

High & Dry

Establishing flows in non-hydranted areas



By Homer Robertson

The fire service is making huge improvements in rural water supply equipment and training, and many fire departments are coming together to form mutual-aid systems specifically designed to supply water. One interesting aspect about rural water supply: We need a new name for it, because it now applies to more than just rural areas.

Large numbers of housing developments and even individual complexes are being built without the benefit of a water supply for any type of fire protection. Many cities are also aggressively annexing areas that don't have hydrants, and may not see hydrants installed for years, if ever. Fire departments accustomed to responding to barn and small farmhouse fires are now faced with fires in large mansions that require significant fire flows.

Although each department does rural water supply a little differently based on their situation—some haul all their water while others draft from ponds or dry hydrants—departments successful in rural water ops share some characteristics: They can draft, haul water, set up a fill site and establish a supply line.

DRAFTING

I don't care how much water you can move to the fire-ground and dump into folding tanks or how many dry hydrants are installed in your area. If your department can't draft water and do so quickly and effectively, then everything else is moot. Sound drafting skills are the foundation to solid rural water supply.

Drafting from a dry hydrant, folding tank or static source is a skill developed from a combination of classroom instruction and sound hands-on training and practice. If your department normally operates from a pressurized water system, don't expect your pump operators to perform a drafting operation without some practice.

HAULING WATER

The vast majority of fire departments that operate in areas without hydrants rely on water supplied by some type of water tender or tanker (the ones without wings), or as *FireRescue* technical editor Larry Davis puts it, "WOW—water on wheels." WOW is the weapon of choice for most departments due to the



PHOTO: WILLIE CIRONE

Many farm complexes and large homes are at the end of long, narrow driveways that make access for today's fire apparatus very difficult. First-arriving units should consider forward laying a dry line into the fire and having the next-arriving unit pump into their supply line in reverse lay out. This allows for large tankers to stay out on the main road and fill dump tanks.

C4 LED

mir

n

C4 LED
Lightw
optimiz

Yo

1

advances in tanker technology that enable fire departments to move water around remote areas on an as-needed basis.

Despite advancements in tanker design, however,

their operation is still very dangerous. Tankers account for only about 3 percent of the U.S. fire apparatus fleet, but account for approximately 21 percent of the deaths while responding. Per capita, tankers are involved in more accidents than any other class of apparatus.

Factors that lead to accidents involving fire tankers include weight, high center of gravity, speed and the fact that most tankers operate along narrow roads. Any training session or drill related to tankers should reinforce the importance of safety and their proper operation. For an outstanding training program on safe tanker operations, go to the U.S. Fire Administration Web site and search "safe operation of fire tankers."

Tankers generally have two uses in WOW ops. "Nurse" tankers are used to refill other smaller units or reposition often, usually in wildland operations. They can also supply pumping apparatus at structure fires where fire flow requirements are minimal.

"Dump-and-run" tankers dump into a folding tank and return to the water source to refill. Larger fire flows and prolonged pumping operations may require the use of dump tanks supported by a water shuttle operation using the dump-and-run method. Extended shuttle operations often require the use of several tankers to meet fire flow needs. Train with your area departments on extended shuttle operations, because few departments can develop a sufficient shuttle by themselves.

DRILL 1 Drafting	DRILL 2 Fill Site
<p><i>Equipment needed: Pumping apparatus, dump tank, assorted drafting equipment</i></p> <p>Step 1 Locate a site with a hydrant that you can use to maintain water in the dump tank.</p> <p>Step 2 Demonstrate correct dump tank and apparatus placement for drafting operation.</p> <p>Step 3 Demonstrate proper setup of hard suction hose and associated drafting equipment such as low-lift strainers.</p> <p>Step 4 Provide a brief overview of pump theory as related to drafting operations.</p> <p>Step 5 Demonstrate drafting from a portable dump tank. (Note: Pump primer may become overheated if used to demonstrate priming several times.)</p> <p>Step 6 Discuss methods to avoid the need to prime suction hose between fills by flowing an additional hoseline continuously during drafting operations.</p>	<p><i>Equipment needed: Pumping apparatus and a static water site, lake or pond with good access for apparatus.</i></p> <p>Step 1 Choose a location in which large tank apparatus can safely operate.</p> <p>Step 2 Set up a drafting operation using methods used by your department.</p> <p>Step 3 Develop a fill site to refill tankers after they've unloaded.</p> <p>Step 4 Time the refill process for each tanker. Look for methods to shorten times needed to fill (for specific strategies, see Larry Davis' Rural Fire Command column in the April, May and June 2007 issues of <i>FireRescue</i>).</p> <p>Step 5 Allow each tanker to dump and return to the fill site. Continue the process until you reach an acceptable level of performance.</p>

NIEDNER

OVER 110 YEARS OF QUALITY & SERVICE IN THE HOSE INDUSTRY

MANUFACTURER OF MUNICIPAL, FORESTRY AND INDUSTRIAL HOSE

saving lives
is our priority...

Please come see us in Booth 4307 at IAFC

www.niedner.com
(800) 567-2703

SUPERIOR PRODUCTS THAT SUPPORT YOU IN SAVING LIVES

NIEDNER IS AN ISO9001:2000 CERTIFIED COMPANY BY UL REGISTRAR

Choose 148 at www.firerescuemagazine.com/rs

ONSPOT

Automatic Tire Chains

ONSPOT OF NORTH AMERICA, INC.

