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**INFILTRATION BASIN TESTING AND RESULTS FOR THE PRAIRIE WATERS  
AQUIFER RECHARGE AND RECOVERY SYSTEM FOR THE CITY OF AURORA, COLORADO**

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**ABSTRACT:** The Prairie Waters Project (PWP) consists of several water system components to provide two-step pre-treatment to the raw water in the South Platte River, and then transports the pre-treated water to the Binney Water Purification Facility (BWPF). At the BWPF, final treatment is provided to potable standards, followed by delivery to the potable water distribution system. Raw water produced at the PWP is first diverted from the South Platte River through a series of 17 alluvial wells that are located north of Brighton, Colorado. This first pre-treatment step relies on riverbank filtration (RBF), which occurs as the wells draw the South Platte River water through the alluvial sediments and into the wells with a predicted 10-day travel time. The alluvial wells will pump into three infiltration basins located on the North Campus (NC) of the PWP. The NC is located about 1 mile west of the wells. The infiltration basins will be surrounded by a total of 27 recovery wells, which in turn are surrounded by a low permeability barrier wall. The infiltration basin system, wells, and low permeability barrier are known as an Aquifer Recharge Recovery (ARR) facility. This is the second pre-treatment step and is designed to provide additional travel time through the river alluvium sediments. A pilot scale Test Infiltration Basin was designed, constructed, and tested to field verify infiltration rates and some of the water quality benefits for the ultimate ARR facility. This paper presents an overview of the PWP and then focuses on the Test Infiltration Basin Construction, testing, and ultimate results.