

# Water-Resource Development: A Strategic Plan

## *Summary of Water Systems* *KIPDA*

*Water Resource Development Commission*

*October, 1999*

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# KIPDA

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## REGIONAL OVERVIEW

### (KIPDA ADD Existing & Proposed Water Lines Map)

- Estimated 1999 population of 826,000--96% on public water
- Estimated 2020 population of 866,000--97% on public water
- 2,160 miles of water lines, with plans for 210 additional miles
- Estimated funding needs for public water 2000-2005--\$28,100,000
- Estimated funding needs for public water 2006-2020--\$15,000,000

The region had an estimated population of 826,359 (342,841 households) in 1999 with a projected population of 866,000 (380,000 households) in 2020. There are 2,160 miles of water lines in the region serving 790,000 people, or about 96% of the region's population. 210 miles of proposed water line extensions for the period 2000-2020 would provide service to 4,400 additional households. About 31,900 people in the region rely on private domestic water systems: 14,900 on wells, and 17,000 on other sources.

Estimated populations and public water service for the seven counties in the region are given below:

<b>County</b>	<b>1999 Pop</b>	<b>On Public</b>	<b>2020 Pop</b>	<b>On Public</b>
Bullitt	60,500	46,600 (77%)	78,100	64,000 (82%)
Henry	15,100	13,600 (90%)	18,300	16,500 (90%)
Jefferson	662,500	655,900 (99%)	652,000	652,000 (100%)
Oldham	41,100	38,200 (93%)	52,600	48,900 (93%)
Shelby	29,500	26,600 (90%)	37,400	35,200 (94%)
Spencer	10,000	9,000 (90%)	18,100	17,000 (94%)
Trimble	7,500	6,800 (90%)	9,050	8,150 (90%)
<b>Region</b>	<b>826,000</b>	<b>797,000 (96%)</b>	<b>866,000</b>	<b>842,000 (97%)</b>

# EXISTING & PROPOSED WATER LINES

KIPDA  
Kentucky

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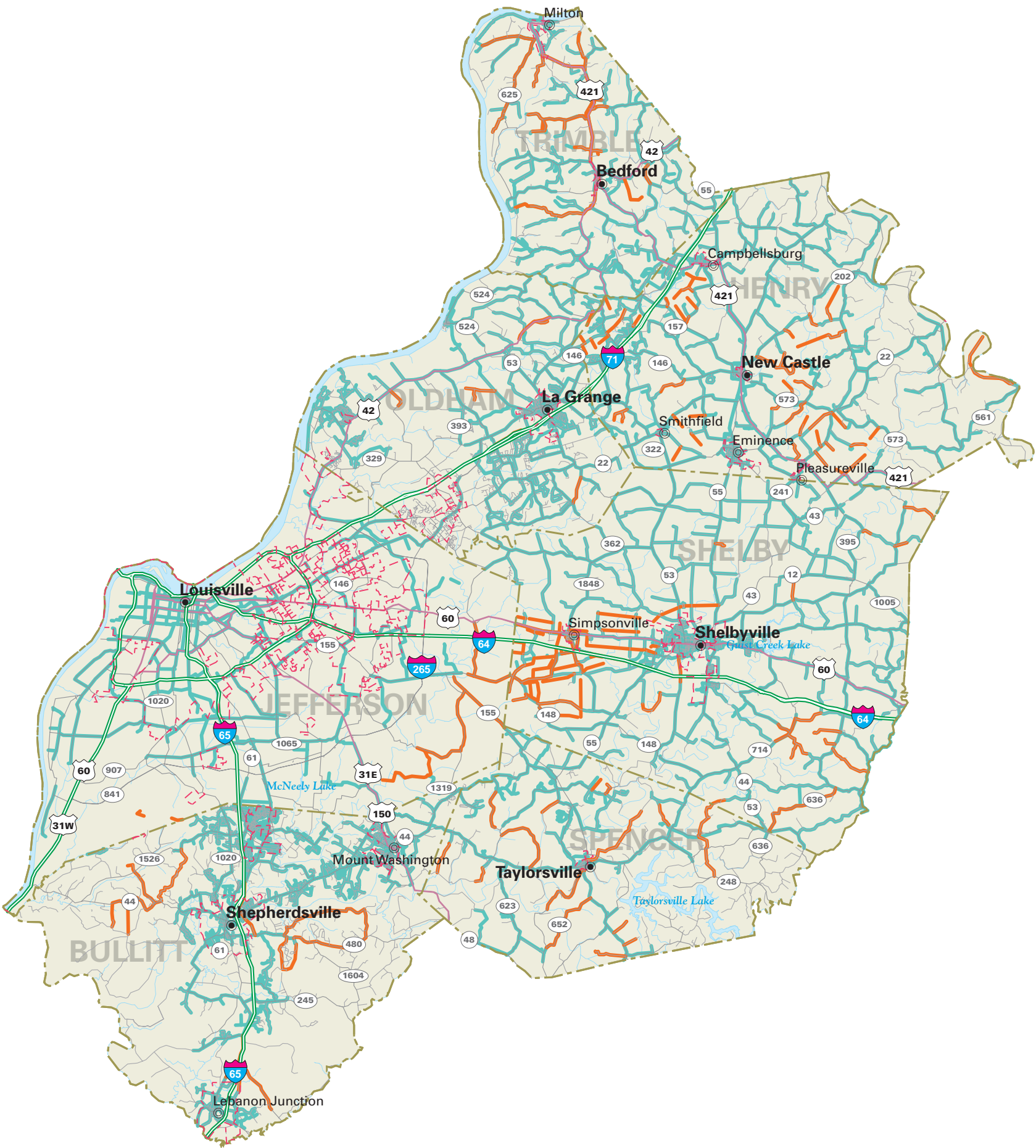
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Kentucky Area Development Districts



