town's efforts to get a wastewater treatment facility.

"If we don't ensure water resources for the future, the costs will be enormous," Stolmaker said.

The town's efforts have been aimed at gaining access to long-term water futures. State and federal laws mandate a gallon-for-gallon replacement of groundwater.

Currently, Marana water utility only uses to groundwater and does not receive an allocation of effluent or treated water. A large number of residents receive water from Tucson Water.

If it operated a treatment facility, the town could use effluent for recharge purposes and for turf and golf course irrigation. That would increase Marana's ability to grow in the future by minimizing its groundwater consumption.

"I believe with SB 1171, it will put us in a position that will help us in the future," Stolmaker said.

County officials oppose the legislation, saying it would unfairly transfer assets paid for by its ratepayers to Marana without fair compensation. The county also has argued that law could result in the fragmentation of the regional treatment system, creating rate disparities throughout the region.

Marana and Pima County have been at odds over wastewater treatment since 2007, when the town annexed the area that includes the small treatment facility in the northern part of the town.

The town council at the time broke an intergovernmental agreement with the county, established in 1979 to provide wastewater treatment services for Marana, and asserted the right to take ownership of the treatment facility.

The county quickly reclassified the area as a park to prevent Marana from taking the facility.

Following that, Marana filed a lawsuit against the county in an effort to gain the treatment facility.

While a final resolution to the case has not been reached, a judge last year ruled that the facility belongs to county The judge also decided that Marana has a rightful claim to some of the infrastructure nearby including pipelines.

Copyright 2011 The Explorer. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Judge: County's sewage-plant contract OK

Posted: Saturday, February 26, 2011 12:00 am |

The county can keep its $164 million contract with CH2M Hill Engineers Inc. to design, construct and operate a new wastewater treatment plant at Roger Road near Interstate 10, a Pima County Superior Court judge ruled this week.

The county's decision to hire the firm ended up in court when the competing company, Epcor United Water LLC, said the county didn't follow its own specifications for the new treatment plant when it hired CH2M Hill. Epcor claimed CH2M Hill didn't comply with the county's requested sewage treatment method, so it shouldn't have received the contract. County staff argued otherwise last month at a Board of Supervisors meeting.

The Pima County Board of Supervisors denied Epcor's appeal of the decision, and Epcor asked the court for an injunction to stop the contract.

Pima County Superior Court Judge Scott Rash said in a ruling this week the county's decision was not arbitrary, capricious, or an abuse of discretion, and denied an injunction to stop the contract.

Copyright 2011 Arizona Daily Star. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Marana should have domain over its portion of county sewer system

Frank Antenori Special To The Arizona Daily Star Arizona Daily Star | Posted: Monday, February 28, 2011 12:00 am |

For several years, Marana has been fighting for the basic right to operate and manage its own portion of the public sewer utility. Pima County has been allowed to hold a near monopoly on the operation and management of the public sewer utility throughout the county since 1979.

All development with a density higher than one residence per acre requires a sewer hookup, so Pima County's control of the public sewer utility has effectively allowed it to dictate land-use decisions throughout the county.

Outside Pima County, every city and town in Arizona has a right to operate and manage its own public sewer utility and has final decision-making authority over its own land uses. Allowing Marana to operate and manage the public sewers in Marana will give it this same right and responsibilities.

Like streets, sewers are owned by the public. The state decides which government entity is entrusted to operate and manage the public sewers. For more than three decades, this right has been entrusted to Pima County. Marana now wants this right. Marana wants the chance to prove that it can do a better job for its own citizens, to whom it is ultimately answerable.

Marana deserves an opportunity to operate and manage the public sewer utility within its boundaries so that it can stimulate economic development, bring important land-use decisions truly under town control and make the most beneficial use of all of its available water resources.

I have sponsored SB 1171, which has passed the state Senate and is going forward to the state House of Representatives, to establish fair and reasonable rules to entrust each local government, if it chooses, to operate and manage its own portion of the public sewer utility.

The bill requires Marana to assume all Pima County debt associated with public sewers and facilities that are transferred into its operation and control. The bill also protects the integrity of the public sewer system. The Marana portion would not be physically separated from the remainder of the system and county sewage would still flow through normal channels to be treated at area wastewater plants.

SB 1171 creates a spirit of competition in local government. Under the careful watch of its citizens, Marana will be better equipped to achieve its well-documented economic development and water resource goals.

Competition among governments is healthy because it brings down costs for residents and businesses and makes our region more attractive for economic development.

Just as Marana will seek maximum efficiency in operating its wastewater system because that's good for its community, Pima County should likewise be motivated to re-examine its own processes and costs to make it easier for businesses to create jobs in the region.

No doubt the better-run and more efficient operation will thrive. The public - the owner of the entire public sewer system - would be the ultimate beneficiary of this spirit of local government competition.

State Sen. Frank Antenori represents Legislative District 30, which includes southeastern Pima County, Sahuarita and Green Valley. E-mail him at fantenori@azleg.gov

Copyright 2011 Arizona Daily Star. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Study defies county sewer costs prediction

Local treatment cost same as county, says Marana

Posted: Wednesday, March 2, 2011 6:00 am

Study defies county sewer costs prediction By **Patrick McNamara**, The Explorer Explorer News |

Costs presented in a study commissioned by Marana officials to evaluate what residents would pay for wastewater service if the town operated its own sewer system differs from similar research conducted by Pima County.

