



## 200 WEST PUMP AND TREAT SYSTEM

### SUSTAINABILITY

CH2M HILL specially designed the biological process building to achieve Leadership for Energy and Environmental Design (LEED®) Gold certification, a first for the DOE Environmental Management sites. LEED is an internationally recognized green building certification system that rates buildings on criteria such as energy savings, water efficiency, CO<sub>2</sub> emissions reduction and indoor air quality.

The building's efficient design is expected to save more than 70 percent in energy costs over the life of the system. Construction practices included:

- Approximately 50 percent of steel used was recycled
- Over 75 percent of construction waste was diverted from landfills
- 420 tons of recycled concrete were used
- 9 tons of paper/cardboard was recycled
- 42 tons of metal was recycled
- Translucent panels reduce the need for interior lighting.

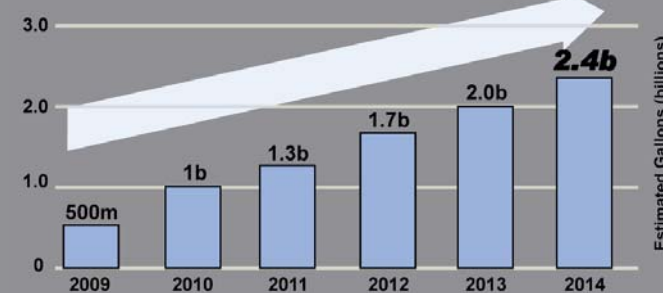


### CAPACITY

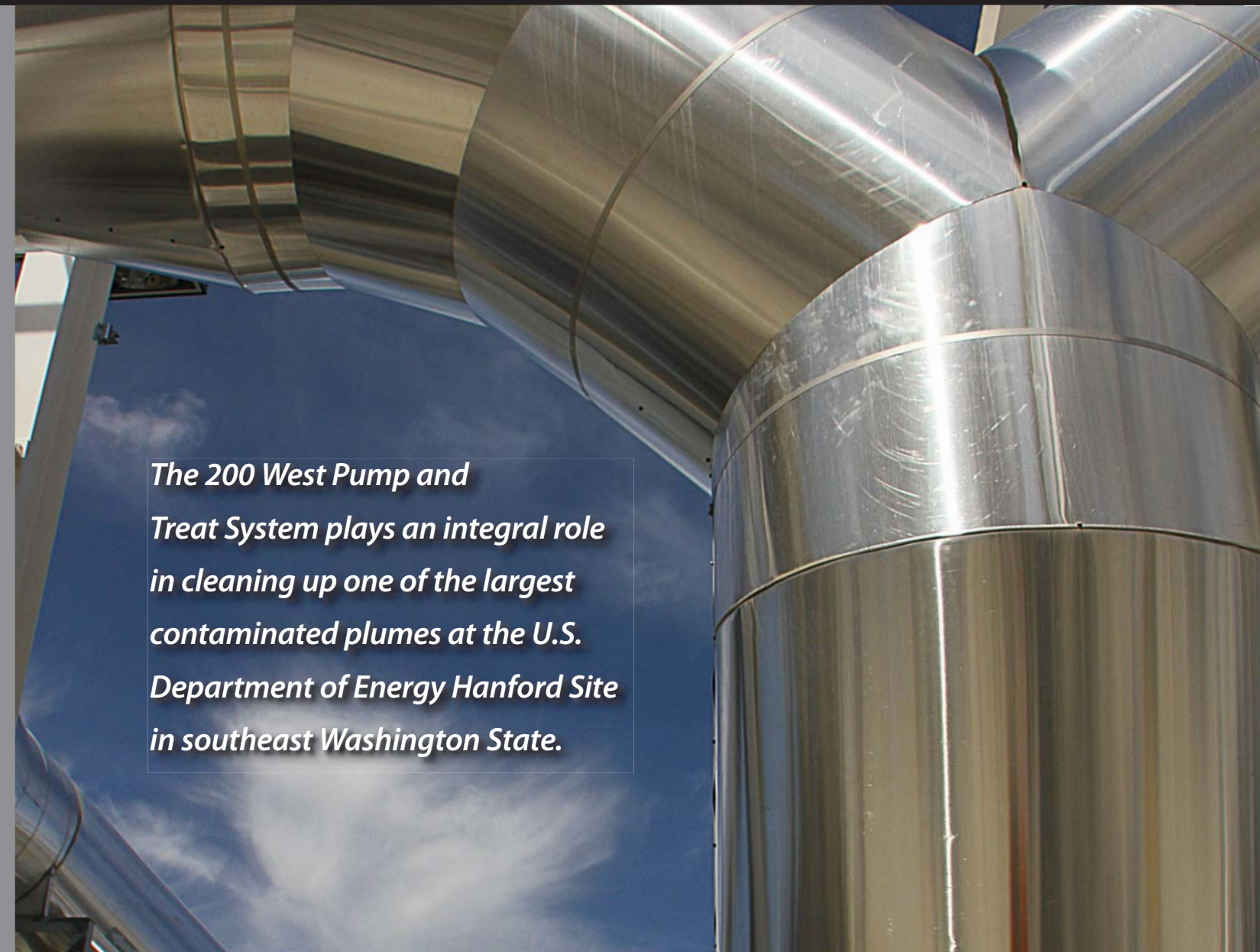
The system operates at a rate of 2,500 gallons per minute and is designed with the capability, and the goal, to expand to treat 3,750 gallons per minute and include treatment of uranium. During the next 25 years, the system will treat nominally 25 billion gallons of groundwater and remove several thousand pounds of contaminants, cleaning up the aquifer for future generations.

