

Man-made waterway to open as part of wetlands cleanup

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If all goes according to schedule, by the end of this week, water won't flow straight from the former Raytheon site off Route 20 in Wayland into the Sudbury River, as it has for years.

That's because while the shortest distance between two points is a straight line, Raytheon officials figure the cleanest distance is considerably longer.

A new man-made waterway is intended, through its meandering route, to filter runoff into the Sudbury River. It is part of a major cleanup of almost two acres of wetlands on property Raytheon used for about 40 years, leaving behind potentially harmful chemicals during an era of less stringent

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GLOBE STAFF PHOTO/BILL POLO

Ed Madera, a senior environmental engineer at Raytheon, described Raytheon's efforts to clean up wetlands at the defense contractor's former site on Route 20 in Wayland.

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Raytheon works to clean fouled wetlands

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environmental standards.

Raytheon leased the approximately 83-acre property and constructed a building there in 1955, said Steve Brecken, manager of media relations at the company. It left in 1996.

During its four decades there, Raytheon used chemicals to make radar parts and also operated a wastewater treatment plant, which the town of Wayland now owns and operates. The chemicals, wastewater, and runoff from the parking lot ran through a 36-inch-wide cylindrical outfall pipe to wetlands behind the parking lot.

During a recent tour of the site, Ed Madera, a senior environmental engineer for Raytheon, said tests of the wetlands have found elevated levels of polychlorinated biphenyls (known as PCBs), heavy metals — including lead, arsenic, silver, and copper — and petroleum aromatic hydrocarbon, known as PAH.

Though not considered an immediate health threat, the chemicals have stunted plant growth at the site, Madera said.

Most of the cleanup involves

plants — about 5,000 cubic yards — down about 18 inches to a gray silt underneath that is not contaminated.

The soil is shipped to a special landfill in Oklahoma approved by the federal Environmental Protection Agency, said Rachel Leary, project manager for Environmental Resource Management, a consulting company hired by Raytheon. The water from the soil is taken to Maine and incinerated, she said.

Then, workers replace the top layer in the wetlands with what is called "engineered soil," mixed with seeds of native species of plants to repopulate the wetlands.

The plan is to put seed down for about 64,000 new plants from 35 species, Leary said. Raytheon officials will then monitor the plants' growth for about five years.

"Our end goal is to really take a step further in improving the functioning of the wetlands and the diversity of the wetlands," Madera said.

While the techniques being used to restore the wetlands aren't new, the complexity and size of the project are unusual for this area, observers say.

Laura Goldin, associate director of the environmental studies

program at Brandeis University in Waltham, brought two undergraduate classes to study the Raytheon cleanup.

"It's really an instructive site from an environmental standpoint," Goldin said. "It has myriad environmental issues happening all at one place."

Goldin, a former chief counsel for the state Department of Environmental Protection, said she is impressed with the openness of Raytheon's process, which, in addition to government hearings for permittings and public tours of the site.

Enthusiasm for the cleanup

project is not universal.

Brian Monahan, Wayland's conservation administrator, acknowledged that Raytheon has paid about \$60,000 so the town could hire its own experts. But he said the project has still taken a lot of time for town officials to analyze, and he said he was mildly disappointed that Raytheon officials were not treating the parking lot runoff to make it cleaner before it reaches the wetlands.

But Brecken said the project is complying with local, state, and US standards, and he said the scope of the cleanup is limited by what the current property owner has granted the firm access to do.