The study represents the latest volley in the ongoing dispute between Marana and Pima County over a small wastewater treatment facility in the town and whether a locally operated system would be possible.

"It basically shows Pima County's hype that it's going to be dramatically different than what they charge is false," said Marana Town Manager Gilbert Davidson about the February study the town commissioned from economists.com.

The study predicts that Marana residents would pay the same rate as they pay under the current county-operated wastewater treatment system — an average of $36.18 a month for residential customers by 2013.

The current average for county customers stands at $26 per month, according to county estimates.

"As we started doing our research on taking back our part of the wastewater treatment system, a big concern was making sure our rates would be competitive," Davidson said.

The study would appear to directly contradict an analysis the county recently conducted of the costs associated with Marana's bid to take over a county-run treatment facility in the town and provide sewer service on its own.

Last month, in a presentation to the Marana Chamber of Commerce, Pima County Regional Wastewater Reclamation Department Director Jackson Jenkins said a Marana-run system would cost ratepayers about 13 percent more for treatment.

The analysis doesn't place a specific dollar figure on average monthly bills for customers under a breakaway Marana system. Instead, the county presented figures that show the costs to treat an acre-foot of water at the contested facility in north Marana far exceed those at other regional facilities.

The county bases rates for sewage treatment on a regional average of $664 per acre-foot. It estimates the north Marana facility costs closer to $4,100 to treat the same amount of water.

The dispute over wastewater goes back to 2007, when Marana attempted to annex the wastewater facility and break an agreement with the county to provide treatment services for the town. The town asserted the right to take over the facility once the agreement ended.

A lawsuit ensued in which a Maricopa County Superior Court judge said the county could retain ownership but gave Marana the right to the infrastructure that feeds into the facility.

Marana has since successfully lobbied for legislation in the statehouse that would allow a town to take a portion of a county-administered treatment system if certain conditions are met.

Pima County is the only county in the state that operates a wastewater treatment system.

The town seems poised to act on its effort to claim the Marana facility once the bill passes the full legislature.

Copyright 2011 The Explorer. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

SB1171 fosters competition, accountability and local control

Posted: Wednesday, March 2, 2011 6:00 am

SB1171 fosters competition, accountability and local control By Frank Antenori/Special to The Explorer Explorer News |

For several years, Marana has been fighting for the right to operate and manage its own portion of the public sewer utility. Pima County has been allowed to hold a near-monopoly on the operation and management of the public sewer utility throughout the county since 1979. All development with a density higher than one residence per acre requires a sewer hookup, so Pima County's control of the public sewer utility has effectively allowed it to dictate land use decisions throughout the county.

Outside Pima County, every city and town in Arizona has a right to operate and manage its own public sewer utility and has final decision-making authority over its own land uses. Allowing Marana to operate and manage the public sewers in Marana will give it this same right and responsibilities.

Like streets, sewers are owned by the public. The state decides which government entity is entrusted to operate and manage the public sewers. For more than three decades, this right has been entrusted to Pima County. Marana now wants this right. Marana wants the chance to prove that it can do a better job for its own citizens, to whom it is ultimately answerable.

Marana deserves an opportunity to operate and manage the public sewer utility within its boundaries so that it can stimulate economic development, bring important land use decisions truly under town control, and make the most beneficial use of all of its available water resources.

I have sponsored Senate Bill 1171, which has passed the Senate and is going forward to the House of Representatives, to establish fair and reasonable rules to entrust each local government, if it chooses, to operate and manage its own portion of the public sewer utility. The bill requires Marana to assume all Pima County debt associated with public sewers and facilities that are transferred into its operation and control. The bill also protects the integrity of the public sewer system. The Marana portion would not be physically separated from the remainder of the system and county sewage would still flow through normal channels to be treated at area wastewater plants.

Senate Bill 1171 creates a spirit of competition in local government. Under the careful watch of its citizens, Marana will be better equipped to achieve its well-documented economic development and water resource goals. Competition among governments is healthy because it brings down costs for residents and businesses and makes our region more attractive for economic development. Just as Marana will seek maximum efficiency in operating its wastewater system because that's good for its community, Pima County should likewise be motivated to re-examine its own processes and costs to make it easier for businesses to create jobs in the region.

No doubt the better run and more efficient operation will thrive. The public — the owner of the entire public sewer system — would be the ultimate beneficiary of this spirit of local government competition.

Frank Antenori is the state senator for Legislative District 30.

Marana candidates speak out

Town council elections scheduled for Tuesday, March 8

Posted: Wednesday, March 2, 2011 6:00 am

Marana candidates speak out By **Patrick McNamara**, The Explorer Explorer News |

A primary election contest for two seats on the Marana Town Council is scheduled for Tuesday, March 8.

Incumbents Russell Clanagan and Roxanne Ziegler seek re-election, while newcomers David Bowen and Jeff Gray hope to claim the seats for themselves.

Mayor Ed Honea is running uncontested after challenger Bret Summers withdrew from the race.

