

## UTILITY SERVICES

### 9.1 - SEWERS

The sanitary sewer system in Independence is municipally owned and operated by the Water Pollution Control Department. Almost 40,000 customers are served by 501.84 miles of sanitary sewers and 11,571 manholes (see table 9.11). The Water Pollution Control Department operates seven pumping stations and the Rock Creek Waste Treatment Facility which serves the Mill Creek, Rock Creek and Sugar Creek watersheds. Furthermore, an interjurisdictional agreement allows the Little Blue Valley Sewer District to serve the Bundschu, Crackerneck, Adair, and Springbranch watersheds.

The Little Blue Valley Sewer District has approximately 60 miles of sewer interceptor to serve twelve separate subdistricts including the City of Independence. The Little Blue Valley Sewer District does not have lateral lines. Individual service is provided by the sub districts and then collected by the Little Blue Valley Sewer District for treatment. The Little Blue Valley Sewer District indirectly serves an equivalent population of approximately 280,000.

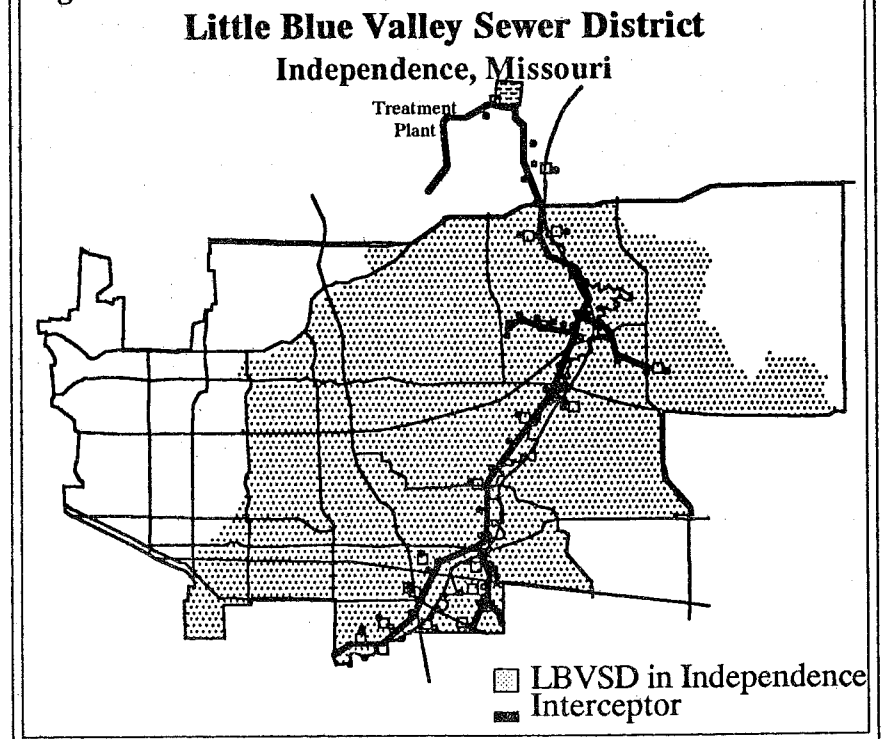
The Little Blue Valley Sewer District would serve the industrial corridor created by the proposed Little Blue Expressway. An interceptor roughly along the proposed alignment of the Little Blue Expressway is from 114 to 126 inches in diameter and has a design flow of 265 to 350 mil-

lion gallons per day (MGD) (see figure 9.11). The Little Blue Valley Sewer District treatment plant can handle any non-hazardous industrial waste. However, a standard industrial pre-treatment program is required. Information on this program is available from the Little Blue Valley Sewer District or the City of Independence Water Pollution Control Department.

Table 9.11

<b>Sanitary Sewers</b>	
<b>Water Pollution Control Department</b>	
<b>Independence, Missouri</b>	
Total miles of sanitary sewers	501.84
Total manholes	11,571
Number of customers served	38,982
Pumping Stations	7
Treatment Plants	1

Figure 9.11



## 9.2 - WATER

The City of Independence Water Department is a public utility, owned and operated by the citizens of Independence. Its source of water is from underground wells which are located in the Courtney Bottoms adjoining the south side of the Missouri River where Missouri Highway 291 crosses the river. These wells range in depth from 80 to 134 feet where they tap an underground aquifer in the alluvium deposits under the Missouri River. This is an almost in exhaustible supply of clear and clean water which needs no special treatment except for routine safeguards.

