



POLLUTION PREVENTION

THE CLEAR CHOICE FOR ENVIRONMENTAL SUSTAINABILITY

MAKE YOUR OWN REAL...
BACON SOAP

Look inside for the free cutout recipe!



THE IRONHOUSE INSIDER

www.ironhousesanitarydistrict.com

24-hour emergency line: 925-625-2279

Autumn 2014

BRIEFLY

Time to get a hunting pass

The longtime tradition of pheasant hunting on Jersey Island that was started more than 40 years ago by the family that once owned the island will continue again this year when pheasant hunting season resumes Nov. 8. The season runs through Dec. 21. Those interested in hunting on the island, located between Oakley and Bethel Island and now owned by ISD, must obtain a Jersey Island Public Use Pass either by mail, online or by visiting ISD's administrative offices in Oakley. For more information see the district's website or call 925-625-2279.

BIOSOLIDS: TREAT 'EM LIKE DIRT

RECYCLING IN ITS SIMPLEST FORM FINDS USE AS GROUND COVER

Before the 1970s and the Clean Water Act, thousands of American cities dumped their raw sewage directly into our nation's rivers, lakes and bays. Today, because of improved wastewater treatment and strict federal and state regulations, ISD is taking what once was thought of as unusable waste and recycling it into a

useful commodity.

At ISD's technologically advanced Water Recycling Facility the nutrient rich natural byproducts of wastewater treatment – referred to as “biosolids” – are highly processed and analyzed to ensure safety before they leave the facility to be used at a local landfill as alternative daily cover.

This is a win-win situation for both ISD and for the landfill operators. Not only is this a

good way for ISD to dispose of its biosolids, but it also allows the landfill operators to meet federal mandates to cover all their disposed waste at the end of each day to control odors, vectors, fires, litter and scavenging.

Biosolids can also be recycled as a nutrient rich soil amendment and in some cases are used as an alternative energy source. As ISD further explores various means of resource recovery throughout its sys-

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Water is removed from biosolids and the resulting “dirt” is trucked to a landfill



Exploring recycled water's untapped potential for residents and businesses

With California in the throes of a severe drought, ISD continues to investigate further recycled water uses to help local residents and businesses.

Already ISD is recycling its highly treated water on Jersey Island where it is used as irriga-

tion on hay fields. The remainder of the treated water, which is near drinking-water quality, is released into the San Joaquin River, where it may eventually make its way back into the drinking water system.

“We are already recycling

our water 100 percent through irrigation and river release,” said ISD engineer Jenny Skrel. “But we think it is important to look toward the future for the best possible uses of our recycled water.”

The district recently hired

RMC Water and Environment, a San Jose-based consulting firm, to conduct a water recycling feasibility study to determine just that. Information from the study was discussed at a district workshop earlier this sum-

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OUR COMMITMENT TO HELP THE EARTH

We have all the water on Earth that we're ever going to have. Protecting it in a sustainable, fiscally responsible manner is crucial and a mission that ISD takes seriously. Pollution Prevention (P2) and environmental sustainability is an important move forward and a way to ensure we do our part to protect the region's environmental health so future generations have the same opportunities that we do now.

Pollution Prevention Week, which begins Monday, Sept. 15, is the time when businesses, environ-

mental groups and citizens join forces for a common cause. It is an opportunity for individuals, businesses and government to emphasize and highlight their pollution prevention and sustainability activities and achievements, expand current pollution prevention efforts, and commit to new actions.

This year's national P2 campaign promotes the idea that "Pollution Prevention is the Clear Choice for Environmental Sustainability." Environmental sustainability may be the current media buzzword when talking about preserving natural resources, but to ISD it is a plan that has been around since the district began

service in Oakley in 1945.

Today the ideas that have been part of the district's mission from the start are even more important.

With modern technology and the district's recent opening of the Water Recycling Facility, there are more choices for recycling, reuse and repurposing than ever before.

Throughout the pages of this newsletter readers have the chance to see how ISD is working on pollution prevention, environmental sustainability and how everyone can be involved in making the right choices for preserving our natural water resources in the future. ■



SALT PREVENTION BETTER WATER QUALITY BEGINS WITH EACH OF US

With talk of drought, rising sea levels, and the state's proposed water tunnels, many are concerned that there may be an increase in water salinity in the Sacramento-San Joaquin Delta. Controlling all sources of salinity is necessary to protect water quality.

Referred to as total dissolved solids or TDS, salinity is concentrated dissolved mineral salts in water, including calcium, magnesium, sodium, sulfate and chloride.