Each voter can vote for up to two council candidates and once for mayor.

If any candidate receives more than 50 percent of the votes cast, that candidate automatically claims the seat they were running for.

If no candidate receives more than 50 percent of the votes cast, a run-off will occur in the Genera Election on May 17.

Candidates were asked to submit the issues they felt were most important to Marana residents. To be fair, their responses appear in the order in which they were received by The Explorer.

Russell Clanagan

Before asking the citizens of Marana for their continued support of my efforts to serve them, I first thank them, and express my gratitude for their having given me their trust and the opportunity to help navigate Marana in the 21st century in ways that will benefit the community we call home.

Much has been accomplished by Marana's town government in these past four years, which, I might add, seem to have gone by very quickly!

The new Twin Peaks Interchange at I-10 was opened just a few months ago, and, by relieving pressure on the older interchange at I-10 at Cortaro and Ina roads, has increased convenience for many of us who commute to and from work, and made Marana more accessible to our friends and family when they visit.

Marana's government has added more green space for all of us who love recreation and the outdoors, by opening the beautiful Crossroads Park near Cortaro and Silverbell Roads. As I frequently pass this park I can tell you it was immediately a popular place to pass some time with your children or pet.

We in town government worked hard bringing the widening of Silverbell to four lanes between Cortaro and Ina roads. Who could disagree that that is a huge improvement over the bumpy, two-lane rollercoaster we used to endure?

And for all of us Maranans who love to curl up with a good book, or have a convenient and comfortable meeting place for our group or club, Marana town government saw to the successful opening of the Wheeler Taft Abbett Library.

These and other improvements your town government achieved during a time when great financial difficulties fell on families and governments. Your town government saw to these achievements without raising your taxes one penny or laying off any of our public safety officers who work tirelessly to protect and serve our community.

None of these achievements were easy, and none were possible by Russell Clanagan alone. They required an effort by the mayor, council and town staff working in tandem with other entities such as Pima County, the Regional Transportation Authority and the Arizona Department of Transportation.

It is my belief that Mayor Honea and Councilwoman Roxanne Ziegler have earned your vote and therefore we all should be re-elected to serve our community for another four years.

Thank you for allowing me to be a small part of that, and I humbly ask you to help me continue to work for you on the council.

Ed Honea

In these challenging economic times, Marana has been forced to make tough decisions. We've chosen to keep our community strong.

Because of these tough choices, Marana is poised to prosper. When some municipalities attempted to spend their way out of the downturn, our leadership chose prudent fiscal responsibility.

We cut where we could and we supported the necessities like public safety. Our staff understands that it is our responsibility to be good stewards of the peoples' money and because we've balanced our budget without raising taxes, our town is primed and poised to prosper.

We know that government and bureaucracies do not cause economic success. Governments can certainly hinder growth and destroy jobs. They can also help create opportunities, but the private sector has the entrepreneurial know-how to innovate and create success. One example of this is The Ritz-Carlton hotel.

This beautiful resort brings 350 jobs to our community and its completion is a true illustration of private industry and local government working together well.

The permits and feasibility studies were fast-tracked in order to get the development started. Because of these efforts, the construction began weeks before the global financial crisis hit. Any delays could have resulted in the cancellation the plans.

Instead, our Marana is home to a destination resort that will be an economic stalwart of our area for decades.

Our responsibility is to govern well. We can provide an atmosphere for growth that can benefit our community. We can strive for an economic climate that promotes smart growth and protects our All-American way of life.

These last few years have been a test and we are not out of the woods yet. My confidence in Marana and its citizens is unwavering and we are poised to prosper.

David Bowen

Marana has prospered, but not everyone here is doing well.

Marana's house de-valuation rate is the highest in the county, and our foreclosure and short-sales rates total more than one-third of Pima County's.

Tens of thousands of square feet of commercial property lie vacant. The Marana Council didn't create our economic recession, but they can help solve it by focusing on business creation and jobs.

As the only business-owner running for town council, I understand how to attract businesses, and help the ones already here.

I will work to streamline the town's business process by making town departments and regulations accessible in one location.

I began a financial planning business here 15 years ago, and I know the issues people face and the daunting obstacles they encounter when trying to start a business. While promoting economic growth, it is very important to me to maintain Marana's natural beauty and its community feel.

Our location straddling the I-10 corridor is like living along the Mississippi River a century ago.

An average of 90,000 vehicles pass through Marana each day, and many businesses could benefit from that traffic. Each traveler or commuter needs to eat, sleep, shop and fuel.

As your councilman I would want to investigate the ways we can capture that traffic. I will work to bring in higher education facilities, and to develop a Marana downtown identity.

I will also work to make sure Marana owns and operates its own wastewater treatment facilities, even if it means building our own.

This is the time to increase Marana's infrastructure. Construction and finance costs have never been lower, and infrastructure must be developed before businesses will choose to build here.

The Heritage Arena should be improved and expanded so we can promote our unique farming and ranching culture.

The live year-round rodeo events should be advertised better so all may enjoy them and the town can benefit from the revenue.