The original source of water supply for Independence was a small treatment plant and pumping station located on the Missouri River some three miles north of the center of the city. This installation, started in 1883, in addition to the treatment and pumping plant, consisted of approximately five miles of cast iron pipe, ranging in size from four to twelve inch.

On February 1 1947, the Missouri Water Company took over the property from the old Independence Waterworks Company. The City of Independence assumed ownership from the Missouri Water Company on April 1, 1986. There is now a vast network of over 642 miles of cast iron, steel and concrete pipe ranging in size up to and including 36 inches in diameter. Three elevated tanks, one underground reservoir and two surface reservoirs give the distribution system a storage capacity of 10,100,000 gallons.

The Independence Water Department has 34 wells in operation that can

produce up to 400 million gallons per day. There are 16 high service pumps involved in delivering this water supply over the bluffs and into the city distribution system. It is anticipated that the present plant will serve the needs of the City of Independence for several more years.

The Independence Water Department services the eastern section of Jackson County (see figure 9.21). The number of water customers in the City of Independence has increased from 31,242 in 1967 to 42,746 currently. In addition to the customers served directly, another 48,273 are served through 11 wholesalers. The 11 wholesalers are the cities of Blue Springs, Buckner, Grain Valley, Lee's Summit, Oak Grove, Lake Tapawingo, and Sugar Creek and water districts 2, 15, 17 of Jackson County and Lafayette County Water District 1. The cities of Blue Springs and Lee's Summit and Jackson County Water District 2 obtain part of their supply from Kansas City Missouri. This represents a total of approximately 250,000 people served by the department.

This supply of quality water did not happen by chance. It was the result of careful planning. In 1954, when an independent and

**Table 9.21**

<b>Water Rates</b>		
<b>Independence, Missouri</b>		
<b>Meter Size</b>	<b>Monthly Billing (Water Allowed 200 Cu. Ft.)</b>	<b>Quarterly Billing (Water Allowed 600 Cu. Ft.)</b>
5/8"	7.97	14.85
3/4"	8.61	16.76
1"	9.95	19.90
1-1/2"	12.96	28.00
2"	16.87	37.00
3"	30.35	72.92
4"	52.16	120.21
6"	97.62	229.41

