With plans for a light rail commuter system in Denver and surrounding areas, citywide redevelopment in Westminster, Colo., is on the horizon.

In assessing the city’s infrastructure, officials discovered problem areas that would be exacerbated by increased population and water demand. Ductile iron potable waterlines in Meadowlark Estates were only approximately 35 years old, but already experiencing significant degradation. Extremely corrosive soils had deteriorated these piping systems and city crews were constantly “chasing breaks” at great cost to the city and serious inconvenience to the residents of the community. Waterlines in a future transit oriented development (TOD) area also needed to be increased in size and connected with current pipelines.

The city turned to Burns & McDonnell for design and construction management services to provide a long-term, reliable solution for the distribution system. Careful design including alignment selection, valving and cathodic protection were incorporated into the design to provide the city of Westminster a lasting solution — approximately 7,740 lineal feet of new potable water lines and their appurtenances.

“Meadowlark is an extremely congested subdivision,” says Kate Henske, Burns & McDonnell project manager. “This translated into multiple existing utility conflicts, such as large storm sewer crossings and traffic congestion, making this a large complex project.”

Making this project challenging was providing a new waterline system without interfering with service. Interconnects and service line switchovers were carefully planned and coordinated to provide the least inconvenience to the residents in and around construction areas. The use of pre-engineered systems including pre-built valve vaults allowed for quick installation with less downtime and disturbance.

“Part of our design was to keep the existing waterline operational throughout construction of the new waterlines to reduce the amount of time residents and businesses were out of service,” says Dan Korinek, manager in the Burns & McDonnell Water Group in Denver. “The new system was tested and connections made during low-flow timeframes to minimize inconveniences to the public. That meant the project went over without any complaints from citizens.”

City officials made the most of the project, using the opportunity to make improvements for city residents, including additional removal and replacement of asphalt, curb, gutter and sidewalk.

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