Salinity comes from many sources, a major one being salt water from the San Francisco Bay that flows into the freshwater of the Delta. Other sources

include natural weathering processes, agricultural and storm runoff, and recycled water discharged from sanitary collection systems that may include byproducts from household and industrial cleaning agents.

Most of ISD's sewer water comes from homes and businesses in ISD's service area of Oakley and Bethel Island. This sewer water has the potential to contain a fair amount of salinity which will run through the district's system and into the Delta. It is important to minimize the salinity that enters the sewer system, as ISD's recycled water is first used to irrigate agriculture fields and the rest is released into the San Joaquin River.

How can you reduce salt in the sewer?

Household cleaners, astringents and water softeners contribute to salinity in the sewer system. One solution, in addition to using natural cleaning products, is to use disposable

wipes and cleaners that can be put in the trash. Another is to use "exchange" water softeners.

There are generally two types of home water softeners available: self-regenerating and exchange systems. Both types remove calcium and magnesium, the minerals responsible for "hard

A fair amount of salinity comes from natural sources, as well from homes and small businesses.

water" scale that can shorten the life of plumbing and appliances. However, the exchange system does not require the homeowner to add salt or use potable water in the cleaning process. As part of the self-regeneration process, a strong brine solution (made of common salt) is flushed through the system to remove minerals that accumulate in the water softener. The brine waste byproduct is typically discharged into the sewer system. A single residential self-regenerating water softener can discharge a pound of salt per day and between 70 to 300 gallons of water per week when it regenerates.

Exchange softeners remove the same minerals found in hard water but, rather than disposing the waste salt and water into the sewer, the brine is held in tanks for recycling by a water softening company that discharges it into a permitted facility where it will not affect water supplies.

So, eliminating a self-regenerating system is a leading way to help control salinity in the sewer water coming from your home or business. If you have a self-regenerating water softener, consider trading it for a more environmentally friendly exchange softener. ■

NO WIPES IN THE PIPES ONLY TOILET PAPER DOWN THE TOILET

Convenient "flushable" wipes—the kind used to clean a baby's bottom, take off the day's makeup or disinfect the bathroom sink—are costing ISD and its ratepayers thousands of dollars a year in manpower and equipment to dispose of after being flushed down the toilet.

"Used wipes really only have one place, and that is in the trash," said ISD General Manager Tom Williams. "Nothing besides toilet paper and human waste should ever be flushed down the toilet."

Unfortunately, not even bath-

room wipes advertised as flushable are safe enough to flush down the toilet. These wipes may go down the drain when you hit the flush lever, but once inside the sewer system, they aren't breaking down. Costly repairs can increase sewer fees.

"They wind up where they shouldn't be, they're not decomposing," Williams said.

Because both Oakley and Bethel Island, ISD's service area, are located in a relatively flat region, pump stations are needed to push wastewater through



the sewer system. In total, ISD operates 34 individual pumping sites, which means that even if the wipes do not get stuck in residential or business pipes, there is a good chance they will get stuck in one of the pump stations.

ISD's maintenance crew clears wipes from an average of 15 to 20 pump stations every month.

"This is not only costly to

ratepayers, but any spills or overflows throughout the system caused by these wipes can be a health hazard," Williams said.

While there are several wipes on the market that claim they are flushable, ISD asks residents and businesses not to flush even these, as they don't dissolve fast enough between the time they are flushed down the toilet and when they reach the first pump station.

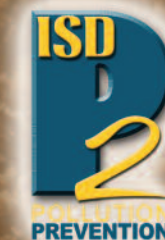
"It is best to throw it in the trash," Williams said. "That is where our maintenance crew will be putting it in the end." ■

PRESCRIPTION DRUGS A FREE WAY TO GET RID OF UNWANTED MEDS

Last April, Americans turned in 390 tons of prescription drugs to the Drug Enforcement Administration as part of the DEA's National Prescription Drug Take-Back Day. Since the program started four years ago it has taken in more than 4.1 million pounds of pills.

Take-back events are set up as a way to prevent pill abuse and theft by ridding homes of potentially dangerous expired, unused and unwanted prescription drugs. Simply bring your unused drugs to the container at any preassigned police station. The service is free and anonymous.