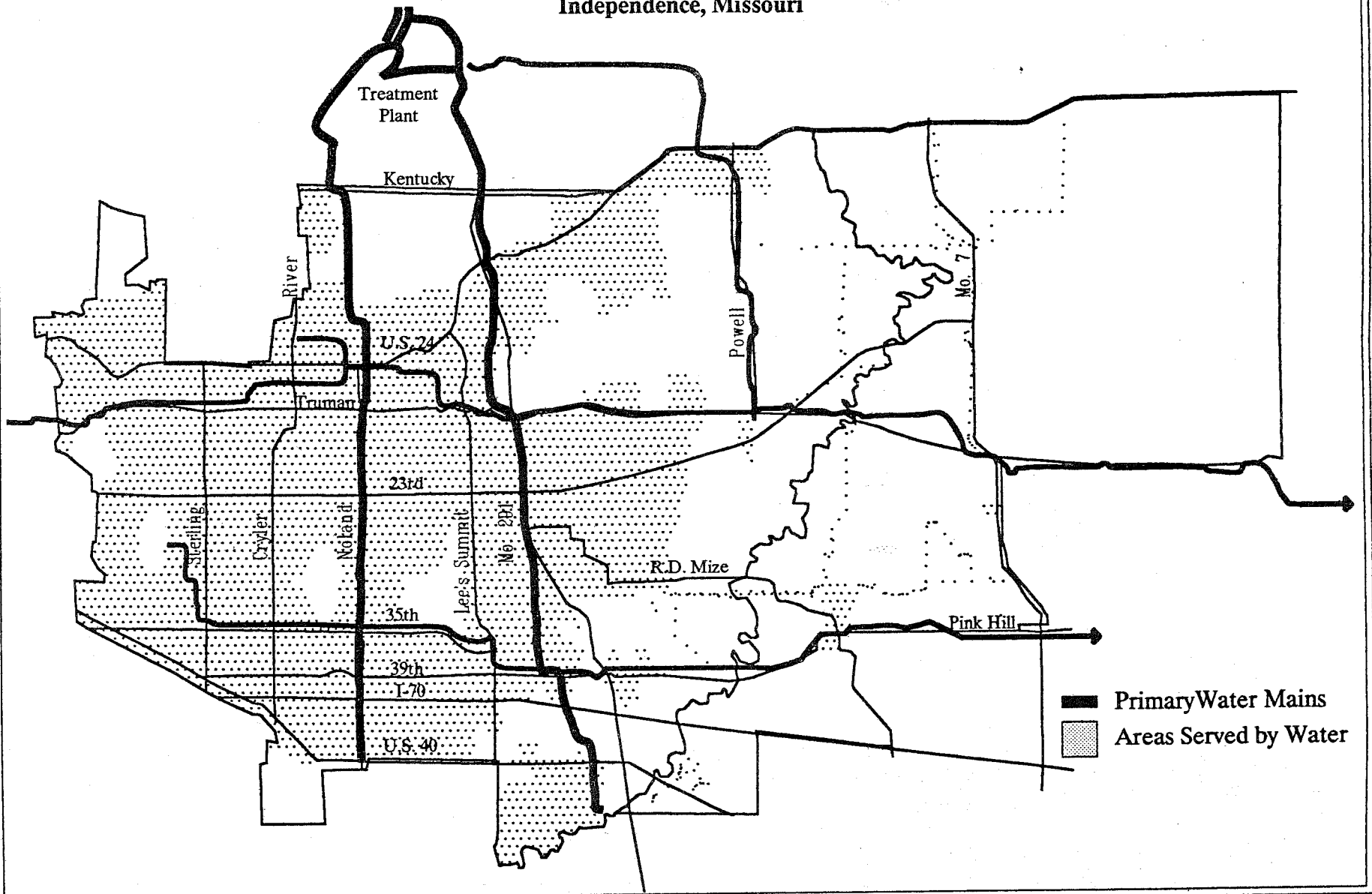
Minimum charges are payable in advance

In addition to the minimum customer charge, for all water used as registered by meter above the water allowance the commodity charge is \$1.3232 per 100 cubic feet.

Established by Ordinance Number 11292, September 24, 1990

Figure 9.21

### Independence Water Department Independence, Missouri



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- Primary Water Mains
- Areas Served by Water

more plentiful source of water was being sought for this area, an investigation revealed that the most economical source of water would be the Missouri River. However, this plan was discarded because of the high pollution of the river. As a result, considerable time and money was spent locating and developing a dependable underground water source that could be trapped with wells and supply the fast growing needs of the area. This source was found in the Courtney Bottoms along the Missouri River Valley north of Independence. The cost of developing this water supply was considerably higher than the river source would have been. Nevertheless, it was decided that the quality and quantity of this water would be well worth the added cost of development.

The chief aim of the Independence Water Department is to provide the best possible water service at a reasonable cost to the consumer. Table 9.41 shows the rate schedule for retail purchasers of water in cities, towns and unincorporated areas served by the Independence Water Department. Manufacturers and large quantity users pay a different monthly charge based on meter size and then \$433.24 for the first 60,000 cubic feet and \$0.7221 for every 100 cubic feet over 60,000.

### **9.3 - GAS**

Gas Service, a Western Resource Company provides natural gas service to the City of Independence and the surrounding metropolitan area. This company has a long record of dependable service to the Independence area. Gas service is considered more than adequate in the foreseeable future to meet existing and anticipated residential, commercial, and industrial requirements. It has expanded its facilities in advance of actual need, and has demonstrated its ability to grow with the community.

Prior to 1929, an independent company, the Jackson County Light, Heat and Power Company served this need, In 1929, the Gas Service

Company acquired this operation and it became an integral part of a larger system within the four mid-western states, Missouri, Kansas, Oklahoma, and Nebraska.

Gas Service provides gas to 1.068 million natural gas customers. Of the 45,822 customers in Independence, 45,443 are residential, 361 are commercial, and 18 are Industrial.

The business office of the Gas Service Company is located at Main and Kansas. This office handles customer accounts, including applications for new service, and does collecting and cashiering work. It also handles a sales display and promotional work, including a home service Department. The corporate training center is located on 23rd street and the M.P.R.R. Their service crews are available on 24-hour emergency call.

