



Chapter Eight

Municipal Utilities

Introduction

Comprehensive and long-term strategic planning for utility management is crucial for growth and economic development of the Newton-North Newton community. Four main areas comprise the focus of this planning: water supply, treatment, and distribution; sanitary sewer and wastewater treatment; stormwater; and solid waste.

Water Supply, Treatment, and Distribution

The Newton community's water source is all from groundwater in the Equus Beds. Newton has 14 wells and North Newton has 2 wells. In 1997 the Public Wholesale Water Supply District No. 17 was formed by the cities of Newton, North Newton, Halstead, and Sedgwick. The four partners came together so Halstead and Sedgwick could gain a good quality water source, since their wells had contamination. North Newton needed to supplement its current supply of water, and Newton was interested in a long-term water supply to supplement its existing wells.

The district has four wells plus another battery of two wells that supplies Halstead and Sedgwick with all of their water. North Newton takes a small percentage of the remaining water, and Newton purchases the leftover amount to secure its long-term supply for at least 20 years.

The water pumped from the Equus Beds by the district, Newton, and North Newton is then sent to the Mission Water Treatment Plant, owned by Newton. The water is then treated and transmitted into Newton's booster station on W. 1st Street from the plant west of town and distributed through Newton's system via water towers to both cities. The Mission Water Treatment Plant and the district water system are all operated by the City of Newton Water Division of the Public Works Department in addition to Newton's transmission and distribution system. North Newton maintains its distribution system beginning at the city limit boundaries.

Newton's water treatment system is in compliance with state and federal operating guidelines, and has adequate capacity to accommodate the projected growth of the community for the next 15 to 20 years (2030).

The City of Newton 2005 Sewer and Water Master Plan identified water infrastructure upgrades to the existing system, as well as new water mains to extend service to planned city growth areas. Many of the suggested improvements were implemented by the Public Works Department over the past five years. However, many new development projects, the loss of the Harvey County RWD No. 1 as a customer in 2004, and major maintenance items have taken precedence in spending capital project dollars. As the development of the Kansas Logistics Park and annexation of the airport moves forward, other projects in the master plan will need to be completed, along with the creation of a new pressure zone to the east of I-135.

With the annexation of the airport looming in the near future, planning for utility expansion is underway. The RWD currently serves the airport with water; Newton will be taking over this service soon. A new booster station serving development around the logistics park will be constructed in 2011. A new pressure zone will be created from I-135 east and over to the airport. Studies and designs are currently underway.

Sanitary Sewer and Wastewater Treatment

The sewer master plan prepared in 2005 identifies wastewater treatment plant upgrades to increase plant capacity and meet environmental regulations. Collection system improvements identified in the plan to increase capacity in different basins was started and will be continued over the next five to ten years.

By 2010, phase one of the plant upgrades was complete, which positioned the community to accommodate new growth. The 2005 master plan also identified a plan for extending a 36" sanitary sewer interceptor on the south and east edges of Newton. The city installed interceptors in 2010 to support the Kansas Logistics Park east of I-135 and planned residential and commercial development activity south of US-50. The completion of these new interceptor lines allows approximately 2,880 acres of land for urban development.

All of the sewage from North Newton drains from its collection system into the City of Newton's sanitary sewer collection system, then to the wastewater treatment plant owned and operated by Newton. Capacity upgrades to Newton interceptors and the treatment plant are carried out while taking into consideration the changes and growth in both cities. The investment by the City of Newton to size the sewage infrastructure to accommodate sewage from North Newton allows one sewage system to serve both communities.

Anticipated federal mandates regarding nutrient levels in effluent discharge is dictating phase two improvements to the wastewater treatment plant. The next permit cycle through KDHE will require upgrades that will be quite expensive for the community. Design for these improvements is expected to begin soon with construction starting in 2014 and lasting a year and a half to two years, at an estimated cost of \$14 million.

Effluent from the wastewater treatment plant is used to irrigate the public golf course and supply water to the manmade wetlands south of the plant. Opportunities should be considered for further reuse of the effluent water to preserve use of our groundwater supply.

Stormwater

A system of curbs, gutters, drains, storm sewers, culverts, and open ditches makes up the stormwater infrastructure that carries rainwater and snow melt from streets and parking lots to Sand Creek, Slate Creek, Mud Creek, or other local streams and ponds.

The City of Newton is required to fulfill the obligations of the MS-4 National Pollutant Discharge Elimination System (NPDES) Storm Water Permit as per KDHE regulations, as well as federal requirements of the EPA through the Clean Water Act. The city's permit regarding non-point source pollution standards requires officials to adopt and enforce various local regulations regarding stormwater runoff.

The 2009 Manual for Construction Site Erosion and Sediment Control was adopted in accordance with state and federal regulations that require local enforcement of best management practices for ensuring stormwater quality during construction activity. The Manual for Post Construction Storm Water Best Management Practices was adopted to assist in improving stormwater runoff quality from developed properties even after construction activities are complete, as required by state and federal government regulations.

A pressing issue facing the Public Works Department is the need to perform maintenance work and stormwater system upgrades. Nearly all of the older areas of town are served by a combined sewer and stormwater system. The age of this stormwater conveyance system, as well as a new state and federal regulatory framework, are forcing city staff to address stormwater planning, design, operation, and maintenance to a degree never before envisioned. This also requires a ramp-up of public education regarding stormwater quality management. Other programs must be expanded or implemented like illicit discharge elimination, storm drain stenciling, development of buffer zone requirements along local water bodies, a stormwater hotline, "stream teams," and so forth.