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**WATER LINES**  
Existing Water Lines  
Proposed Water Lines

30 public water systems serve the region: 24 community systems--13 municipal, 9 water districts, 2 private, and 6 non-community systems. There are 5 small (501 to 3,300 people served) community systems, and 2 very small systems (fewer than 500 people served).

Estimated costs for public water expansions and associated system upgrades are:

***Estimated Costs - Proposed Projects, 2000-2005***

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
BULLITT								
Kentucky Turnpike Water District	40	909	2,460	1,000			1,750	5,210
BULLITT COUNTY TOTAL	40	909	2,460	1,000			1,750	5,210
								-
HENRY								-
Henry County Water District #2				2,100	620	800	1,440	4,960
HENRY COUNTY TOTAL				2,100	620	800	1,440	4,960
								-
JEFFERSON			All projects	funded	internally			-
Louisville Water	0	0	0	0	0	0	0	0
								-
OLDHAM								-
Oldham County Water District	8	18	463	54			2,000	2,517
OLDHAM COUNTY TOTAL	8	18	463	54			2,000	2,517
SPENCER								-
Taylorsville Water Works	46	312	1,303	2,000			1,000	4,303
SPENCER COUNTY TOTAL	46	312	1,303	2,000			1,000	4,303
								-
SHELBY								-
West Shelby Water District	44	214	2,240					2,240
U.S. 60 Water District	12	81	503	558	1,375			2,436
Shelbyville Municipal	2	5	140					140
North Shelby Water District	4	16	135	881				1,016
SHELBY COUNTY TOTAL	62	316	3,018	1,439	1,375			5,832
								-
TRIMBLE COUNTY								-
Milton Water Company				556	88		425	1,069
Trimble County Water District	2	1	50	1,669	2,500			4,219
TRIMBLE COUNTY TOTAL	2	1	50	2,225	2,588		425	5,288
KIPDA TOTAL	158	1,556	7,294	8,818	4,583	800	6,615	28,110

