

Repairing Aging Water Distribution System in Richardson

Many cities in the United States are experiencing the decay of aging infrastructure to include:

- Streets
- Alleys
- Water distribution systems
- Wastewater collection systems
- Stormwater conveyance systems

In most cases, the pavement, piping, etc., used to construct these systems has passed its life expectancy. In some cases, the system was not designed or constructed properly.

A Capital Improvement Program (CIP) is the vehicle used to repair or replace the deteriorating infrastructure. The City of Richardson, Texas, located just north of Dallas, has a population of approximately 78,000 and an annual CIP budget of approximately \$15,000,000.

Several of the CIP projects identified by the City and designed by RJN Group, Inc. included:

- Replacing the water distribution lines along Kenshire Boulevard and Cornell Drive
- Replacing of the water distribution and alley and street pavement along Sage Valley Drive and Copper Ridge Drive
- Replacement of existing water lines in Rorary Drive and Royal Crest Drive as part of street reconstruction
- Replacement of water line in Stratford Drive

Street replacement was required, in part, because of leaking water service connections. The constantly saturated subgrade resulted in severely heaved and broken pavement, particularly along the curb lines. Services were replaced to the property lines with all new materials to ensure that leaking was eliminated. All designs were completed in such a manner as to minimize costs for future extensions, which would be connected to the portions we designed.

These were all residential streets and a strict requirement was included for the protection of existing trees and other landscape features. In addition, it was

necessary to determine a sequence of construction which would allow residents access to their homes at all times during the construction. This included mail delivery, emergency access, and parking.