Marana's council needs to be more accessible, and as a member I would initiate regular town hall meetings so I can hear what is on peoples' minds. The people of Marana's ideas, concerns, questions and problems are important to me.

As your councilman, I will bring new vision, leadership and solutions to Marana. Thank you!

Jeff Gray

I was asked to write about what I feel are the most important issues to the voters in Marana. And while the hot topic issues are certainly the regional landfill and wastewater facilities, I believe that what is on the mind of the average Marana resident are the same things that are on pretty much every other Americans mind in these difficult economic times; jobs, education, financial security and family.

I am focused on Marana's future by making sure that Marana is business friendly.

We need to keep fees and red tape for business owners to a minimum to encourage businesses to come to Marana, which will provide jobs and stimulate our local economy.

I am focused on Marana's future by working to improve our public schools so every Marana resident's child, including my own, will be able to benefit from a quality education.

I am focused on Marana's future by working on strengthening our housing market.

Putting people in the housing industry back to work and providing homes for families.

I am also focused on Marana's future by supporting the regional landfill along with the wastewater litigation/legislation.

It is my belief that for Marana to have control over its own destiny it must be able to have control over its waste and water issues instead of relying on Pima County.

The landfill would raise dump fees, which I would like to see directed towards infrastructure improvements as well as public safety in order to keep Marana's police and fire fully staffed and equipped.

The wastewater facility would allow Marana access to the most valuable resource in the desert: water. It would also allow Marana to keep water rates lower, allowing for residents to keep more of their hard-earned dollars.

I believe our Founding Fathers intended for our government to be run by the people we work with and live next door to in order for the government to be truly representative of its population.

And as someone who lives and works here and has two children in the Marana public school system, I understand the challenges faced by Marana residents.

I am asking for your vote in this election so we can meet these challenges together.

Roxanne Ziegler

I think what is most important for Marana families at this time is that we provide an environment that does not burden our citizens any further than what has been forced on us by our federal and state governments.

It is a time to regain our stability and prosperity — not by advocating more government — but by limiting government and listening to what the majority of our citizens want their community to look like.

As your councilwoman, I report to you. You are my boss. Not our town staff, not our state or local government.

As a citizen of the town of Marana, you have the power of the vote in your hand to shape our community. I have proven myself to be a strong leader who listens to those I represent.

I believe that Marana's government has an obligation to its residents to keep taxes as low as possible while still providing the safety and services to meet the needs of the community.

We currently enjoy no property taxes in the town of Marana, which I will continue to support. I will continue to support sustainable growth and jobs in our town and set policy and champion opportunities that will transform the Town of Marana into a responsible, accountable government that delivers results.

And then there is the county of Pima in which the Town of Marana resides.

To ensure the health and welfare of our town and to guarantee our sustainability, we need to look holistically at our surroundings. What influences do we need to encourage and maintain and which ones do we need to change because the agendas or ideas of those influences are not favorable to our goals and the citizens of Marana?

The most negative influence to our town is the Pima County administrator, who is appointed by the Board of Supervisors.

His disrespect, attacks and questionable tactics toward the Town of Marana should outrage every citizen in our town. In the next election for the Board of Supervisors, I will do my best to find and support new representatives to start building a new board who will replace the current county administrator, bring integrity and accountability back to Pima County and work collaboratively with Marana.

I sincerely ask for your vote to re-elect Roxanne Ziegler to the Marana Town Council.

Copyright 2011 The Explorer. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

The New York Times • Reprints

This copy is for your personal, noncommercial use only. You can order presentation-ready copies for distribution to your colleagues, clients or customers here or use the "Reprints" tool that appears next to any article. Visit www.nytreprints.com for samples and additional information. Order a reprint of this article now.

March 5, 2011

3 Environmental Groups to Sue Water District

By KARI LYDERSEN

The dead zone in the Gulf of Mexico is an area the size of New Jersey where little marine life survives because algae suck virtually all oxygen from the water. Two years ago, the federal government found that Chicago is the largest single source of the phosphorus and nitrogen that feed those life-killing algae.

Now, three environmental groups that have long blamed the Metropolitan Water Reclamation District of Greater Chicago for much of the pollution that makes its way down the Chicago, Illinois and Mississippi Rivers have filed formal notice of intent to sue the district for alleged violations of the Clean Water Act.

Key evidence includes the agency's own records and a recent report by Richard Lanyon, the former head of the reclamation district. The report said the district's water-treatment plants were a major source of nitrogen and phosphorus in the upper Des Plaines and Illinois Rivers, where they contribute to phosphorus levels that have been logged at more than 10 times the limit set by the United States Environmental Protection Agency.

Unlike the situation in many other major cities, the reclamation district's treatment plants in Chicago do not remove most phosphorus from wastewater. A 2009 report by the United States Geological Survey found that the Chicago area contributes more nitrogen and phosphorus to the Gulf of Mexico's dead zone than any other watershed.

The environmental groups' March 1 filing of intent to sue is the first formal step toward a

lawsuit in federal court. The groups — the Prairie Rivers Network, the Natural Resources Defense Council and the Sierra Club — gave notice to the reclamation district, the United States Environmental Protection Agency, the Illinois Environmental Protection Agency and Lisa Madigan, the Illinois attorney general.