The next take-back event is Saturday, Sept. 27, from 10 a.m. to 2 p.m. at area police stations. For details on which stations are available for drop-off go to www.dea.gov or call 1-800-882-9539. ■



MORE POLLUTION PREVENTION TIPS CAN BE FOUND AT WWW.ISDP2.ORG

FOG RECYCLING MAKE REAL SOAP FROM YOUR OLD BACON GREASE

Back in the pioneer days people didn't buy their soap at the grocery store; they made it themselves from cooking grease and other natural products they had on hand. The process they used hasn't changed in hundreds of years, and is one that you can use today to make your own soap at home. The next time you have bacon for breakfast—or any greasy food—don't toss that leftover grease down the drain where it can clog your pipes. Turn it into something useful and fun with this recipe for bacon soap! If you like, send us a picture of the finished product to isdoutreach@isd.us.com. □



As seen at the Oakley Cityhood Celebration!

INGREDIENTS (MAKES 8 BARS OF SOAP):

- 8 oz.* bacon grease (or other similar cooking grease)
- 3 oz.* lye (NaOH crystals, known as sodium hydroxide)
- 8 oz.* tap water
- 7.25 oz.* distilled water
- 20 oz. colorants**
- 14 oz.* olive oil
- 1.5 oz. essential scents**

* Actual weight of the ingredient, not its volume! Use a scale for accuracy.
** Many scents and colors are available at a local craft store.

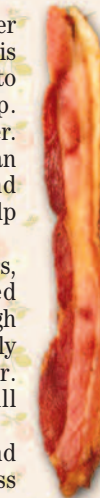


EQUIPMENT:

- Heat-proof glass bowls for mixing
 - Heat resistant mixing utensils
 - Electric hand/stick blender
 - Rubber gloves
 - Safety goggles
 - Sharp knife (non-serrated)
 - Cardboard
 - Kitchen towel
 - Scale
- Soap mold (Mold can be either handmade or store bought. You can even reuse a wax quart milk container.)

DIRECTIONS:

1. Place bacon grease and tap water in a sauce pan and bring to a boil. This should send any leftover bacon bits to the bottom of pan and oils to top. Separate oils from water. Discard water. Let oil cool. Repeat two times. You can add five cloves, three bay leaves and one-third cup apple cider vinegar to help reduce the grease odor while boiling.
2. Put on safety gloves and goggles, then weigh (on a scale) the distilled water in a heat-proof container. Weigh out the lye in another container. Slowly pour the lye into the water and stir. Water will be cloudy at first but will become clear.
3. Combine the bacon grease and the olive oil together into a large glass bowl.



4. Slowly pour the lye water base into the combined oils. You'll notice a separation between the two liquids.
5. Using the blender, fully immerse into liquid and wait for all air bubbles to come out before turning on. Mix on high until blend is slightly thickened. About 1 to 2 minutes.
6. Quickly pour blend into soap mold.
7. Set the mold in a place that will remain undisturbed. Cover with a piece of cardboard, then wrap container with cover in a towel. Setting time is about 24 hours or until hard.
8. Pull apart mold container to release soap. Use the sharp knife to cut soap into pieces. Set cut pieces on a baking sheet or tin foil and let cure. Depending on blend, some soaps can take up to 2 weeks to be ready to use.

FOLD ON CENTER

Solar farm goes online; ISD may realize \$100,000 savings in first year

ISD is beginning to reap the benefits of a 1.1-megawatt solar energy farm that began operating in August on district property west of the Water Recycling Facility in Oakley.

Real Goods Solar Inc. recently completed construction of the ground-mount single-axis solar system that has been up and running since Aug. 4. ISD soon expects to see results of how the new solar project is helping to reduce costs for the district's electrical consumption.

This project along with an earlier phase – installation of a



Hundreds of solar panels at the ISD solar energy farm catch some afternoon rays.

60-kilowatt carport solar system for the Administration and Maintenance buildings – is expected to reduce overall energy costs by about \$100,000 annually. “We’re hoping to start see-

ing a pattern of substantial savings over the next few months,” said ISD engineer Jenny Skrel.

ISD’s current electrical cost for these facilities is more than \$600,000 annually, but harnessing energy from the sun is expected to reduce that figure by at least \$94,000 in the first year alone, with a total estimated savings of \$6.7 million over the next 25 years.

Under the agreement with ISD, Real Goods Solar owns and maintains the solar panels, while ISD’s ratepayers realize savings from the energy they harvest. □

BIOSOLIDS

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tems, these uses may be examined.

The use of biosolids is strictly mandated by several local, state and federal agencies including the Regional Water Quality Control Board, State Water Resources Control Board, California Department of Resource Recycling and Recovery, air pollution control

districts and the Environmental Protection Agency. ISD also has its own management practices that oversee the safe treatment of biosolids.

There are also several major laws that regulate the treatment and use of biosolids, as well as local ordinances and permits.