**Estimated Costs - Proposed Projects, 2006-2020**

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
BULLITT								
Kentucky Turnpike Water District	16	650	4,750					4,750
BULLITT COUNTY TOTAL	16	650	4,750	-			-	4,750
								-
HENRY								-
Henry County Water District #2				7,400	300	800	1,250	9,750
HENRY COUNTY TOTAL				7,400	300	800	1,250	9,750
								-
JEFFERSON			All projects	funded	internally			-
Louisville Water	23	1,870	7,170**					-
								-
OLDHAM								-
Oldham County Water District	5	10	136					136
OLDHAM COUNTY TOTAL	5	10	136					136
								-
SPENCER								-
Taylorsville Water Works								-
SPENCER COUNTY TOTAL	0	0	-	-			-	-
								-
SHELBY								-
West Shelby Water District								-
U.S. 60 Water District								-
Shelbyville Municipal								-
North Shelby Water District	7	317	403					403
SHELBY COUNTY TOTAL	7	317	403	-	-			403
								-
TRIMBLE COUNTY								-
Milton Water Company								
Trimble County Water District								
TRIMBLE COUNTY TOTAL	0	0	0	0	0	0	0	0
KIPDA TOTAL	51	2,847	5,289	7,400	300	800	1,250	15,039

## BULLITT COUNTY

### (Bullitt County Water Service Area Map)

- Estimated 1999 population of 60,500--77% on public water
- Estimated 2020 population of 78,100--82% on public water
- 395 miles of water lines, with plans for 56 additional miles
- Estimated funding needs for public water 2000-2005: \$5,210,000
- Estimated funding needs for public water 2006-2020: \$4,750,000

Bullitt County had an estimated population of 60,499 (21,433 households) in 1999 with a projected population of 78,136 (30,966 households) in 2020. Public water is provided to about 77 percent of the county's residents. In areas of the county not served by public water, about half the households rely on private domestic wells and half the households rely on other sources. About 1,560 households will be added to public water service through new line extensions in 2000-2020.

#### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
BULLITT								
Kentucky Turnpike Water District	40	909	2,460	1,000			1,750	5,210
BULLITT COUNTY TOTAL	40	909	2,460	1,000			1,750	5,210

#### *Estimated Costs - Proposed Projects, 2006-2020*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
BULLITT								
Kentucky Turnpike Water District	16	650	4,750					4,750
BULLITT COUNTY TOTAL	16	650	4,750	-			-	4,750

### PUBLIC WATER SYSTEMS

The residents of Bullitt County are presently provided water by 9 public or semipublic systems, including 4 community systems: 3 municipal, Lebanon Junction Water Works, Shepherdsville Water Company, and Mt. Washington Water Company; 2 water districts, Kentucky Turnpike Water Districts #1 and #2; and 4 non-community systems.

