Save-the-date:

HRWA is partnering with HWWA in our 1st Annual Joint Conference to be held on Maui November 2-4, 2016 (see flyer).

Vendor registration packets are available now and attendee program packets will be sent out soon.

Call for papers is available on our website.

For now, please save-the-date!

If you know you plan to attend please reserve your hotel today:

https://resweb.passkey.com/Resweb.do?mode =welcome_ei_new&eventID=14559401

HRWA is looking for a full-time Source Water Specialist to join our team. Please contact our office should you need assistance.

Please contact us at hrwaoffice@hawaiirwa.org for information on our course offerings, to schedule an onsite class, become a member or to be added to our mailing list.

We have started offering new Wastewater CEU classes.
<table>
<thead>
<tr>
<th>Island</th>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>O'ahu</td>
<td>28-Jun</td>
<td>Electrical Motors Overview and Safety</td>
</tr>
<tr>
<td></td>
<td>19-Jul</td>
<td>Overview of Positive Displacement Pumps</td>
</tr>
<tr>
<td></td>
<td>9-Aug</td>
<td>Maintenance of Centrifugal Pump Packing, Seals &amp; Bearings</td>
</tr>
<tr>
<td>Maui</td>
<td>29-Jun</td>
<td>Electrical Motors Overview and Safety</td>
</tr>
<tr>
<td></td>
<td>20-Jul</td>
<td>Overview of Positive Displacement Pumps</td>
</tr>
<tr>
<td></td>
<td>10-Aug</td>
<td>Maintenance of Centrifugal Pump Packing, Seals &amp; Bearings</td>
</tr>
<tr>
<td>Hawai'i (Big Island)</td>
<td>21-Jun</td>
<td>Electrical Motors Overview and Safety</td>
</tr>
<tr>
<td>Hawai'i - Waimea</td>
<td>12-Jul</td>
<td>Overview of Positive Displacement Pumps</td>
</tr>
<tr>
<td>Hawai'i - Hilo</td>
<td>2-Aug</td>
<td>Maintenance of Centrifugal Pump Packing, Seals &amp; Bearings</td>
</tr>
<tr>
<td>Kaua‘i</td>
<td>23-Jun</td>
<td>Electrical Motors Overview and Safety</td>
</tr>
<tr>
<td></td>
<td>14-Jul</td>
<td>Overview of Positive Displacement Pumps</td>
</tr>
<tr>
<td></td>
<td>4-Aug</td>
<td>Maintenance of Centrifugal Pump Packing, Seals &amp; Bearings</td>
</tr>
</tbody>
</table>
According to the 2014 Census, Hawai‘i’s population has grown to 1.42 million, an increase of 200,000 people since 2000. With the cities and towns growing, neighboring communities have an increasing effect on one another’s source waters. So often, source protection zones are outside of the community they serve. The capture zones can span through several districts and overlap one another. Perhaps your water system falls under the protection of a county rule or land agreement, or maybe there is no management plan that protects your water or your neighbor from contaminating it. Planning for growth makes sense rather than be cornered into a situation dealing with the health and finance of the community or your utility. Being aware of your surroundings is paramount in protecting the future of your drinking water during these expansion times.

Proactive planning with neighboring communities starts with communication. Take a look at your Source Water Assessment Program report and find the well and its capture zones. Even if it doesn’t stretch into another’s property, you are probably affecting those who are down gradient of your system or being affected by those who are up gradient. Contact the neighboring systems or public works departments, and if you don’t know them, get to know them. Compare Emergency Response Plans and offer any practical support information. Discuss sample results to see if detects, such as inorganic contaminants, are a localized problem or a regional one. Comparing sampling results can offer many clues to the health of your water source.

Growth related groundwater disaster scenarios can more often be prevented by agreements that call for consideration in planning before developments take place. For example, a potentially contaminating activity may not have to be prohibited but can be built with design standards that contain its pollution. Best management practices can be specified, and prevent a contaminated groundwater plume.

Because of the dynamic hydrologic differences in each island of Hawai‘i, groundwater and surface water must be protected. The risk of desecrating our drinking water and environmental quality is very real. By simply planning ahead, your community can avoid costly neglect during these growing times. Meeting with neighboring water systems not only provides the opportunity to make commitments about future development, but also to manage existing contamination sources.
Hawai‘i Rural Water Association has the pleasure of assisting the people of Hawai‘i. We also assist the people of the Western Pacific. On my recent trip to Palau, I was reminded first-hand about a very important safety topic: using the right tool for the job!

