

WOODLAND PARK ZOO

On-Site Water Treatment and Reuse System

Seattle, Washington



from top: Constructed Wetlands Backwash Recovery System at the exhibit entrance; exhibit with blue heron; penguins in the exhibit.

Woodland Park Zoo has been a cherished community asset for more than a century. A unique urban oasis, it has inspired generations of families from the Puget Sound region and all over the country to observe the animals and experience the surroundings.

The site encompasses 92 acres and features more than 1,000 individual animals representing nearly 300 species. The

By applying an integrated water strategy, a popular zoo aims to save over 150,000 gallons of potable water per year.

grounds are divided into climate zones that represent habitats from around the world. Climate zones include everything from tropical rain forests to the arctic habitat of the North.

Biohabitats partnered with longtime collaborator Studio Hanson Roberts on the design of the zoo's new Humboldt Penguin Exhibit. To minimize the use of potable water in the exhibit, Biohabitats designed an innovative backwash recovery system to harvest, treat and reuse the filtration system's backwash. The heart of the system is a constructed wetland that is integrated into the exhibit for educational and interpretive purposes. The system is projected to save over 150,000 gallons of potable water per year by diverting backwash water from the

sanitary sewer.

The application of natural systems to zoo projects is in its infancy, and the backwash recovery system installed at Woodland Park Zoo is one of the first of its kind. Using passive settling in a primary treatment tank followed by filtration of nutrients and solids within the wetlands, recovered water is able to be disinfected and returned to the exhibit pools.

The Humboldt Penguin Exhibit has been awarded the 2010 Exhibit Achievement Award from the AZA and the 2009 Design Excellence Award from the Seattle Design Commission.

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