

# SMARTCOVER®

WE'VE GOT IT COVERED™



## TOWN OF Crested Butte COLORADO

### ***COLORADO RESORT TOWN AVOIDS BIG PENALTIES WITHOUT BIG REPAIR BILL***

#### ***BACKGROUND***

The Colorado resort town of Mt. Crested Butte is nestled among the Elk Mountain Range with a namesake mountain rising just above town to a height of 12,162 feet with a population of 6,500 year-round residents that can escalate to 10,000 during the peak of ski season.

With four distinct seasons, the local climate makes the town a destination for some of the best year-round recreational activities including alpine, nordic and backcountry skiing, snowboarding, snowshoeing, snowmobiling, mountain biking, climbing, hiking, fly fishing, rafting and kayaking.

#### ***THE CHALLENGE***

Approximately 14 miles of sewer lines collect wastewater generated in Mt. Crested Butte and Meridian Lake Park and deliver 1.2 million gallons per day to the Mt. Crested Butte, CO Water and Sanitation District's (MCBW&SD) local wastewater treatment plant.

Over 300 manholes and an aging collection system with pervasive inflow and infiltration (I&I) problems, the town experienced a massive sewer spill in 2005 during

the holiday season. The Colorado Department of Public Health and Environment (CDPHE) issued a consent decree to the town to fix the problem.

The MCBW&SD Board embarked on a Capital Improvement Project (CIP) study to determine the cost of repairs and replacement. A local architectural engineering firm estimated \$10 million in upgrades and repairs were needed. Overburdened by the impending expense and penalties, the MCBW&SD team researched alternative approaches and found SmartCover. In a collaborative risk and cost mitigation effort between MCBW&SD and SmartCover, they proposed to install 10 real-time remote sensors on manhole covers to detect and prevent sewer spills to the CDPHE regulators.

#### ***THE SOLUTION***

Fortunately, the CDPHE approved the plan and it's been over a decade since the MCBW&SD wastewater department added SmartCover technology to their system. This sewer monitoring and alarm system with specially equipped manhole covers is now using ultrasonic sensors and automated analytics to receive alerts when there is any unusual manhole or sewer line activity.

SmartCover continuously measures water level to 1" accuracy and immediately communicates alarms to sewer staff via wireless satellite signals from deep within the Colorado Rocky Mountains.

MCBW&SD has successfully used SmartCover to monitor their pipes and back up lift stations (without cell service) to completely prevent sewer spills since 2005.

#### ***THE RESULTS***

With real-time, wireless monitoring of their collection systems, the MCBW&SD found a way out of the traditional path of expensive CIPs, increased rates, and unhappy ratepayers in order to meet regulatory and public pressures.

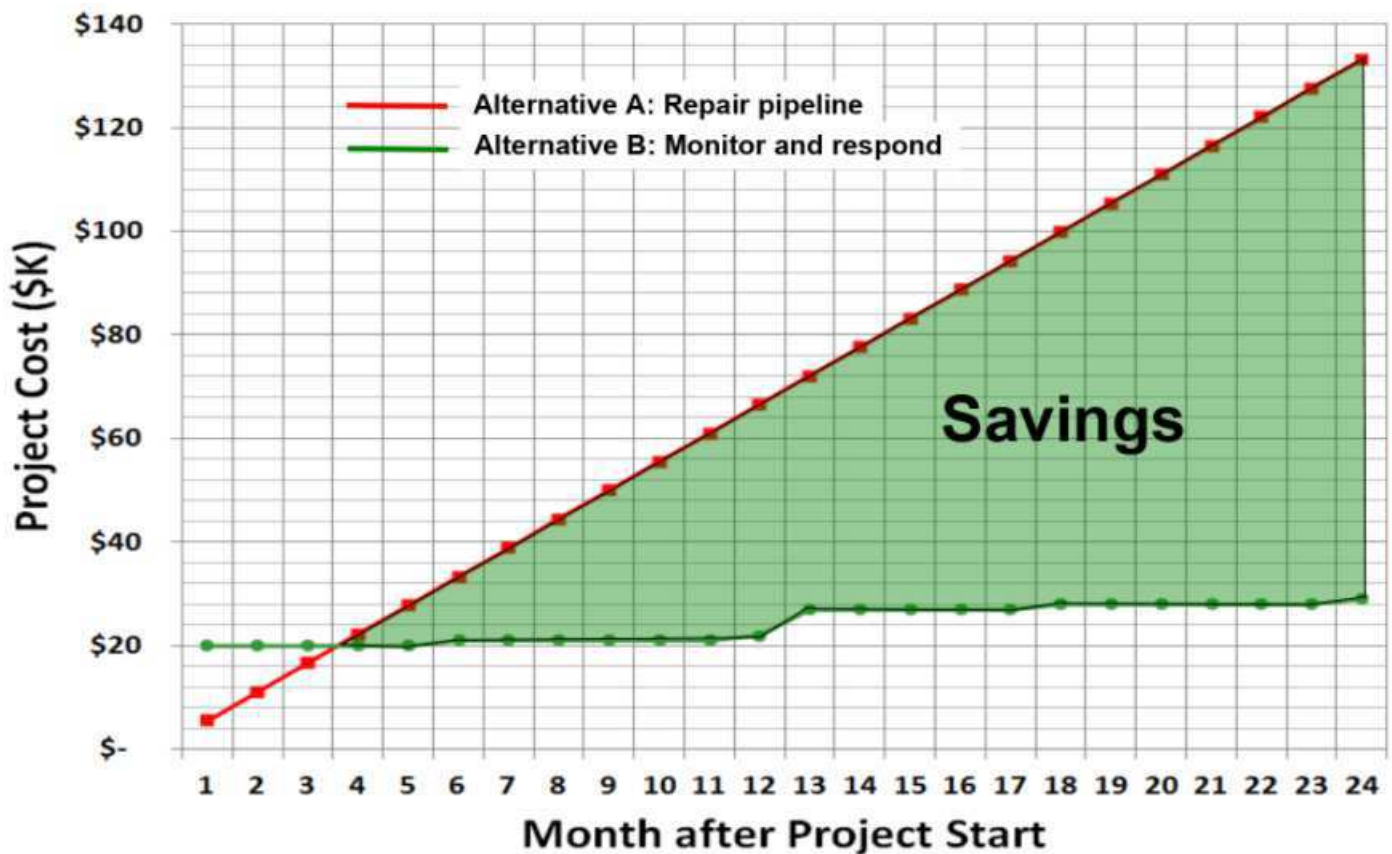
When MCBW&SD faced a \$10 million pipeline replacement project necessitated by the state, they were able to obtain relief through the implementation of SmartCover with a continuous level monitoring system costing them significantly less, providing more than a 100:1 in savings.

Since the SmartCover installation, Mt. Crested Butte has had NO SEWER SPILLS and the consent decree was lifted.

# **LIFTING OF CONSENT ORDER SAVED \$10 MILLION**

*COLORADO APPROVED  
MONITORS AS ALTERNATIVE,  
WITH 99% SAVINGS.*

*Monitoring is more  
cost-effective than  
pipe replacement*



## **SUMMARY:**

By utilizing long term, remote level monitoring at the locations of proposed CIP, an agency can determine which locations are the "worst offenders," determine mean times to failure, and prioritize projects accordingly. Oftentimes, it is determined that while a location has had some problems, it may not need immediate attention. The project can be deferred to the next budget cycle or further, and the agency still has satisfaction that risk is reduced at problem locations because they have 24/7 monitoring with immediate high water level notification to emergency response personnel.