As new development continues, not only should the community continue stormwater quality initiatives, but stormwater quantity control should be better defined with more specific design guidelines for detention and retention requirements, policies regarding development in and along the flood plain, and expectations for tying stormwater quality and quantity issues together in new development areas. Other issues that should be considered are how storm water drainage systems can be designed into other public improvements like roads, parking lots, etc. to better improve runoff quality and find opportunities for multi-use facilities with drainage.

Solid Waste

The Sanitation Division of Public Works provides solid waste collection including recycling. Residential properties are currently required to recycle in all of Harvey County, and the City of Newton is the only hauler within the city for single-family residences. Harvey County operates a transfer station for commercial and residential solid waste, which is then transported to Reno County. Recyclables are taken to the Harvey County Recycling Facility adjacent to the transfer station. The collaborative partnership between the cities and county results in compliance with state and federal solid waste guidelines, and is a cost-effective service to the citizens of the Newton community.

Harvey County is now allowing single stream recycling at the MERF and the City of Newton is expecting to change from a two-stream system to single-stream system beginning in January 2012. Replacement of new vehicles and recycling carts dictates the time frame. Additional items will be added to the recycling stream as Harvey County recently prohibited some items from entering the transfer station.

The City of Newton also operates a free bulky item pick-up to all utility customers. Large items like sofas, appliances, and large tree limbs are collected by sanitation staff at the curb and transported to the appropriate place of disposal after any preparations are made to the item (e.g., proper disposal of antifreeze).

Municipal Utilities

- Goal: Provide a safe, potable water supply, operated in adherence to the guidelines and regulations of the state and federal governments.
- Goal: Provide an environmentally sound wastewater collection and treatment system in compliance with state and federal regulations.
- Goal: Protect local waterways and private property by establishing effective stormwater design requirements and stormwater pollution prevention techniques in compliance with state and federal regulations.
- Goal: Provide cost-effective solid waste collection and recycling for residential and commercial users in conjunction with the Harvey County transfer station.

Existing Areas of Concern

The following are viewed as important long-term municipal utility concerns or planning issues.

Aging Infrastructure

Maintenance and upgrading of an aging water, sanitary sewer, and stormwater infrastructure is an ongoing issue facing the Public Works Department. In some areas of the community, the water and sewer lines are past their design life and need repair or replacement. This requires a systematic investigation of the condition of the city's infrastructure and identification of priority needs, along with annual funding to address needs on an ongoing basis.

Increasing Environmental Regulations

New federal and state environmental protection regulations for the treatment of potable water, discharge of treated wastewater, and stormwater quality are resulting in increased capital, operating, and maintenance costs. The consequence is higher user fees being passed on to citizens.

Groundwater Supply and Quality

Newton's public wells are in need of major maintenance to ensure proper pumping of the groundwater and to ensure that the water is of good quality. Staff is currently preparing an implementation plan with the assistance of groundwater experts.

North Newton also has some recently discovered and serious groundwater contamination issues with its wells.

Newton should consider permit requirements on private well drilling and capping operations in order to enforce state regulations aimed at protecting groundwater quality.

Future Strategies & Policies

2005 Sewer and Water Master Plan Update

Many recommendations of the 2005 Sewer and Water Master Plan have been implemented. In addition, the long-term time horizon (20 to 40 years) to extend municipal water and sanitary sewer infrastructure should be revisited if development of the Kansas Logistics Park occurs in an aggressive timeframe. While the recommendations in 2005 have positioned Newton to accommodate urban growth and development, the time to begin planning for long-range sewer and water plant upgrades and water main and sewer inceptor extensions requires a 5- to 8-year lead time for implementation.

Moreover, the potential for economic development activity at the Newton City-County Airport has changed the scenarios and assumptions used in 2005 for the planning of sewer and water infrastructure. The preparation of the 2030 Comprehensive Plan and Airport Master Plan will offer a new growth framework and land use plan to assist in preparing an updated sewer and water master plan. A new water and sewer master plan should include future growth areas and identify future capital needs.

Stormwater Management Plan

One of the challenges of urban development is the increase in impervious surfaces from parking lots, rooftops, and commercial and industrial development. This results in an increased need to protect private property and natural habitats from damage due to increased water flow, flooding, or polluted stormwater.

A stormwater management plan would comprehensively assess the watersheds that comprise the city's major drainage systems. The plan would evaluate the performance of the existing storm drainage system, as well as plan for and manage stormwater flow, water quality, and the natural habitats of watersheds anticipated to experience urban development. The plan would identify capital improvements and prioritize projects to correct deficiencies in the existing stormwater system.

Buffer zones should be required for new development along local waterways and every opportunity should be taken to implement this policy countywide to ensure better quality water flowing into and out of Newton.

Stormwater Management Design Standards

"Contemporary stormwater management is a multi-dimensional function which includes quantity and quality considerations, multiple-use facilities, riparian corridors, recreation, wetland preservation and creation, and groundwater recharge."

Source: "Guidance for Municipal Stormwater Funding, January 2006,"
National Association of Flood and Stormwater Management Agencies

Because of the evolution of state and federal regulations covering stormwater, city staff officials have deemed a set of new stormwater engineering standards necessary. These new standards are intended to provide uniform procedures for designing and constructing new storm drainage systems to mitigate the impacts of stormwater quantity and quality. The desired outcome is to promote building and landscape designs that mimic natural systems in order to reduce excess flows in the city sewers, streets, and waterways. This would be achieved through engineering designs that allow stormwater to infiltrate or be retained or detained on-site.