# WATER SERVICE AREAS

## BULLITT COUNTY

### Kentucky

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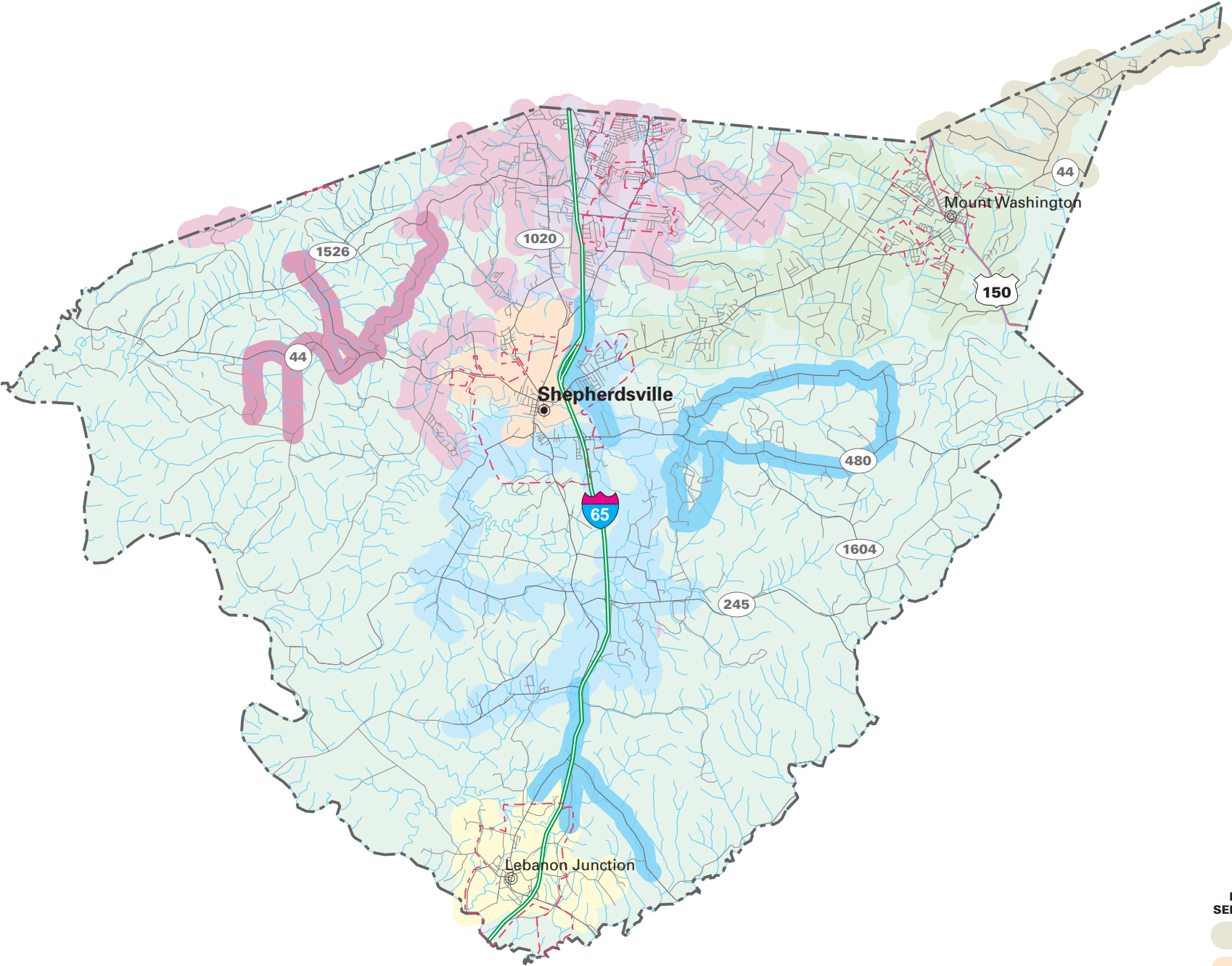
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#### WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		TAYLORSVILLE WATER WORKS
		SHEPHERDSVILLE WATER COMPANY
		MOUNT WASHINGTON WATER COMPANY
		LOUISVILLE WATER COMPANY
		LEBANON JUNCTION WATER WORKS
		KENTUCKY TURNPIKE WATER DISTRICT #2
		KENTUCKY TURNPIKE WATER DISTRICT #1

**KENTUCKY TURNPIKE WATER DISTRICT #2**

PWSID: ..... 0150382  
 System Type: ..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source:  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 500,000.00  
 Total Service Connections: ..... 2,300.00  
 Number of Employees: ..... 5.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons: ..... 5.20  
 O/M costs 1997: ..... 520,886.00  
 O/M costs per Service Connection: ..... 281.71  
 Net Revenue 1997: ..... 9,528.00  
 Total Water Produced 1997 (gallons): ..... 0.00  
 Water Sold 1997 (gallons): ..... 193,239,000.00  
 Unaccounted-for Water 1997 (%): ..... 10.00

The Kentucky Turnpike Water District #2 (KTWD #2) presently serves 2,300 customers. The customer base is located east and south of Shepherdsville, Kentucky. The source of water for the KTWD #2 is the Louisville Water Company. KTWD not only serves 2,300 customers in Bullitt County, but also supplies the North Nelson Water District with as much as 8,000,000 gallons per month (wholesale). It also serves part of Shepherdsville, Kentucky and has two storage tanks with total storage capacity of 500,000 gallons. It has three pumping stations in operation that move more than 850,000 gallons per day and has had steady growth during the past ten years, mostly residential. The projected growth during the next ten years is predicted to outgrow the past by 8% each year. Last year, the residential meter increase was 29% over 1997. Presently, KTWD has the capacity to pump 700 gallons per minute through the master meter, moving through an old outdated 8 inch AC line. System demand is for more than it can presently supply at peak demand. The system is working to increase capacity, but planned projects completion is several years away. The need for water service expansion in Bullitt County results from the rapid growth and development in rural areas around and east of I-65.

