

## *Walking on Water*



Covering the reservoir in Seattle's Cal Anderson Park has provided much needed park space in one of the city's most densely populated neighborhoods, Capitol Hill. Photo courtesy of City of Seattle.

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By Peter Harnik and Aric Merolli

It's the kind of crisp, sunny, blue-sky day that pulls Seatlites out of their homes, lures them to leave work early, and puts smiles on their faces. At Cal Anderson Park, 7.4 acres near the center of town, a couple lies on a blanket on the grass, reading. Three boys energetically kick a soccer ball. A young woman plays Frisbee with her dog. An unshaven man, possibly unemployed, does remarkably well on a beat-up guitar with only five strings. A gaggle of four-year-olds walk by on a pathway, all obediently gripping a rope held front and back by a teacher and her aide. None show the slightest concern that they are walking, playing, or lying on a park built over 11,000 cubic yards of concrete used to construct two vaults holding 12.5 million gallons of water.

Seven years earlier, in 2002, the scene had been strikingly different. Cal Anderson Park was only three acres and largely given over to programmed sports fields and basketball courts. On its northern edge was Lincoln Reservoir, an

open body of drinking water, off limits and surrounded by a chain link fence. The park and reservoir were a no man's land, seldom used for legitimate purposes. "It was like a prison yard, it was seven acres of lifeless, colorless, inaccessible dreariness," said Kay Rood, a co-founder of the organization Groundswell Off Broadway which was created to improve the neighborhood. "We started the ball rolling by saying, 'We really need a park and this ain't it.'"

Seattle didn't voluntarily deck Lincoln Reservoir. It, along with every other municipality in Washington, was told to do so in 1994 by the state Department of Health. Or, rather, it was told to do something about the reservoir, and the city chose to make the best of this rather unwanted and onerous state mandate. Eleven years later, in December of 2005 Washington State's lead was followed by the U.S. Environmental Protection Agency under something called the Long Term 2 Enhanced Surface Water Rule, shaking up drinking water management across the whole country. And herein lies a story of urban change and city parks.

Open drinking water reservoirs have been a fact of urban life—and often-beloved icons—in the U.S. for well over a century. Highland Park Reservoir (1879), McMillan Reser-

voir (1903), and Silver Lake Reservoir (1907), among others, were the places to promenade, picnic, see, and be seen in Pittsburgh, Washington, D.C., and Los Angeles. Some, like what is now called the Jackie Onassis Reservoir in Central Park, were located within larger public facilities; others, like Compton Hill Reservoir in St. Louis, essentially filled the entire space of their own park-like setting. It was recognized that none of them was entirely hygienic—they were, after all, at the mercy of general city dust and grime, not to mention bird droppings—but, like Ivory soap in the old commercial, 99.44 percent pure was considered good enough.

Then came a highly publicized outbreak from cryptosporidium bacteria in the Milwaukee water supply in 1993, plus heightened concerns about terrorism, and attention to public health was raised a notch. The EPA rule mandated that all newly constructed “finished water” reservoirs be built with a cover. (If water is “finished” it is clean enough for delivery to homes; if water is “raw” it still needs treatment before being drinkable.) As for already-existing finished water reservoirs, EPA gave municipalities the choice of covering them or leaving them as-is and then re-treating the water to finish it.

None of the alternatives is attractive. Covering a reservoir generates vociferous opposition from the many people who love water views. Beyond that, the inexpensive solutions are ugly and the scenic solutions are costly. An analysis of possibilities for 15-acre Elysian Reservoir by the Los Angeles Department of Water and Power pegged the cost of a floating cover at \$19.6 million, a lightweight aluminum roof at \$38.1 million and a buried concrete tank at \$121.4 million.

When The Trust for Public Land’s Center for City Park Excellence studied 12 cities’ responses to the EPA rule, it found that three elected to install floating rubber covers, two chose re-treatment systems, one has a concrete roof, five buried or will bury at least one of their reservoirs and use the created space for parkland, and two are in court over the matter. (The total exceeds 12 because some cities chose different solutions for different reservoirs.) The number of open, finished-water reservoirs in the U.S. is not known; EPA estimates it at 81.