Through CH2M HILL's remedial optimization technologies and groundwater treatment systems, Hanford's groundwater capacity has more than doubled since 2009.

### INCREASING HANFORD'S GROUNDWATER TREATMENT CAPACITY



CH2M HILL used corporate funds to produce this brochure.



*The 200 West Pump and Treat System plays an integral role in cleaning up one of the largest contaminated plumes at the U.S. Department of Energy Hanford Site in southeast Washington State.*

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# 200 WEST PUMP AND TREAT SYSTEM

# OVERVIEW

Approximately 80 square miles of groundwater beneath the Hanford Site were contaminated above the drinking water standard from past processing activities to produce plutonium for the nation's defense.

The 200 West Pump and Treat System was designed and constructed by CH2M HILL to remove the contamination and slow the movement of the contamination toward the Columbia River.

The 200 West Pump and Treat System combines several technologies to address multiple contaminants in the groundwater beneath Hanford's Central Plateau. The system has the capability of removing more types of radioactive and chemical contaminants than any other systems of its kind in the DOE Environmental Management complex.

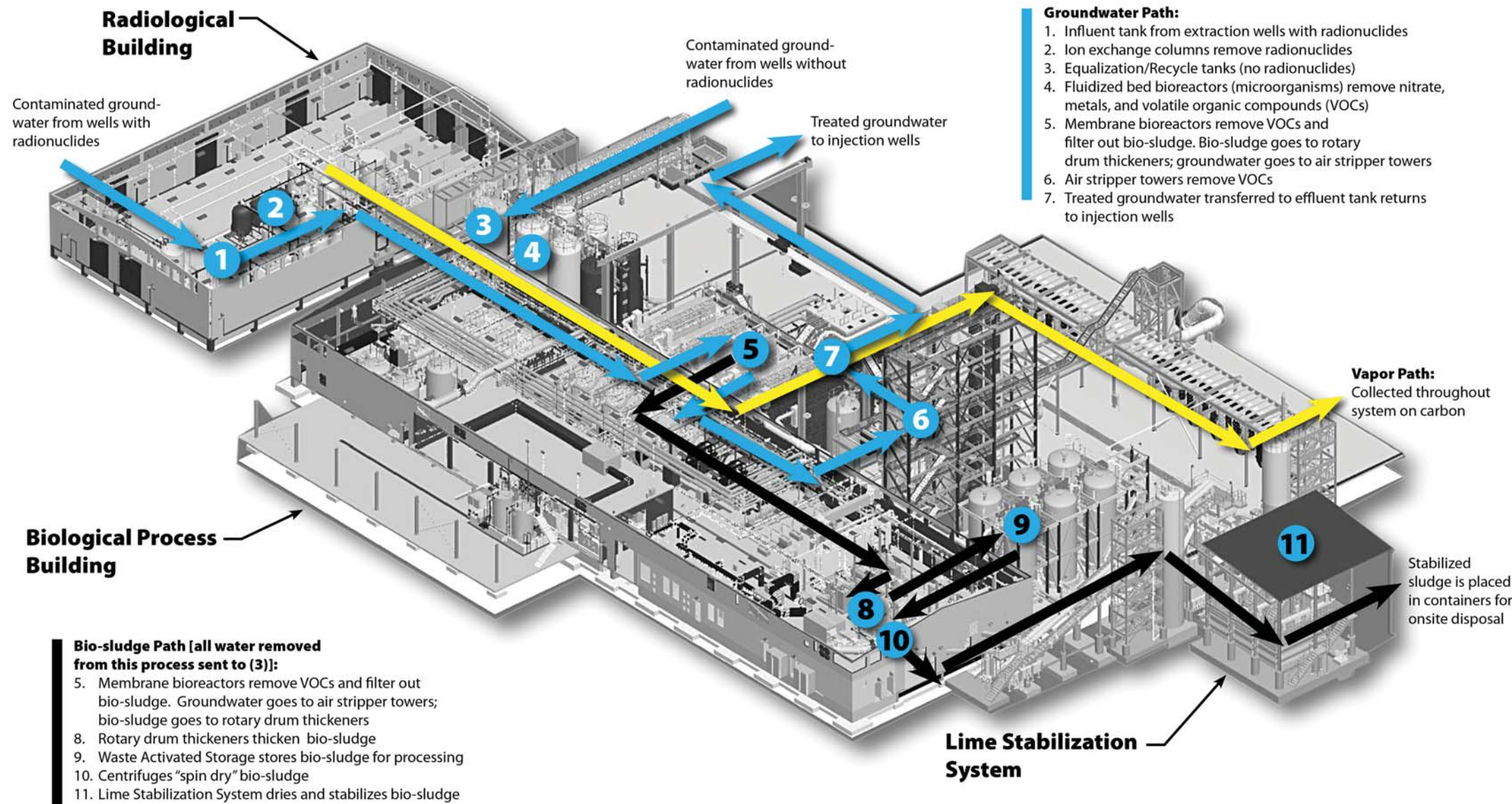
Construction of the system was completed in just two years without a lost day due to injuries and with more than 1 million safe hours worked.

The overall system comprises:

- 52,000 square-foot biological treatment facility
- 17,500 square-foot radiological process building
- Currently 18 extraction wells and 14 injection wells
- 70 road crossings
- 170,000 linear feet of high-density polyethylene pipe
- 420,000 linear feet of power and instrumentation cable
- 5 remotely located transfer buildings (approximately 2,000 square feet each)

A network of extraction wells, connected via high-density polyethylene above-ground piping to extraction transfer buildings, removes the groundwater from the aquifer for treatment by the main process facility.

After treatment by the main process facility, the water is reinjected into the aquifer via injection wells, which helps create a barrier to contain contamination and push contaminated groundwater toward the extraction wells.



*"Reducing the Risk to the Columbia River"*

For more information:  
[www.hanford.gov](http://www.hanford.gov)  
[www.plateauremediation.hanford.gov](http://www.plateauremediation.hanford.gov)  
[www.youtube.com/hanfordsite](http://www.youtube.com/hanfordsite)