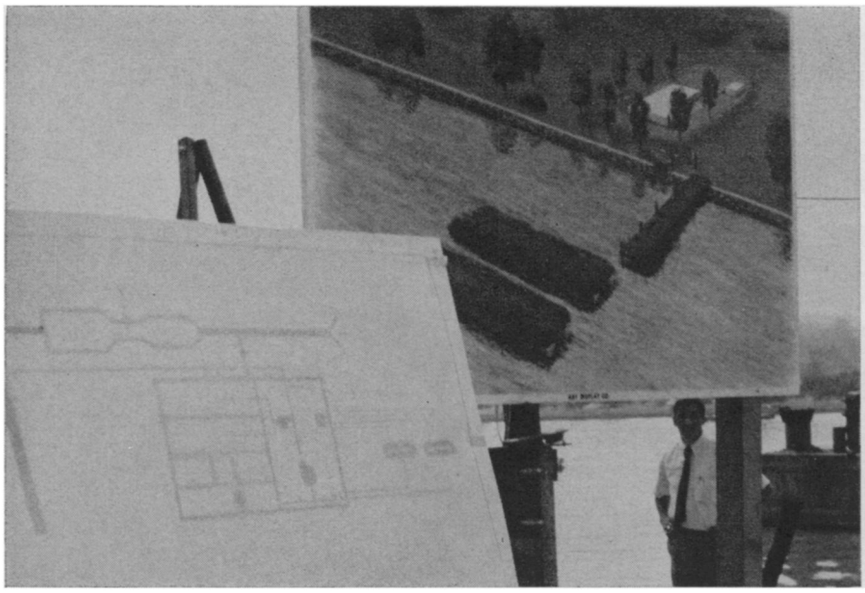
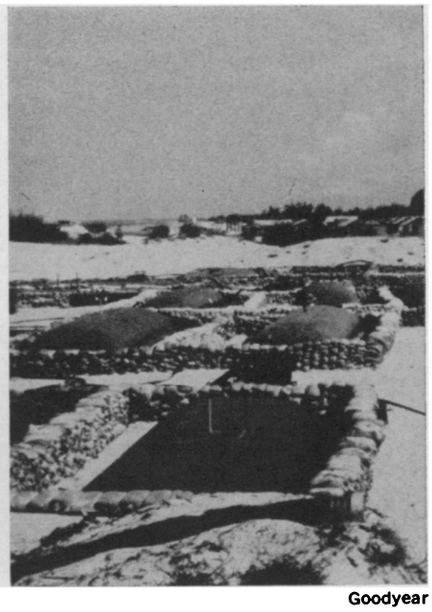


Albert Mogzec



Goodyear

Giant, pillow-shaped rubber tanks will store sewage beneath the Anacostia River, already hold fuel (right) in Vietnam.

POLLUTION

Rubber tanks aid sewage fight

Developed to hold fuel for the Army, versatile bladders find new use

by Jonathan Eberhart

"Too thin to cultivate, too thick to navigate," goes one wag's description of Washington, D.C.'s Anacostia River. "The fish," he says, "walk around." With more and more rivers becoming liable to such comment, the Federal Water Pollution Control Administration is supporting at least 40 experiments in just one area: sewage overflow.

Overworked drainage systems are a major problem. They cannot handle both the millions of gallons of rainwater from storms and their usual volume of sewage as well. When a storm fills the drains to capacity, treatment plants must let the overflow, sewage and all, pass directly and unprocessed into the rivers. The ideal solution would be to build separate waste and water systems; some communities are now trying such a plan. But that is a costly task: on a national scale the bill could come to more than $30 billion.

By far the most expensive of the agency's test projects is Chicago's plan to dig giant caverns beneath the city to hold excess sewer flows during heavily loaded periods. The pilot project alone will cost almost $15 million and a city-wide installation could run to more than $2 billion.

A cheaper method, being tried out in Washington's Anacostia, uses a technique first developed 17 years ago to help the U.S. Army store fuel. It was suggested as a sewage-saver by Underwater Storage Inc., of Washington.

Late this month, two 100,000-gallon tanks of rubber-impregnated nylon will arrive in Washington from Goodyear Tire and Rubber Co.'s plant in Litchfield Park, Ariz., where they are being built. The tanks, 120 feet long and 20 feet wide, will be anchored in metal cradles on the bottom of the Anacostia, about 17 feet below the surface, and connected to a pumphouse on the bank.

When the drains are filled by rain and sewage, the overflow will be diverted through the pumphouse into the tanks, instead of into the river. Later, when the water has receded and the load on the drains is at a minimum, the tanks will be emptied and their contents pumped to the sewage treatment plant four miles away.

The collapsible tanks were invented because the Army wanted a way to get around having to build fixed metal tanks from which to fuel its vehicles and other equipment. Metal tanks were not only costly to transport and assemble, but they had to be abandoned when operations were concluded.

In 1951, with Goodyear, the Army developed large collapsible rubber tanks, which could be flown into place as compact bundles, filled with fuel, then packed up again and flown out when they were no longer needed.

Since then the use of rubber tanks has expanded tremendously. The Marines had them in Lebanon, as did the Army during the Congo uprising. They are used in the frigid temperatures of the DEW line advance radar net (for both fuel and water) and in Antarctica in Operation Deepfreeze. Since 1963 they have been facing almost the exact opposite climate in Vietnam, where more than 1,000 are used by the Army, Marines and Air Force to move fuel supplies in and out on short notice.

The tanks are also finding their way into diverse other jobs. The U.S. Forest Service keeps some on tree-covered hillsides to hold water in case of fires. More than 30 electric utility companies use them as changing tanks when renewing the insulating oil in giant capacitors. They reportedly hold beer in Germany, wine in Australia, water in France and fuel in Russia. U.S. petroleum companies have even used them as self-contained tankers, towing them down-river like vast sausages to where they can be emptied, rolled up and returned to their starting point to be refilled.