### **9.4 - ELECTRIC**

In 1901 the City was forced into the power and light business. The privately owned plant, known as the Gudgeon Plant, had burned, leaving the city with no source of electricity. This was not the calamity it would have been at a later time since the city was gas lighted and there was practically no demand for electric power. People were wanting electricity, since movies were coming in, and they wanted to use the "hair pins that burned in a bottle". On May 24 a proposition to issue \$30,000 in bonds for the erection of a light plant on East Maple and Dodgion Streets was passed in a special election. On July 12 a commission was created to carry out the plan. In October of 1901 it was reported that contractor Christian Yetter had the new light plant under construction near the public spring. Contractor William Street would soon have the brick work done and it was expected that the streets would be lighted by Christmas.

The Independence Power and Light system evolved and expanded over the years as the city grew and as new areas were annexed. As

territory was annexed, facilities were purchased from Kansas City Power and Light (KCP&L). The resulting expansion was not always the way the system would have been designed if the City had built the facilities. In the Middle 1950's the City built the present power plant at Blue Valley. This plant has gradually become a key part of the City's power system with a major interconnection and the majority of the City's generation concentrated in one location. The reliability of this location is critical to the reliability of the City's power system.

The power generation system is the production portion of the electric power system, the transmission system is the wholesale portion of the electric power system and the distribution system is the retail portion of the electric power system. The delivery point for the City's customers, except for the largest commercial and industrial customers, is the distribution system (see figure 9.41).

In 1984, Burns & McDonnell Engineering Company completed a study, motivated by operational problems the City was experiencing due to limitations of the transmission system. This study considered the needs of the City's transmission to perform the following functions:

- Provide adequate transmission capacity to deliver power from generation resources to the load.
- Provide adequate reliability so the system can perform satisfactorily under single contingency conditions without loss of load.
- Provide adequate transfer capability with outside utilities to provide opportunities for economy purchases, as well as emergency, maintenance, and other short term purchases.

Figure 9.42 is the Independence Power and Light Department's plan to increase transfer capacity of the transmission system allowing purchase of larger blocks of economical power, and

establishing a 161 KV ring system for improved reliability.

The City is now in the process of requesting bids for another study of the transmission system which will also consider the distribution system. The new study is prompted by the need to reconsider plans due to changing conditions such as the City's peak load, which has increased almost 25% from 1984 to 1991. One goal of the study is to improve the distribution system so that any failure of a substation transformer or switchgear bus can be backed up through switching, even during a peak period.

Independence Power and Light customers are charged rates for electricity which reflect the Department's cost of delivery of power. The delivered cost of electricity includes two components. One component is the actual cost of the electricity. This includes the fuel cost for the power the City produces and the purchase price of power purchased by the City. The other Component is the capital cost of the facilities used for the generation and delivery of the electricity. Any costs associated with construction of the generation system, transmission system, and distribution system are factored into the capital cost. The capital cost includes the cost of interest on any money the City borrows for construction as well as depreciation of the electric system. These two basic costs make up the rate the City charges its costumers. Residential Customers pay a rate based on an assumed distribution of fixed costs. Commercial and industrial customers pay a fixed charge, called a demand charge, plus an energy charge. Each month a fuel adjustment charge is computed. The fuel adjustment charge is the difference between the actual production cost of electricity and the production cost included in the rate calculations. The adjustment can be either an increase or a decrease in the customer's energy bill.

The City has a total gross investment in the Power and Light Department of about \$139,000,000. This investment includes about 46% in generation plant, 12% in the transmission