Environmental groups often use lawsuits as a pressure tactic to spur the government to enforce the Clean Water Act.

In a statement, the reclamation district said that it removed up to 80 percent of phosphorous and that to do more than that would be prohibitively expensive. It also said the impact on the dead zone would not be measurable even if it removed 100 percent of phosphorous coming from its plants.

The environmental groups say the district violates the Clean Water Act by releasing too much phosphorus on a daily basis and by allowing untreated sewage to flow into Lake Michigan and the Chicago River when heavy rains overwhelm the sewer system.

In their legal documents, the groups say the release of untreated sewage into Lake Michigan and rivers leads to low oxygen levels and includes sludge and other matter.

"Use your imagination — the kind of things you'd expect to see in raw sewage," said Ann Alexander, senior attorney for the Natural Resources Defense Council.

The release of raw sewage is a serious problem in the Midwest and the Northeast where the sewer systems in older cities channel rainwater and sewage into the same pipes. The Chicago district's $4 billion, decades-long Deep Tunnel project has begun to reduce the release of raw sewage, but environmental groups say less expensive tactics, like permeable pavements, green roofs and rain-collection barrels, would also help.

The expected suit would not address the longstanding debate over disinfecting wastewater before release into the Chicago River. Chicago is one of the few major cities that do not disinfect water to kill viruses and bacteria.

klydersen@chicagonewscoop.org

Officials: Chandler's foresight was a factor in Intel expansion

by **Edythe Jensen** - Mar. 10, 2011 12:00 AM
Arizona Business Gazette

The biggest economic-development news in Chandler history came last month when Intel announced it will build a $5 billion factory that creates some of the world's most sophisticated semiconductor technology and thousands of good jobs.

But officials say it wasn't by luck or chance. Decades of foresight, responsiveness and a nurtured city-business relationship kept the municipality's largest employer growing on former farm fields near Dobson and Ocotillo roads.

Planners and city councils fought to preserve this and other areas around the Price Road Corridor for industry as homebuilders pressured them during housing booms to allow subdivisions, Planning Administrator Jeff Kurtz said.\

As Intel built and expanded, municipal inspectors and examiners were assigned to work from the site to prevent delays, Economic Development Director Christine Mackay said. The city quickly assembled a complex water and wastewater analysis in recent months that assured enough capacity for the massive new Fab 42 project, acting City Manager Rich Dlugas said. "Time is money" for companies this large, he said.

Chandler's installation of high-capacity infrastructure years before it was needed played a big part in the continuing expansion, said Barry Broome, president/CEO of the Greater Phoenix Economic Council. But getting them here in the first place when they were relatively unknown was a coup, he said.

"If Intel were starting fresh today, the competition would be staggering. Fortunately, we got this young company before states got globally committed to competition," he said.

Jobs, spinoff companies and tax revenues that come from Intel's continuing expansion are giant boosts for Chandler, but so are the company's community ties and employee volunteerism, Mackay said.

Intel is contributing $4.5 million to Chandler libraries for technology projects and funded a reverse osmosis water-treatment plant that has returned more than 4 billion gallons of water to the aquifer since 1996, said Jason Bagley, Intel government-affairs manager.

Rep. J.D. Mesnard, R-Chandler, began his first term in office weeks before the expansion announcement. The 30-year-old wasn't born when Ireland and Ellsworth-Bolen made the first deal. But he said the way Chandler leaders have managed taxpayer money over so

many years, kept taxes low and maintained a stable municipal government went a long way to keep Intel expanding.

"What the business community wants to see is stability and predictability long-term when they make this kind of investment; that's what they're seeing in Chandler," he said.

Read more: http://www.azcentral.com/business/abg/articles/2011/03/10/20110310abg-cr-intel0310.html#ixzz1GabfH5kg

Like it or not, we need to step up, sort out our water issues

Madeline Kiser Special To The Arizona Daily Star | Posted: Sunday, March 13, 2011 12:00 am

As the Colorado River, one of Arizona's main sources of water, shows signs of stress in a time of climate change, the need to declare a shortage on the river in the near future is likely.

Tucson's representatives on the Central Arizona Project board assure the public that the CAP is working to "delay or avoid a shortage" by storing water, among other plans. (The representatives - Pat Jacobs, Sharon Megdal, Warren Tenney, Carol Zimmerman - authored a guest opinion in the Feb. 2 Star, titled "CAP board has planned ahead to help preserve Arizona's water supply.")

I feel compassion for these elected officials trying to translate complex science for many of us, who - preoccupied with surviving a difficult economy - don't necessarily want to hear about water. It was also clear that beyond the potential declaration of a shortage is a bigger weight. We'll all carry it.

The weight is knowing that, whether or not we believe in climate change, the Colorado River-lifeblood of the Southwest - is changing.

There may not be consensus among scientists about when exactly it will begin to supply less water, but there's agreement that the water quantities and flow patterns that are the underpinning of our lives in the desert won't be the same.

Our fate is linked to the river; and these are new times. In order to face them we need to adopt a long-range mentality and address a full range of scenarios.

We must begin by connecting the dots of Arizona's complex water paradigm. Even for those who consistently read about water, it isn't clear what our primary challenges are, which solutions are proposed, or agencies and people are in charge.

