CASE STUDY
Meadowhawk 28'Trailer
Dragonfly Water Treatment Systems

It's a well-known fact among first-responders and emergency personnel that the need for toilets and showers is one of the most important requirements in their industry. A need that is often underestimated or even ignored and when provided, it is usually under the worst conditions. Water Energy has introduced to the market one of the most comprehensive, efficient, hygienic, environmentally responsible and practical solution to portable restrooms available. A very unique and luxurious "Port-a-Potty" has arrived into the 21st Century. By utilizing the Dragonfly's state-of-the-art technology, it allows for the practicality of biologically treating wastewater that gets reclaimed and treated by sterilization with activated oxygen (ozone). The system also has the ability to capture, treat, filter, and disinfect/sanitize surface waters (i.e. rivers, ponds, lakes) for use by the unit. This allows the unit to function in all situations, even when no fresh water is available. The unit provides 100% treatment and disinfection – with 100% reuse of all water in the system. No other system in the market can even come close. The Dragonfly water treatment system has been developed over the last 12 years with its foundation in NASA's Space Shuttle Program at Kennedy Space Center. Dragonfly's entire system and many of its components are patented in the U.S. The system's biological components, disinfection system, and the way it transfers oxygen to the bacteria for treatment purposes are some of the patented subsystems that form part of this extraordinary technology.

Description:
Portable restroom facilities, featuring toilets, sinks and showers exist in the market at differing levels of support. Most portable restrooms are the typical Port-a-Potty style. Some include enclosed facilities with water held inside or outside of the units in holding tanks. The limitations are excruciating. These type of units function well until the tanks reach waste capacity. Disposing of the waste can be a serious problem. In order for this not to be the case, there has to be sufficient water supply for personal use, as well as an adequate place to dispose the foul and dangerous wastewater.

How does the 28-ft Meadowhawk unit operate? The unit has four toilets, three urinals, two sinks, and four showers. These fixtures are modern and efficient, sanitary and most of all, familiar to everyone. The Meadowhawk units utilize standard commercial grade fixtures. The Dragonfly Water Treatment Systems installed in each of our Meadowhawk units allows for this great advantage. Water pressures, water consumption, and overall operations are compatible with standard fixtures. Common issues with traditional systems include wastewater tanks emitting foul odors; not having ample water for toilets to do the job; and smaller than average sized toilets being the only option. Our Meadowhawk systems are free of these common problems and limitations.

The Dragonfly Water Treatment Systems incorporate the following:

- Black Water Biological Treatment System
- Biological Clarification and Sterilization of the Reuse Water
- Sterilization and Filtration of Fresh Water, Reuse Water Supply, and Sink/Shower Water Supply

Operation and management of the subsystems is done by the onboard Programmable Logical Comptroller (PLC). The operating software was developed by our engineers and scientists to incorporate all that we have discovered in our 30+ years' research working with NASA on multiple fronts.

Capabilities: The 28-foot Meadowhawk carries within its frame water storage/treatment capacity in excess of 700 gallons. However, this capacity is utilized for the processing of the water rather than to store waste or clean water.
The Meadowhawk is capable of supporting the following: (*These numbers will reset the following day.*)

- Toilets/Urinals - Approximately 200 to 250 users in a three to four hour period and approximately 20 Showers.
- Toilets/Urinals - Approximately 500 users max in an eight hour period and approximately 40 showers.