Figure 9.41

### Independence Power and Light Department Distribution System Independence, Missouri

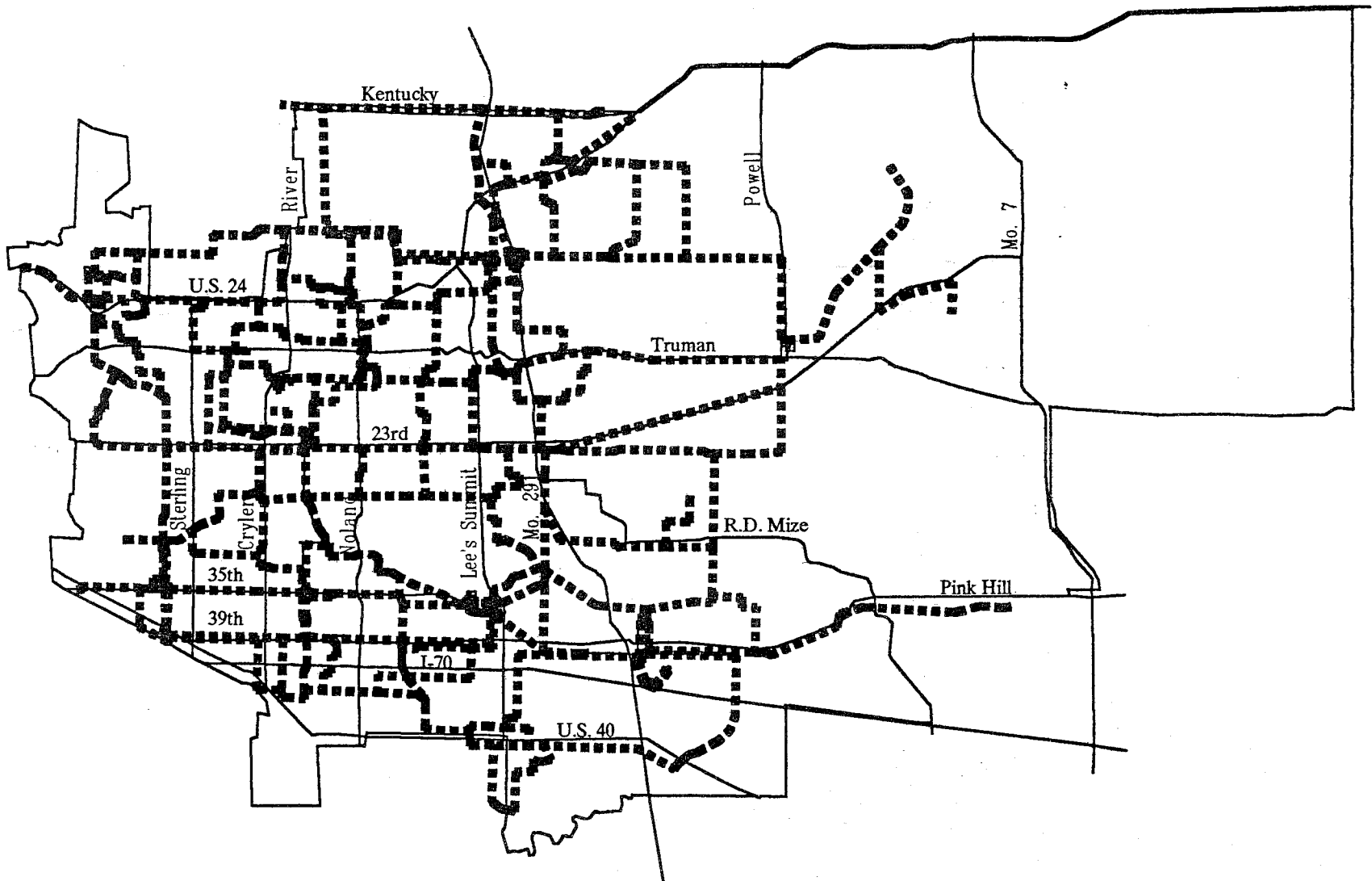
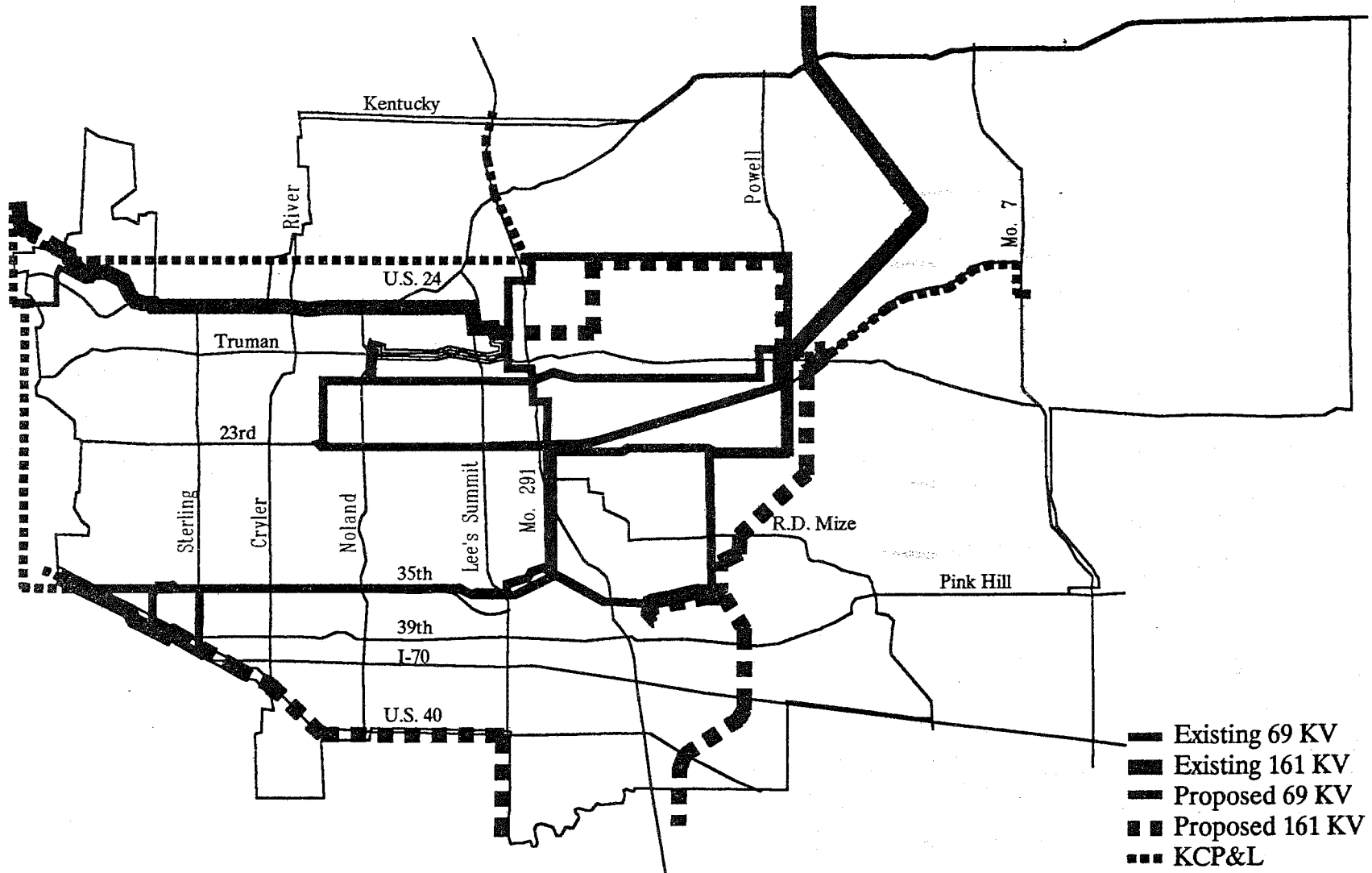