1988 **20** Years 2008

GET A GRIP!

We would like to take this opportunity to thank our customers for 20 years of your support

800.766.7768 www.onspot.com

Choose 149 at www.firerescuemagazine.com/rs



PHOTO: CURT HUDSON

Multiple dump tanks placed early in the incident allow tankers to dump quickly, ensuring an adequate supply of water on hand for suppression operations.

SETTING UP A FILL SITE

Dump tank operations require the right equipment to be deployed correctly and reinforced by solid training. When training with dump tanks, stress the importance of proper folding tank placement to allow for easy access to unload and draft. Many departments use a diamond-shape pattern to allow the use of more than one tank. Using multiple tanks helps ensure you have an adequate water supply on hand for high flow or long-term operations.

ESTABLISHING SUPPLY LINES

Many departments that have access to lakes, creeks or dry hydrants may choose to meet their fireground

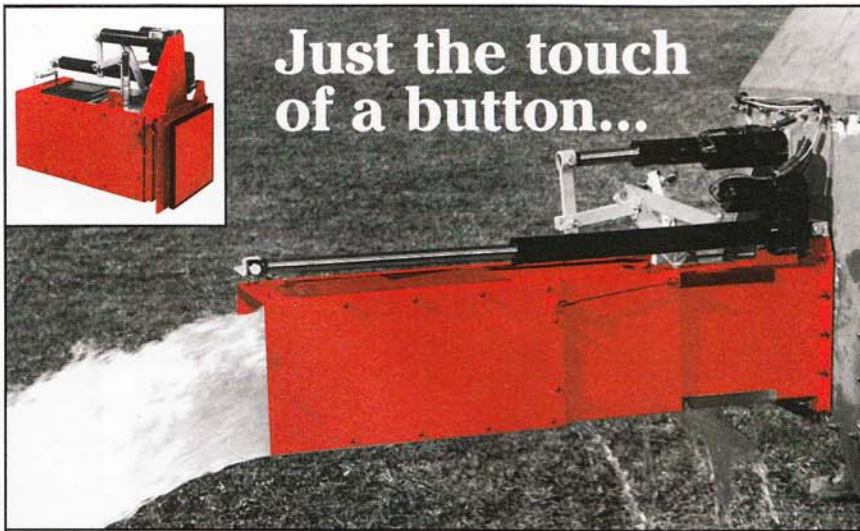
operations' water supply needs by laying supply lines and setting up a drafting operation.

Supply lines are also used in shuttle-style operations where access to structures, such as farmhouses or farms, is limited by narrow roadways. These types of operations are normally supported by a supply line from the first-arriving apparatus, forward laying in from the main road or by a later-arriving unit, reverse laying out to an area that can be supplied by tankers or dump tanks.

A FINAL WORD

Departments that have figured out the whole rural water supply issue can make it look easy, but it's not. In truth, most fire departments are out of their element when called upon to develop a continuous fire flow for any length of time in a non-hydranted area. Establishing a rural water supply is more complex and harder to do than most of us "city" firefighters believe. It starts with sound planning, equipment (simple and homemade is sometimes the best) and training. ☺

Captain Homer Robertson has been involved in the fire service since 1978, starting as a volunteer with the Granbury (Texas) Fire Department, of which he is a life member. He has served the Fort Worth Fire Department since 1985 and is currently in charge of the fire equipment division, which includes the apparatus fleet.



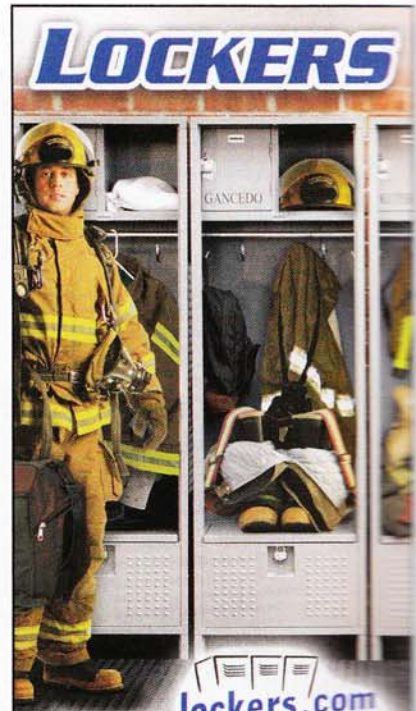
...empties your tanker *safely*. No need for two-man crews, you don't even have to leave your truck!

Our Newton Kwik-Dump Valve, Model 1070 Valve with 5018 Auto Chute (shown) can be electrically or air operated. Just the touch of a button empties your tanker, and gets you on your way - **FAST!** Contact us for more information. Brochures and CD-ROMs available.



A.H. Stock Manufacturing Corp.
8402 Center Road
Newton, Wisconsin USA 53063
Phone: 920-726-4211 Fax: 920-726-4214
sales@ahstockmfg.com
www.ahstockmfg.com

Choose 152 at www.firerescuemagazine.com/rs



lockers.com
1-800-LOCKERS

Call us for a **FREE quote or catalog!**

Phone: 1.800.562.5377
Fax: 1.800.562.5399

Choose 153 at www.firerescuemagazine.com/rs