

SECTION I

BACKGROUND FOR PLANNING

INTRODUCTION

In the community setting, comprehensive planning is a process by which all of the interrelated elements of the large spatial phenomenon known as a city may be studied, planned and guided toward common aspirations of the population with the intent to foster, over time, a progressively better community environment.

Throughout history, people have banded together into communities to avail themselves an increasing array of benefits and amenities which would not be obtainable on an individual and uncoordinated basis. As a result, every aspect of development in the physical makeup of the community is directly connected to corresponding human need, in particular the need of the resident population of the City and the immediately surrounding area. And because the underlying social aspirations and values change little over time, potential needs and requirements of defined future populations are measurable, and predictable with a reasonable degree of accuracy.

Across time, Cities have originated, prospered and grown where there was a natural resource capable of being exploited to sustain the population. Throughout Kansas and across the west this resource was most often land and the associated economic opportunity for establishment of farms and ranches and points of supply for needed commodities. Although economic opportunity was the primary factor in the founding of most western communities, it is the natural setting which is directly responsible for the observable patterns of physical development. Accordingly, in order to understand long-range community potential, it is first necessary to know something of the history and sociology of the population, as well as the physical circumstances which have shaped present development patterns, and which will continue to profoundly affect community expansion opportunity in the future.

In this context, it is the purpose of this element of the plan to review selected aspects of the community setting, including history, geography, geology, topography, climate, soils, water and minerals. These are the considerations of primary importance to an understanding of the present community and its potential for continued growth and development.

HISTORY

The City of Clearwater is situated in an area south of the Arkansas River which was granted to the Indians as an outlet to the buffalo ranges farther west by the treaty of 1867 at Medicine Lodge. Affecting primarily the Osage Tribe, the region was withheld from settlement only until the early 1870's when the great tide of Europeans seeking free land became so overwhelming that the outlet was declared open for homesteading.

Although the area was not subjected to permanent settlement until the 1870's, the earliest documented European incursions date from the well known expedition of discovery by Coronado in 1541, nearly 300 years earlier. The intervening centuries saw an accelerating flow of explorers, trappers, traders and buffalo hunters, culminating in a massive wave of immigration and settlement in the years following the Civil War. By 1867 the famous Chisholm Trail was in use, passing just east of present day Clearwater. The trail was a favored route for movement of herds of semi-wild Spanish cattle from Texas to the rail head and market area of Abilene. With the arrival of permanent homesteading and construction of miles of barbed wire fencing the era of the great cattle drives came to a rapid close, with the final drives through the area occurring prior to 1874.

The history of the Clearwater community has been documented in detail in several publications including Welcome to Clearwater, a Political Ecology paper by students of WSU, and Clearwater, In the Valley of the Ninnescah, 1885-1985, by the Centennial Book Committee. These sources indicate that the first

permanent settlement on the Ninnescah River at present day Clearwater occurred in 1869, with the original town plat of old Clearwater being surveyed and recorded in 1872. The town was subsequently moved to the present day site in the early 1880's to coincide with the route of the Missouri-Pacific Railroad which was completed through Clearwater in 1884. The Santa Fe railroad had also reached the community by 1887, only to be abandoned in 1937.

The records show that the present City of Clearwater was incorporated as a City of Third Class in 1885. In that year the population enlarged from 700 to a reported 2,000 plus. Many of the early residents departed during the droughts and economic collapse of the late 1880's and 1890's which were to follow, however, with arrival of more beneficial conditions the population again returned to a pattern of growth after the turn of the new century.

Throughout its history, the City has always been a center of trade, industry and services and numbered among its earliest arrivals doctors, surgeons, bankers, lawyers, druggists as well as a hotel, a photographer's studio, an auctioneer and a newspaper. Other early businesses include hardware, groceries, clothing, real estate, funeral home, furniture and a range of blacksmithing and construction services. The town has always been proactive about provision of public amenities and early on developed churches, schools, paved streets, electric lighting, water and sewer systems and public parks.

Today Clearwater is a community of over 2,000 inhabitants with an economy based in agriculture, commerce, and industry, with many of the residents finding employment at the nearby commercial and industrial complex at Wichita. The town features quality schools, excellent public amenities and a rich high quality small town living environment which guarantees continued growth and expansion throughout the 20-year planning period and beyond.

GEOGRAPHIC LOCATION

Clearwater is situated in southwestern Sedgwick County, approximately 15 miles southwest of Wichita. The location is about 12 miles south of US Highway 54, and 10 miles west of the Kansas Turnpike. In the regional setting, the City is about 35 miles north of the Kansas/Oklahoma border and 175 miles west of the Kansas Missouri border. Major cities across the region, in addition to Wichita, include Oklahoma city, approximately 150 miles toward the south; Kansas City, within 200 miles toward the northeast; and Denver, approximately 490 miles toward the northwest.

With a location close to the Kansas Turnpike (US 35) reaching toward the northeast, Interstate 135 on a north-south alignment, and US Highway 54 coursing east-west through the state, each providing connection with the transcontinental highway system, the City of Clearwater is within one to three days travel time of all major market areas in the contiguous 48 states.

The location of Clearwater with regard to the surrounding region is illustrated graphically on the following figure. (Figure 1)

GEOLOGY

The City of Clearwater is situated above the channel area of the Ninnescah River on generally flat to gently sloping terrain consisting of deep, well drained soils above clayey alluvium and outwash silts, sands and gravels. Due to repeated meandering of the adjacent river over geologic time, the area is underlain by substantial deposits of water-bearing sand and gravel.