**KENTUCKY TURNPIKE WATER DISTRICT #1**

PWSID: ..... 0150355  
 System Type: ..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source: ..... LOUISVILLE WATER COMPANY  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 500,000.00  
 Total Service Connections: ..... 394.00  
 Number of Employees: ..... 0.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons: ..... 0.79  
 O/M costs 1997: ..... 6,295.00  
 O/M costs per Service Connection: ..... 1.57  
 Net Revenue 1997: ..... 168,551.00  
 Total Water Produced 1997 (gallons): ..... 0.00  
 Water Sold 1997 (gallons): ..... 441,655,000.00  
 Unaccounted-for Water 1997 (%): ..... -

**LEBANON JUNCTION WATER WORKS**

PWSID: ..... 0150242  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source:  
 Purchase Source: ..... LEBANON JUNCTION WATER WORKS  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 211,000.00  
 Total Service Connections: ..... 863.00  
 Number of Employees: ..... 3.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

**MOUNT WASHINGTON WATER COMPANY**

PWSID: ..... 0150300  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source:  
 Purchase Source:  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 250,000.00  
 Total Service Connections: ..... 5,053.00  
 Number of Employees: ..... 10.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

**SHEPHERDSVILLE WATER COMPANY**

PWSID: ..... 0150395  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source:  
 Purchase Source: ..... KENTUCKY TURNPIKE WATER DISTRICT NUMBER 1  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 100,000.00  
 Total Service Connections: ..... 1,179.00  
 Number of Employees: ..... 7.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

## OTHER SYSTEMS

### **JIM BEAM BRANDS COMPANY**

Jim Beam Brands Company is located in Bullitt County. The system serves a population of 550 and has 1 service connection. The private, non-transient, non-community system has treatment capacity of 432,000 gallon per day. The water source is surface water from reservoirs.

### **NICHOLS ELEMENTARY**

Nichols Elementary is located in Bullitt County. The system serves a population of 216 and has 1 service connection. The local, non-transient, non-community system has treatment capacity of 48,000 gallon. The water source is cistern/roof drains.

### **CAMP CRESCENDO**

Camp Crescendo is located in Bullitt County. The system serves a population of 600 and has 9 service connections. The private, transient, non-community system has treatment capacity of 50,400 gallon per day. The water source is surface water from a lake.

### **OLD KY HOME SCOUT RESERVATION**

Old Ky Home Scout Reservation is located in Bullitt County. The system serves a population of 500 and has 1 service connection. The private, transient, non-community system purchases water from Ky Turnpike WD #2.

## PRIVATE DOMESTIC SYSTEMS

About 13,300 residents of Bullitt County rely on private domestic water supplies: about 6,650 on wells and 6,650 on other sources.

In the Salt River valley bottoms and in the bottoms of the larger tributaries, most drilled wells will produce enough water for a domestic supply at depths of less than 100 feet. Wells located in the rest of the larger valleys and in the uplands of central Bullitt County will produce enough water for a domestic supply except during dry weather. In the remaining upland areas in Bullitt County which encompasses approximately 50% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines which may produce enough water except during dry weather.

Throughout the county ground water is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

## HENRY COUNTY

### (Henry County Water Service Area Map)

- Estimated 1999 population of 15,100--90% on public water
- Estimated 2020 population of 18,300--90% on public water
- 380 miles of water lines
- Estimated funding needs for public water 2000-2005: \$4,960,000
- Estimated funding needs for public water 2006-2020: \$9,750,000

Henry County had an estimated population of 15,145 (6,279 households) in 1999 with a projected population of 18,300 (8,000 households) in 2020.

Public water is provided to about 90 percent of the county's residents. In areas of the county not served by public water, 2 of 5 households rely on private domestic wells and 3 of 5 households rely on other sources. No new customers will be added to public water service through new line extensions in 2000-2020.

#### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
HENRY								-
Henry County Water District #2				2,100	620	800	1,440	4,960
HENRY COUNTY TOTAL				2,100	620	800	1,440	4,960

#### *Estimated Costs - Proposed Projects, 2006-2020*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
HENRY								-
Henry County Water District #2				7,400	300	800	1,250	9,750
HENRY COUNTY TOTAL				7,400	300	800	1,250	9,750

### PUBLIC WATER SYSTEMS

The residents of Henry County are presently provided water by 4 community systems: 3 municipal, Eminence Water Works, Campbellsburg Water Works, and New Castle Water Company; and 1 water district, Henry County Water District #2.

# WATER SERVICE AREAS

## HENRY COUNTY

### Kentucky

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**Water Resource Development Commission**

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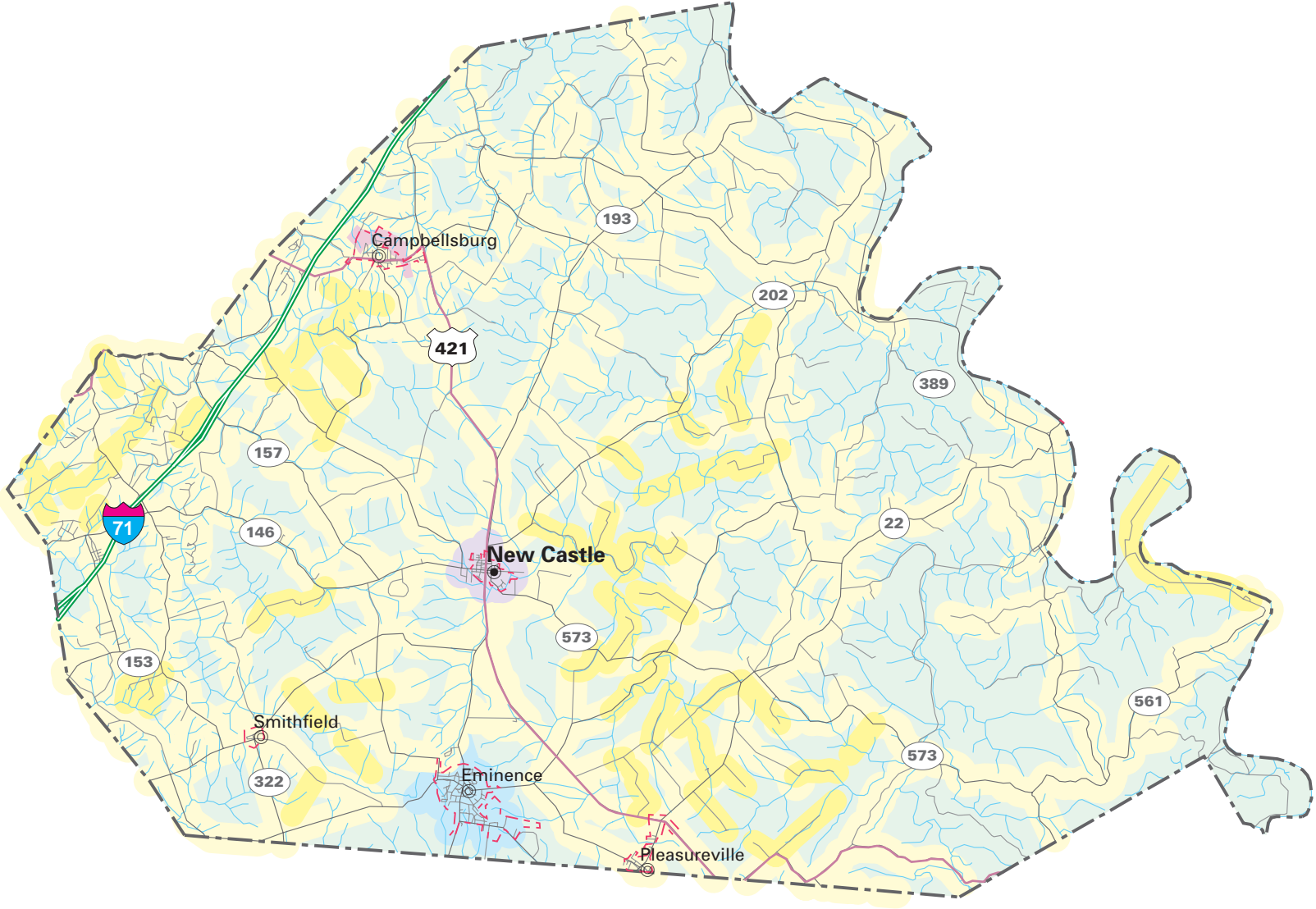
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WATER SERVICE STATUS BY OWNER			
EXISTING SERVICE AREA	PROPOSED SERVICE AREA		
		NEW CASTLE WATER WORKS	
		HENRY COUNTY WATER DISTRICT #2	
		EMINENCE WATER WORKS	
		CAMPBELLSBURG WATER WORKS	