Reading many sources it seems the main challenge is this diminishing Colorado. How will it, and ecosystems throughout the state also in decline, continue to give life to more people as well as to other species dependent on them?

Common responses to this challenge seem to be pricing water higher and finding new supplies. These include transferring water from new basins, desalination, and increasing the use of recycled water. But there's much controversy over how feasible and affordable these "new supplies" will be and their effect on our desert home.

Last, it seems that in this time of our current budget crisis, when state water agencies have been slashed, the CAP board is de facto becoming the primary agency defining state water policy. But again it's hard to tell.

Above all we need clarity - through, perhaps, a series of visible articles written and public forums sponsored by those who know water. It's hard to move forward in the fog of data we're in.

It's also urgent that we examine our water paradigm in the context of global best practices for sound water policy. Many countries are overhauling their water laws to reflect one centering principle - an ethical north: We need to protect nature first because it is the goose that lays the golden eggs. If we manage to irrevocably alter the rivers and aquifers we and other species depend on, at some point we all become extinct.

Beyond debating data we must understand what's really at stake: the world we leave to our children.

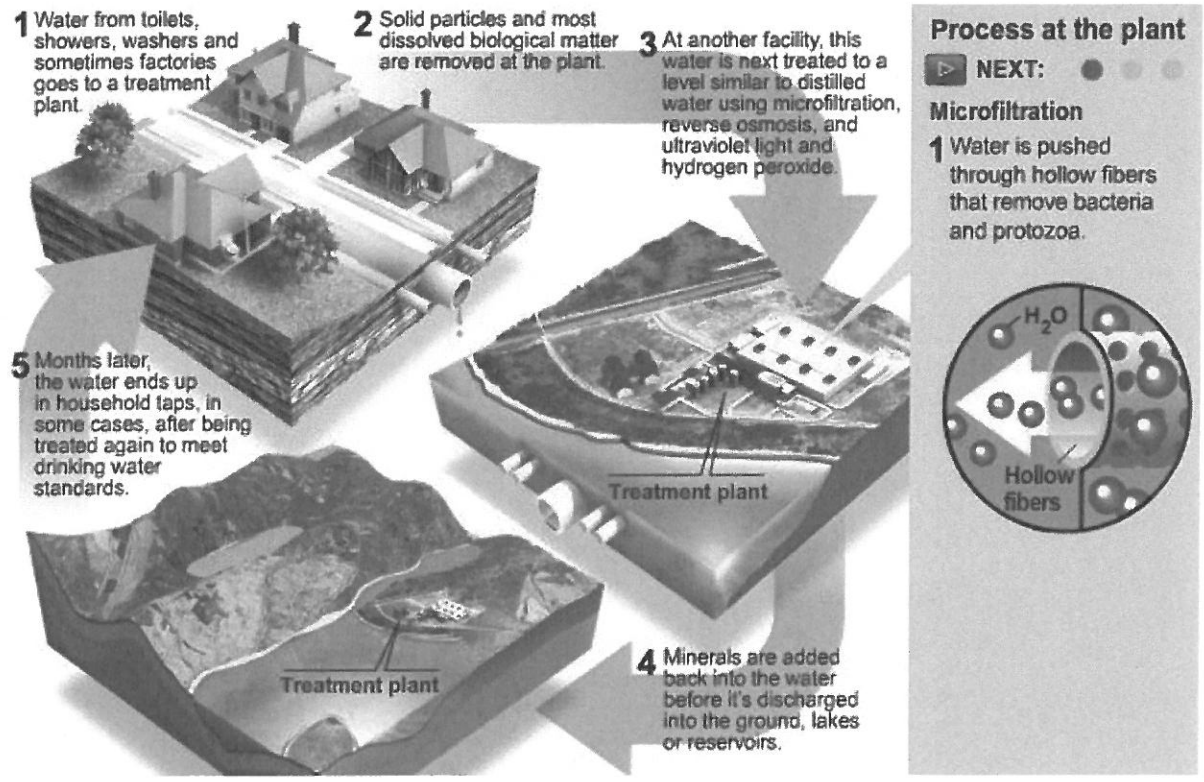
Conservatives and progressives, business people and environmentalists, are - despite harsh tones defining these times - capable of candor and sacrifice.

Madeline Kiser has two decades of experience working on international water projects and is a member of the Community Water Coalition. The coalition is made up of conservation and sustainability agencies in Southern Arizona aiming to help shape sustainable water policy for Arizona. E-mail her at mkiser@dakotacom.net

From toilets to tap: How we get tap water from sewage

By Kathy Chu, USA TODAY

Updated 52m ago |



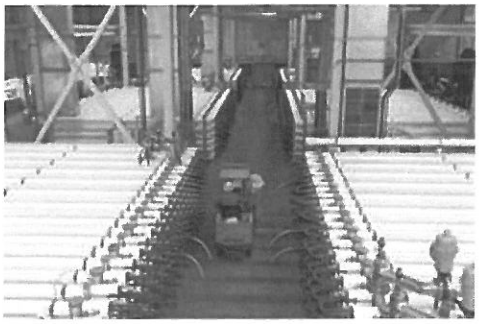
Making wastewater pure enough to drink

Wastewater is increasingly being purified for drinking, industrial and agricultural purposes. A look at the latest wastewater purification technology:

Sources: Orange County Water District, PUB (Singapore's water agency), Water technology expert Andrew Benedek, San Diego Public Utilities Department

Reporting by Kathy Chu, USA TODAY; graphic by Karl Gelles, USA TODAY

SINGAPORE — This island nation is aggressively promoting a solution to the water scarcity that vexes countries worldwide: recycling toilet water to drink.