The Palau Public Utilities Corporation (PPUC) requested assistance in finding out if the submersible pump at one of their well sites needed to be replaced. The electrician for the PPUC was on vacation during my time in Palau. Myself and the PPUC water well staff had a training on using a multimeter to test power at a well site. Using the training, we discovered the submersible pump required replacement.

The PPUC started pulling the well casing to get the submersible pump; the well casing was 4 inch steel 20 feet long with the pump set at 60 feet. This was a valuable lesson in utilizing the correct tool for the job. The PPUC water well crew had an adjustable wrench, pipe wrench and claw hammer. During my time living in Hawai‘i, I understand how hard it can be to get tools and equipment to the islands.

After the PPUC replaced the submersible pump one of their water well crew members was trying to tighten the bolts to stop water from leaking out of the pipe flanges. This is when the right tool for the job could have saved the employee from having to get stitches to his hand.

As you can see in the pictures above, a pipe, wrench and adjustable wrench were utilized to tighten a 6-sided bolt. No one working in water pipe repair should ever have to use an adjustable wrench. The only thing they are good for is rounding nuts and slipping off if force is required to turn the nut — that is exactly what happened. The adjustable wrench slipped off the bolt and the employee’s hand hit a bolt cutting his hand open and requiring stitches. I want to leave you with a few of the most common tools each of us may have used the wrong way.
A wrench is not a hammer!

Since a wrench has no broad striking surface, it can easily slip off the part that is being struck. The edges of a wrench can also mar the part—requiring rework. Since a wrench does not have the weight of a hammer, you will have to use greater force and energy to accomplish the same amount of work. This extra muscle increases the possibility of injury if the wrench misses the part or strikes with a glancing blow. Good hammers have handles that absorb the shock of the blow—wrenches do not. The force of the impact, transmitted through your hand, can also cause nerve damage.

Tools are not indestructible.

A hammer and wrench, or wrench and cheater bar, can’t take the place of an impact gun or a long handled wrench. The use of a cheater bar, or hammering on the wrench, can cause the wrench to break. If you are on the end of the cheater bar, you are likely to be thrown if a wrench breaks while being struck. It will go flying and the hammer may go unchecked. So keep in mind what, or whom, these objects are going to hit, causing injury or damage. If a fastener will not turn, do not resort to brute force. Try penetrating oil first or perhaps a little heat will help. If force is needed, use an impact gun or other special tool. Remember conventional sockets may break if used on impact tools—use impact sockets instead.

A knife is not a screwdriver.

The design of a knife does not provide enough advantage for tightening a screw properly. The knife blade will probably break as well, if you use it as a screwdriver—and you risk a slip that could cut your finger or hand. Also, when you use a screwdriver, never hold the work piece in your other hand. If the tool slips, you can stab yourself with the screwdriver.

A screwdriver is not a chisel or punch.

Screwdrivers do not have the strength of a chisel and are not designed to do the work of a punch. Furthermore, most screwdrivers have plastic or wood handles that will absorb the blow of the hammer rather than transmit the necessary force to the work piece. The result is, you work harder and accomplish less.

Tools do not take care of themselves.

Keep tools sharp and in good repair. Let your tools do the work they were designed to do. Tools are meant to make your job easier. Use the right one and they will. We are responsible for our safety and I hope all of you feel like you can point out unsafe work practices to the men and women you work with. You could save someone from injury or even worse, death. Stay safe.
Even though I do not typically provide assistance to individual homeowners, I'm often asked about on-site systems, in particular “septic systems.” I usually point them to the vast knowledge available on the web such as the EPA’s - http://cfpub.epa.gov/owm/septic/index.cfm, or, at the National Small Flows Clearinghouse - www.nesc.wvu.edu.

In this two-part series, I will cover some basics of properly operating and maintaining on-site systems.

Approximately 25% of the US population treats wastewater via on-site wastewater systems. A typical septic system is made of two major components; a tank, and an absorption field. Septic tanks are usually made of concrete, fiberglass, or plastic, hold 750 – 1000 gallons, and are typically buried. Septic tanks should have baffles (or tees) at the inlet and outlet to insure proper flow patterns. Most septic tanks are comprised of a single compartment; however, a number of states are requiring two-compartment tanks.