Figure 9.42

### Independence Power and Light Department Transmission System Independence, Missouri



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9-7

system, 33% in the distribution system, and 7% in miscellaneous equipment. Miscellaneous equipment includes items such as buildings, computers, and vehicles. These items cannot readily be assigned to a specific category.

**Table 9.41**

<b>Number of Electric Service Customers</b>			
<b>Independence, Missouri</b>			
	Residential	Commercial and Industrial	Total
Independence Power and Light	44,729	4,386	49,115
Missouri Public Service	27	0	27
Kansas City Power and Light	1,229	71	1,300

**Independence**

Power and Light serves 49,115 customers, 4,386 of which are commercial (see table 9.41). KCP&L and Missouri Public Service provides electricity to parts of Independence. KCP&L serve 1,300 customers, 71 of which are commercial or industrial, and Missouri Public Serve serves 27.

**9.5 - TELEPHONE**

The Southwestern Bell Telephone Company serves most of the City of Independence and the surrounding metropolitan area. United Telephone serve the northeastern part of the city.

The Southwestern Bell Telephone Company has facilities at 201 and 215 Spring, 2301 Savage, 14250 East 32nd, 15400 East Truman Road, 16808 East U.S. 40 Highway, 19104 Bundschu, and 4600 Kendall.

In 1950 there were Southwestern Bell had approximately 19,000 telephones in service in the Independence area. Today Southwestern Bell has approximately 65,400 telephones in service and United Telephone has 253. Southwestern Bell estimates a 2.5% growth over the next year.

Underground conduits make up a large part of this growth, eliminating some of the heavy telephone cables from overhead poles. Furthermore, underground service lines to individual customers are part of the newer subdivisions. This is an important advancement towards improving the aesthetic qualities of urban living and civic beautification generally.

Southwestern Bell local rates are \$17.25 for private residential service, and approximately \$28.00 for unlimited business service, on a monthly basis.