In both Portland and Los Angeles resolution of the issue has been dragged out by heated opposition to any reduction in open water. “Portlanders would rather die than lose their water view,” is how one area planner described her fellow residents. In response, the city chose to meet its future

water needs through a huge expansion of the already existing 50-million-gallon underground water basin at Powell Butte. At Washington Park, one of the two reservoirs will be abandoned while the other will be buried and covered with a shallow pond (of non-drinking water) so as to retain its current look. At Mt. Tabor, where residents have been most vocal, the lake will remain even as the reservoir function will be decommissioned. But that might not be the end of the story. “Currently, under our management, water moves through the whole system in four days, so it doesn’t have time to stagnate,” explained David Shaff, administrator of the Portland Water Bureau. “We’ll have to see what happens when 50 million gallons of water is left to sit.”

The upgrades will be finished by 2020 and are expected to cost \$400 million.

Rochester and Pittsburgh, which also encountered fierce opposition to reservoir covers, chose a different solution. They opted to leave the reservoirs open, erect additional fencing to limit public access and then to also re-purify the water before distributing it to homes. Speaking of the result, then-Pittsburgh Mayor Tom Murphy said, “Finally, we have a solution that works for everyone concerned—those who drink the water and those who love the aesthetics of Highland Park.” The Pittsburgh project, which is finished, cost \$12 million. The Rochester work, which will be completed in 2014, includes ultraviolet sterilization at two reservoirs and a rubber cover over a third for a total cost of \$21 million.

Seattle was the first major city to confront the finished water reservoir issue. Announcing in 2002 that it would bury five open water reservoirs and construct a park atop each one, Mayor Greg Nickels had a different verdict than Pittsburgh’s Murphy: “This achieves a double public benefit: security for our water system and new open space for our neighborhoods.” In fact, at Cal Anderson Park, it was a triple benefit. In order to appease unhappy nearby residents, the city designed the deck park with a fountain and an ornamental pool to memorialize the large water surface that had been lost. Many of the reservoirs are situated in densely built-up neighborhoods and on scenic overlooks. Despite the \$235-million price tag, “there’s no way we’d be able to buy this kind of property today for a park,” stated Michael Shiosaki, deputy director of planning and development. Completion of all five reservoir parks is expected by 2012.

Wilmington’s one in-town facility, Cool Springs Reservoir, which dates to 1875, will also be buried. Doing so will add

about seven acres of usable parkland to 12.5-acre Cool Spings Park, increasing the city's entire parkland by 1.6 percent. The expanded park is located in a densely populated area of Wilmington, serving about 11,500 residents within a half-mile radius.

Although complying with the regulation is expensive, the key to analyzing costs is also analyzing benefits. And the benefits from a park vastly surpass the returns from a floating or a flimsy cover. In Seattle, the return from the created parkland is estimated at roughly \$200 million over the 100-year life span of the buried reservoirs—value that shows up in direct use, property sales, property taxes, health and community cohesion, among others. (Some of the benefits are localized to the vicinity of the reservoirs, but increased property value results in increased property tax which flows citywide.) The Seattle Department of Public Utilities is paying for the work by issuing bonds and then repaying them by incrementally raising homeowner water bills. (The average family's water bill will increase by about \$90 per year by 2011.)

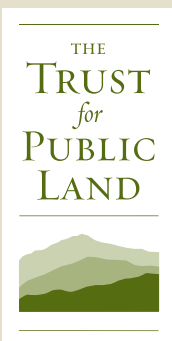
Wilmington's undergrounding project was funded through an \$18.6-million low interest loan from the Delaware Office of Drinking Water's Revolving Fund. (This, too, will be repaid through higher water bills.) The park improvements atop the reservoir came to an additional \$4.5 million.

Not all reservoir stories have happy outcomes. Washington, D.C.'s McMillan Reservoir, built in the early 1900's and envisioned as a central feature in the city's open space network, has been closed to the public since World War II. The grounds of the reservoir and its associated sand filtration site total 118 acres in a part of the city with little other usable parkland. Originally designed in 1907 by Frederick Law Olmsted, Jr. as a public park with promenades and

places for people to sit, the facility is today encircled by a rusty chain-link fence set far back from the water pool itself, precluding any human use of the grounds. Ironically, since the water is unfinished the EPA rule does not come into play and there is no mandate to cover or bury the reservoir; the managing agency, the U.S. Army Corps of Engineers, concerned about possible water contamination, has no plans to remove or move the fence to get better utilization of the surrounding green space.

What is next in the debate between safe drinking water and a beautiful, livable urban environment? "Vigorous community discussion," is how Portland's David Shaff puts it. The issues seem eminently resolvable but there is no doubt that they involve higher costs—for both water and parkland.

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