

EXECUTIVE SUMMARY

COMPUTER MODELING WATER SYSTEM EXPANSION – EAST RAPID CITY W03-1288

This study was conducted to provide guidance to the City in expansion of and improvements to municipal water system to serve existing and future development in the eastern portion of the City. The study area is generally located east of Cambell Street/East North Street and south of Interstate 90 and extends east of Elk Vale Road to include the proposed retail development as well as housing areas north of the Rapid Valley Sanitary District Service Area.

A simplified computer model was developed to evaluate water service to the expansion area and provide recommendations as to sizes and general locations of new water transmission lines, water storage tanks and booster pumping stations.

Substantial development, both residential and commercial development is occurring along Elk Vale Road in the study area. Water service to the study area can be provided by construction of various facilities.

- Construct the new water transmission lines as shown in the report. The actual location of these lines will be determined during final design.
- Construct new Low Level Storage Tank with a minimum capacity of 2.0 MG on the East Side of Elk Vale Road. If this low level storage tank is constructed before completion of the City's master plan, we feel it would be prudent to construct a 3.0 MG tank.
- Construct new high level booster station along Elk Vale Road near the recommended Low Level storage tank. This booster station should not be constructed until the Low Level storage tank has been constructed.
- Construct new high level water storage tank with a minimum capacity of 1.5 MG. This tank can be located at various sites with proper elevations. The location of this storage tank will be driven by development pressures, patterns and land availability.
- Construct new water transmission main from near East St. Charles Street and Sedivy Lane along Highway 44, Lancer Road and Elk Vale Road to connect to the existing water mains in the Rushmore Business Park near Homestead Street.