

# **Lincoln Park Crooked Ditch Company, Inc.**

## **2008 Major Improvements**

Lincoln Park Crooked Ditch Company consists of 29,075 linear feet of 36" and 8,540 linear feet of 24" concrete pipe; 16,085 linear feet of 18" concrete/PVC pipe, and 8,520 linear feet of open ditch. The original piping (hand-poured concrete) deteriorated resulting in numerous leaks in the system due to age and wear. The ditch suffers from significant water loss, and the deteriorated pipe poses a threat to property and individuals should the pipe fail.

### **Project Scope:**

The project repaired the deteriorated piping in the system. The major "feeder" piping and the most problematic areas were rehabilitated with a "no-dig" trenchless technology called "Inliner", a cured-in-place pipe (CIPP) renewal method, designed to stop water loss and restore system reliability. This process minimized disruption to the public by reducing noise, traffic disturbance and property damage and was done within a far shorter timeframe and for less cost than replacement. The process was up to five times faster and 40-50% less costly than replacement.

The process included the insertion of a felt tube, saturated with resin and coated with a waterproof plastic film, into the damaged pipe. The tube then expanded and hot water or air was circulated through the tube which cured the resin. The material serves as a barrier between the damaged pipe and the water that flows through it. Lateral connections were reinstated by hand or by robotic cutters for non-man entry pipes.

Annual maintenance and repair costs are expected to decrease significantly after the project. While there is an increase in ditch assessments associated with the project, the cost of water is still reasonable compared to the cost of irrigating with Canon City water.

### **Project Status:**

Stillwater Engineering completed the engineering portion of the project. Preliminary work on the major repairs began in November, 2007. The project improvement phase began January 28, 2008 and concluded in April 2008. Western Slope Utilities of Breckenridge, Colo. was the contractor with ditch Superintendent, Robert Hudson, the project manager.