The primary purpose of the septic tank is to separate the solids from the liquids and to promote partial breakdown of contaminants by microorganisms naturally present in the wastewater. The solids collect on the bottom of the tank, while the scum floats on the top of the liquid. The sludge and scum remain in the tank and should be pumped out about every 3-5 years depending upon the amount of loading.

The absorption field is also known as the drain field, the disposal field, or the leach field.

The absorption field typically contains a series of underground perforated pipes that are sometimes connected in a closed loop. The effluent is distributed through the perforated pipes, exits through the holes in the pipes, and trickles through the rock or gravel where it is absorbed by the soil. The absorption field treats the wastewater through physical, chemical, and biological processes. The soil also acts as a natural buffer to filter out many of the harmful bacteria, viruses, and excessive nutrients, effectively treating the wastewater before it reaches the groundwater.
A leading cause of system failures is when solids are allowed to pass from the septic tank to clog the absorption field. An additional safeguard in keeping solids out of the absorption field is the use of effluent filters on the outlet of the septic tank. The absorption field should be checked for sogginess or ponding, which indicates improper drainage, a clogged system, or excessive water use. The presence of damp or soggy areas or odors may indicate a leak in the system.

Often overlooked or neglected is the fact that a septic system should have a regular check-up to prevent problems. You should have your septic system inspected every 1-2 years by a professional and your tank pumped when necessary. Septic systems that have mechanical parts (i.e., pumps & blowers) should be inspected more frequently. The inspection port should be opened and the baffles should be checked to ensure that they are in good condition since the last check-up. If you have an effluent filter, it should also be inspected as these filters require periodic cleaning. Some filters are equipped with alarm systems to alert the homeowner when the filter has become dirty and needs to be cleaned. Failure to keep the filter clean may result in a backup of wastewater in the home from a clogged filter.

In my next article I will conclude this discussion with important operational guidelines, as well as some facts that may surprise you.

Until then, I’ll see you in the field!
Announcements

Conference:

You are invited to join Hawai‘i Water Works Association’s 55th Annual and Hawai‘i Rural Water Association’s 1st Annual Conference and EXPO on Maui, Hawai‘i, November 2nd, 3rd, & 4th, 2016.

Click here for the vendor registration form and check back at http://www.hrwa.net/2016-annual-conference.html for more details as they come available.

Future training:

Please check back with us regarding future DSO and Backflow classes in the Fall or with a specific training need we might be able to assist with.

Please also check out HRWA’s online learning offerings through Suncoast Learning Systems on our website at the following link: https://www.suncoastlearning.com/courses/hi/hi.html

National Rural Water Association—WaterPro:

The next WaterPro, NRWA’s annual conference, will be held on September 12-14, 2016 in Orlando, Florida.
Associate Members

If you are interested in becoming an associate member please contact us at hrwaoffice@hawaiirwa.org or 808-315-8925 for an application!
Real Solutions for Real Applications

At Singer Valve, we design and manufacture control valves that can handle extreme pressures, accurately control flows and pressures, and even provide back-up control to eliminate costly system failures. From an award winning in-valve flow measuring meter, to a single-process electronic control panel, Singer offers real solutions for simple and complex valve application challenges. We provide solutions for water loss management, water conservation, water distribution systems, and www.singervalve.com
55th Annual
HWWA AND HRWA
Conference & Exposition

November 2nd - 4th, 2016
Wailea Beach Marriott Resort, Maui, HI

Water
A clear reflection of our future
1. Question: What is the name of our state fish?

2. Question: How many letters are there in the Hawaiian alphabet?

3. Question: What is the wettest spot on earth?

4. Question: What is the nickname for Maui?

5. Question: What is the Hawai‘i state motto?

6. Question: Where are the highest sea cliffs in the world (see images)?

Flip the page for the answers.

If you have a trivia question to include in a future newsletter please submit to our office for future consideration.

Mahalo!

Answer Key:

1. Answer: Humuhumunukunukuapua‘a
2. Answer: 13 (Aa, Ee, Ii, Oo, Uu, Hh, Kk, Ll, Mn, Nn, Pp, Ww, ‘okina)
3. Answer: Kualani
4. Answer: The Valley Isle
5. Answer: The Life of the Land is Perpetuated in Righteousness
6. Answer: Molokai