The following figure illustrates a cross-section showing typical geologic structure of the surface layers in the general area. (Figure 2)

CLIMATE

The climate of the Clearwater area is typical of a mid-continental middle latitude location featuring hot summers, cold winters and often relatively short transition periods in spring and fall. Also due to the mid-continental location, precipitation is usually highly variable year to year, with the majority falling during evening and nighttime thunderstorms from May through September. In this respect, the Sedgwick County

Soil Survey, prepared by the United States Department of Agriculture notes that the average annual precipitation is 28.93 inches, with the heaviest one-day rainfall being 7.99 inches at Wichita on September 7, 1911.

Similarly, the USDA climatological data also shows that the average seasonal snowfall is 15.4 inches, with the record being 40 inches during the winter of 1911-12.

The prevailing wind direction is from the south with an average wind speed of 13 miles per hour. During the summer, the average maximum daily temperature is 90.1 degrees while the wintertime average is 33.3 degrees. The lowest temperature on record was minus 22 degrees at Wichita on February 12, 1899. The high temperature record, also at Wichita, was 114 degrees on August 12, 1936. These figures indicate a potential seasonal annual temperature spread of up to 136 degrees F.

SOILS

The Soil Survey of Sedgwick County, Kansas prepared by the United State Department of Agriculture, Soil Conservation Service indicates that the City of Clearwater is located in an area which is predominantly blanketed by soils of the Blanket-Farnum-Vanoss Association which are described as deep, nearly level to sloping, well drained soils that have a loamy or clayey, silty and loamy sediments. Within this association, specific soils in the immediate Clearwater area include Blanket, Elandco, Milan, Naron, and Vanoss. Within this group, the Milan soils cover most of the developed area of the city.

Concerning soils properties with respect to urban uses, the following table summarizes limitations of area soils for a range of typical development types.

TABLE 1
ENGINEERING PROPERTIES OF AREA SOILS*
City of Oxford, Kansas

Use	DEGREE OF LIMITATION BY SOIL TYPE**				
	Blanket	Elandco	Milan	Naron	Vanoss
Building Site Development					
Shallow Excavations	Moderate ¹	Moderate ²	Moderate ¹	Slight	Moderate ¹
Dwellings with Basements	Moderate ³	Severe ²	Moderate ³	Slight	Moderate ³
Local Roads & Streets	Severe ⁴	Severe ⁴	Severe ⁴	Moderate ⁴	Moderate ³
Sanitary Facilities					
Septic Tank Absorption	Severe ⁵	Moderate ⁵	Severe ⁵	Slight	Slight
Sewage Lagoons	Slight	Moderate ⁶	Moderate ⁷	Moderate ⁶	Moderate ⁶
Recreational Development					
Camp Areas	Moderate ⁵	Moderate ²	Moderate ⁵	Slight	Slight
Playgrounds	Moderate ⁵	Moderate ⁸	Moderate ⁵	Slight	Slight
Construction Material					
Road Fill	Poor ⁴	Poor ⁴	Poor ⁴	Fair ⁴	Poor ⁴
Sand and Gravel	Unsuited ⁹	Unsuited ⁹	Unsuited ⁹	Unsuited ⁹	Unsuited ⁹
Topsoil	Fair ¹⁰	Fair ¹	Fair ¹⁰	Good	Fair ¹⁰

* *Source: Soil Survey of Sedgwick County, Kansas, United States Department of Agriculture, Soil Conservation Service*

** *1. Too Clayey; 2. Floods; 3. Shrink-Swell; 4. Low Strength; 5. Percs Slowly; 6. Seepage; 7. Slope; 8. Dusty, Too Clayey; 9. Excess Fines; 10. Thin Layer*

The table shows that nearly all area soils exhibit moderate to sever limitations for most types of urban uses. Limitations are typically due to clayey soils having high shrink-swell potential and low strength. Other limitations include slow percolation, slope, flooding and dust condition. These limitations are an indication that most developed uses, particularly for building foundations, basements, sanitary facilities and road construction will require thoughtful engineering design to assure structural compatibility with the specific location.

While native soils conditions indicate that continued community growth will be affected by a range of limitations, the long history of development in the area shows that such limitations need not present major abstracts provided proper precautions are developed as part of the individual project design process.

Locations of the various types of soils in and around the Clearwater Community are illustrated graphically on the following figure. (Figure 3)

TOPOGRAPHY

The major topographic feature in the Clearwater area is the Ninnescah River located one-half to one mile south and west of town. The community is situated on bench lands above the river which are dissected by drainages which function as tributaries of the river. In this respect, the City is bounded by the floodplain of the river on the west, south and southwest. Elevations across the planning area range from lows of about 1230- msl (Mean Sea Level) on the southeast to highs of about 1380 msl toward the north for a maximum

elevational differentiation of about 150 feet from the lowest elevations along the river to the top elevations on the highlands.

The topography within the area of the community is shown graphically on the following figure. (Figure 4)

WATER RESOURCES

Water supply in the Clearwater area is provided by underground aquifers associated with the Ninnescah River. As the river meandered over geologic time substantial deposits of sand and gravel developed which can yield from 10 to 500 gallons per minute to groundwater wells in the vicinity. Water quality is generally good, but with varying degrees of hardness depending upon location. Groundwater from this source is the primary supply for communities as well as individual homes throughout the area. A more in-depth review of water supply and distribution in the city of Clearwater is presented in the Community Facilities section of the Comprehensive Plan.

MINERALS

Background information contained in the Kansas Statistical Abstract, published by the University of Kansas, documents that mineral resources of southwestern Sedgwick County and the Clearwater area include salt, sand and gravel, and petroleum including both gas and oil. At the present time, mineral production in the Clearwater vicinity includes petroleum as well as building aggregates in the form of sand and gravel.