By Bob Riha Jr., USA TODAY

A forklift moves along the rows and rows of "train sections" containing filtration filters at the reverse osmosis facility in Orange County, Calif.

EnlargeClose

By Bob Riha Jr., USA TODAY

A forklift moves along the rows and rows of "train sections" containing filtration filters at the reverse osmosis facility in Orange County, Calif.

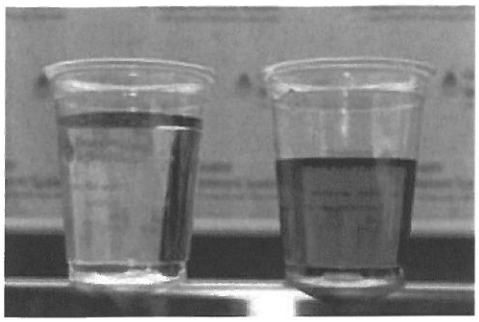
It's an idea that many people find revolting. But, in Singapore at least, the nearly 5 million residents largely seem to have accepted it as necessary.

"In the past, we had to get water from another country, but what happens if the ties between the two countries are jeopardized?" asks Khaiting Tan, 20, a student at Nanyang Technological University in Singapore. "It's better to be self-reliant."

Once heavily dependent on neighboring Malaysia for its water supply, Singapore is unapologetically recycling sewage and other wastewater in a way that the city-state believes will help make it self-sufficient. The treated water — which Singapore claims is nearly as pure as distilled water — is used largely for industrial purposes, including making semiconductors and powering air-conditioning systems. But increasingly, it's also running out of Singaporeans' taps.

Wastewater has long been recycled for agricultural and industrial purposes. But only a few places in the world, including Singapore, have been bold enough to add it to the drinking water supply. The technology — if it gains wider public acceptance — could change the face of potential water-rights disputes in places such as the United States, China, Vietnam and Egypt.

"Water is going to be the oil of the 21st century," predicts Bill Cooper, director of the Urban Water Research Center at the University of California-Irvine.



By Bob Riha Jr., USA TODAY

Water that's completed reverse-osmosis, left, and water that's been through it just once, right, at a facility in Fountain Valley, Calif.

Clearly, something needs to be done. Roughly 884 million people — 1 of every 8 in the world — still lack access to safe drinking water, according to the World Health Organization and UNICEF. Meanwhile, water use has increased by more than twice the rate of the world's population growth during the past century, United Nations data show. Coupled with climate change that's melting glaciers and increasing droughts, the situation is putting some countries in danger of severe water shortages that could not only stifle their growth, but also jeopardize their residents' well-being, analysts say.

"Wastewater reuse is part of the solution, not just for drinking but for agriculture and industry," says Gerard Payen, who is on the U.N. Secretary General's Advisory Board on Water and Sanitation.

In Windhoek, Namibia, purifying wastewater to drink has been a way of life for decades. The drinking water supply of Fairfax Water, which serves 1.7 million in Northern Virginia, outside of Washington D.C., has included recycled sewage water since the 1970s. About 5% of the area's daily drinking water now comes from purified sewage.

Only in the past few years, however, has treatment technology improved to the point where a growing number of municipalities and countries are considering adopting wastewater-purification programs.

Parts of Orange County, Calif., began purifying sewer water in the 1970s, but the water district has significantly ramped up capacity so that recycled wastewater now supplies up to one-fifth of the daily water demand of the 2.4 million people within the area. Singapore has built advanced wastewater recycling facilities in less than a decade to meet almost one-third of its daily water needs.

Other parts of the world, from San Diego to Toowoomba, Australia, have considered recycled wastewater for drinking, only to back away because of public outcry.

"The gross-out factor is a big barrier," admits Jay Famiglietti, director of the UC Center for Hydrologic Modeling.

But as water becomes scarcer, some nations may find they no longer have the luxury of choice. More cities, states and countries are turning to options such as conservation and desalination — when salt is removed from seawater — as well as recycling.

"I don't really feel that I want to be the champion of drinking sewage water," says Takashi Asano, who won the Stockholm Water Prize — one of the industry's highest awards — for his research on wastewater reclamation and reuse. "But something needs to be done, and this is one option."

The cleansing process

Despite the not-so-pleasant nickname — "toilets to tap" — given to the technology, only about 10% of household wastewater typically comes from toilets, while the rest comes from showers, sinks and laundry machines, says Michael Markus, general manager of the Orange County Water District (OCWD). Orange County also recycles industrial wastewater.

This water flows through sewer pipes to a treatment plant, where solids and certain bacteria are removed before it's discharged into the ocean or further treated so it meets or exceeds federal drinking standards.