For more information on biosolids see the EPA’s website at www.epa.gov/region9. □

WATER

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mer to gain further public input.

The study explored the idea of using recycled water for irrigation and industrial applications, ground-water recharge, delivery to the Contra Costa raw water canal, as well as continued farming uses on ISD land.

The report analyzed the cost associated with each recycled water use alternative, as well as the potential benefits.

In an open exchange of informa-

tion, those in attendance at the recycled water workshop included ISD Board members, Contra Costa County Supervisor Mary Piepho, Oakley city representatives, a representative from Assemblyman Jim Frazier’s office and other members of the public. Participants discussed the study and other possible local uses of recycled water.

ISD has plans to offer future workshops on the topic of recycled water. The next workshop is Sept. 23 at 6 p.m. at the district offices on Walnut Meadows Drive in Oakley. □

Understanding ISD’s Sewer System Management Plan

Orange is always in fashion

Every good driver knows that orange means slow for a construction zone, but it’s not just plastic cones you should watch for. ISD maintenance crews often must work in hazardous conditions like these. Please be alert to workers close to the roadway. □



THE BOARD

- David Huerta/President
- David Contreras/Vice President
- Michael Painter/Director
- Chris Lauritzen/Director
- Doug Scheer/Director

ISD board meetings

Public meetings are held the first Tuesday of each month at 7 p.m.

IRONHOUSE SANITARY DISTRICT ADMINISTRATION

- Thomas Williams/General Manager
- Sue Walde/District Secretary
- Jenny Skrel/District Engineer
- Marc Haefke/Operations Superintendent
- Dave Smith/Maintenance Superintendent
- David Dal Porto/Ranches & Levees
- Joe Mueller/Environmental & Process Compliance Manager

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IMPORTANT UPCOMING EVENTS

- Sept. 13: Come see our Pollution Prevention (P2) booth at the Heart of Oakley Festival.
- Sept. 23: ISD Recycled Water Feasibility Study Workshop. 6 p.m. in the boardroom.
- Oct. 7: ISD Board of Directors meets at 7 p.m. for regularly scheduled meeting.

Check the district website for special dates



Help the environment by recycling this newsletter. Every ton of recycled paper saves 7,000 gallons of water.



Summer internship program looks to expand after second successful year

When Dave Dal Porto, ISD's reclamation, levee and ranch superintendent, heard that Freedom High School was bringing a small agriculture program to the school in 2012, he immediately recognized the potential for an internship on Jersey Island to aid in educating the students about ranch and farming techniques.

The ISD-owned and operated 3,500-acre island hosts a working ranch where the district's recycled water is used to grow hay, which is then used to feed the district's cattle. Dal Porto saw the potential for a good educational partnership with the school district.

A SUCCESSFUL START

Now with the completion of its second year, the internship program is already showing success. The first Freedom intern to complete the program in 2013, Ian Jauregui, wanted to learn about planting and

CAITLIN'S JOURNAL

"The process [of growing hay] consists of cutting, drying, baling and stacking, but it's not that simple. The tractor that cuts the hay needs an experienced and gifted driver. You have to keep the lines straight while making sure you're not cutting too short or missing anything... Once a field is done, a tractor will come around and pick up the bails and stack them into neat piles... Driving the tractor wasn't too hard... I started off nervous and worried to mess it up, but as time went on my confidence raised and I started doing really well. I am so thankful I was given this opportunity... You changed my life."



harvesting, as well as cattle. After his internship, he was able to return to the district this summer before going to trade school. Having been trained on the harvesting equipment, Jauregui had enough experi-

ence to help out a shorthanded crew and cut hay into bales.

This year's intern, Caitlin Cooper, just finished her junior year at Freedom. She hopes to attend UC Davis to become an equine veterinarian.

HANDS-ON LEARNING

"Working on the ranch definitely wasn't what I expected," Cooper said. "Things I learned first hand with the cattle were well varied. I got to help with the herding process. After a while (the crew) felt I was ready to try giving shots. I was excited about this because as a future vet, this would help me feel more comfortable with the process."

Cooper said there were other things she learned on her five-week internship including how to bale hay, driving a tractor and cutting cattle.

"I honestly think that because of this

internship I grew up a little more and realized that my life and what I do with it is my responsibility," she said.

ISD's outreach committee, which builds educational programs for the district, is working to bring the Jersey Island internship back next summer. To participate, an intern must be an agriculture student at Freedom High School, which is in ISD's service area.

The outreach committee is currently working to create at least one other internship for a Freedom High student to work in another part of the district's operations. □