To make the water potable, Singapore and Orange County use several steps. First, during a process called microfiltration, the water passes through a membrane with tiny holes — hundreds of times smaller than a human hair — that trap bacteria. It then undergoes a reverse-osmosis process in which it's pushed through a second, semi-permeable membrane that blocks salt, viruses and pharmaceuticals. Finally, the water is zapped with high-intensity ultraviolet light and hydrogen peroxide to kill any trace organics.

The resulting water often is cleaner than what you can buy in a store, says Andrew Benedek, who pioneered a wastewater filtering technology now owned by GE Water and in use in Singapore, among other places.

In the USA, the Environmental Protection Agency regulates tap water, and its rules for treating the water are generally stricter than those imposed on bottled water, under the purview of the Food and Drug Administration. No federal law governs recycled wastewater for drinking, but states such as California require additional testing for contaminants.

Yet, because of the controversy surrounding this type of water recycling, public acceptance has become as crucial as politics or cost in whether it's implemented.

In Toowoomba, Australia, about 80 miles west of Brisbane, residents soundly defeated a 2006 proposal to add recycled wastewater to the drinking supply despite the area's perpetual water shortage.

"People have misgivings because they think they're flushing the toilet and the next thing they know, it's in the tap," says Eamonn Kelly, a managing director for Black & Veatch consulting firm.

Treated wastewater typically doesn't go directly into the tap, but is piped into the ground, lakes or reservoirs. It mixes with water from other sources, and may be cleaned further to meet drinking water standards before being funneled to consumers' taps, often months later.

This "precautionary" step helps to ease public objections, according to Ong Choon Nam, director of the NUS Environmental Research Institute at the National University of Singapore. That's because, for many people, the reclaimed wastewater doesn't carry the same stigma once it's combined with other water.

'A matter of national security'

Inside Orange County's sprawling wastewater purification facility, visitors get a detailed tour of the stainless steel pipes, reinforced fiberglass tanks and membranes that turn wastewater into drinking-quality water. The test of the tour's success comes at the end, when the public is offered a taste of purified wastewater. About 95% end up sampling the clear, flat-tasting liquid, according to Markus, general manager of OCWD.

"When people taste it, they say, 'If this water is so pure, why do you have to put it in the ground?' " Markus says.

Orange County hopes to eventually pump purified wastewater straight into the tap, without mixing it with other water. But that may be another 10 years down the road because of public wariness, he says.

Orange County resident Manuel Sandoval would prefer that seawater be purified instead, because "it wouldn't gross people out as much."

Yet Sandoval, 24, a psychology and music student at California State University-Fullerton, suspects most people don't even know recycled wastewater is added to the drinking supply.

"You always have something to do," he says. "The last thing on your mind is what's in the water."

In many ways, Singapore's water challenges echo those of Orange County's.

Both require about 380 million gallons of water a day, about 640 Olympic-size swimming pools. And they both rely on imported water — Orange County from Northern California and the Colorado River, and Singapore from neighboring Johor, Malaysia — to satisfy their demands.

"Whether you're in Singapore or Southern California, water sources are finite," says Kevin Cassidy, general manager of Asia-Pacific for GE Water. That's why "you're going to see growing populations and industries competing for water."

Singapore, though, has become known for its military-like efficiency in implementing wastewater recycling.

By 2060, it expects its purified wastewater to accommodate half of the nation's water demand. It has given out 19 million bottles of its so-called NEWater to athletic groups and at community events. And it's drawn more than 800,000 visitors to its visitors' center for wastewater purification demonstrations.

"The reason why (Singapore) moved forward so quickly is that it's a matter of national security for them," says Glen Daigger, a senior vice president at CH2M Hill, an Englewood, Colo., engineering firm that designed three of Singapore's NEWater treatment plants. Singapore also is pitching itself as a hub for advanced water research, attracting companies such as GE Water and Siemens Water Technologies.

The government's efforts seem to be paying off somewhat, given that many Singaporeans appear to know where their tap water comes from.

"I've seen the process (of purifying the water) and it seems pretty safe," says Samuel Teo, 23.

Still, he adds "I like Evian better."

Besides what it imports and recycles, Singapore gets water from local catchments and desalination.

Support from environmental groups

For many consumers, the troubling thing about reclaimed wastewater is not what's known about it, but what's unknown.

Yet, although there's a "small chance there could be a long-term problem," according to Famiglietti, "the chance is no greater than with the water we're already drinking."

All water, to some extent, is recycled. River water often is treated and used by one city, then waste may be funneled into pipes and discharged downstream, according to Benedek.

Some environmental groups are betting that as knowledge about wastewater recycling grows, so will its adoption across the USA. Besides alleviating drinking water shortages, the technology means less waste discharged into the ocean, says Rick Wilson, coastal management coordinator at Surfrider Foundation, an advocacy group for oceans and beaches.

The promise is leading San Diego, on the heels of neighboring Orange County's momentum, to give the technology another shot. It plans to open a test wastewater purification facility, producing 1 million gallons of water a day, to the public in June.

Says Alma Rife of the San Diego Public Utilities Department: "Once people understand this, the yuck factor breaks away."