**HENRY COUNTY WATER DISTRICT #2**

PWSID: ..... 0520192  
 System Type: ..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source: ..... HENRY COUNTY WATER DISTRICT NUMBER 2  
 Well Source: ..... Yes  
 Sells Water to: ..... HENRY COUNTY WATER DISTRICT #2  
 Treatment Plant Capacity (MGD): ..... 4.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 999.00  
 Total Service Connections: ..... 6,203.00  
 Number of Employees: ..... 17.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class: ..... 3B  
 Customer Rate for 1,000 Gallons: ..... 6.40  
 O/M costs 1997: ..... 1,095,457.00  
 O/M costs per Service Connection: ..... 226.47  
 Net Revenue 1997: ..... 967,201.00  
 Total Water Produced 1997 (gallons): ..... 687,810,000.00  
 Water Sold 1997 (gallons): ..... 486,292,680.00  
 Unaccounted-for Water 1997 (%): ..... 7.73

Henry County Water District #2 (HCWD#2) water source is ground water from the Trimble County portion of the (Ohio) aquifer. They have 6 wells located in Trimble County with unlimited source of raw water to supply any future needs. The HCWD#2 currently services 3,932 customers in Henry County, 519 in Trimble County, 149 in Oldham County, 26 in West Carroll County, and 210 in Shelby County. Additionally, the district sells finished water to 3 cities (Campbellsburg, Eminence, and New Castle) who then distribute water within and beyond their local boundaries. The District has a new water treatment plant located on Morton Ridge Road in Trimble County with a capacity of 4 million gallons per day. There are 9 elevated storage tanks with storage capacity of 1,660,000 gallons, with additional 1.8 million gallons at the plant. 6 booster-pumping stations with radio telemetry at all tank levels control pump stations by computer. 3 wells are 400 gpm, 1 well is 700 gpm, 2 wells are 1,000 gpm, with total pumping capacity at 5.6 mgd. Treatment capacity is 4,200 gpm. The average daily production is 1,925,000 gallons of potable water, which is 55% of its designed capacity. Henry County Water District #2 has 17 full-time employees (7 of those are certified operators). Based on preceding statistics and information provided by Henry County Water budget committee and the Water Supply plan, a growth of around 400 rural

customers per year is predicted. This does not take in to consideration the 3 incorporated towns and a part of West Carroll District. This estimate is for the next 5 years.

The need for water service expansion in the Henry County Water District territory results from the rapid growth and development in rural areas around Interstate- 71, and other land to be developed north of Interstate-71 in Trimble County. The Kentucky State Data Center projects a 15% growth rate for Henry County by the year 2020. They now distribute water to 5 counties (Henry, Oldham, Trimble, Carroll, and Shelby).

### **EMINENCE WATER WORKS**

PWSID: ..... 0520122  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source: ..... EMINENCE LAKE  
 Purchase Source:  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 75,000.00  
 Total Service Connections: ..... 916.00  
 Number of Employees: ..... 6.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

### **CAMPBELLSBURG WATER WORKS**

PWSID: ..... 0520519  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source:  
 Purchase Source: ..... HENRY COUNTY WATER DISTRICT NUMBER 2  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.00  
 Percent Daily Average Production: ..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 50,000.00  
 Total Service Connections: ..... 320.00  
 Number of Employees: ..... 3.00  
 Treatment Operator Class: ..... 1D  
 Distribution Operator Class:

Customer Rate for 1,000 Gallons:..... Not available  
 O/M costs 1997:..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997:..... Not available  
 Total Water Produced 1997 (gallons):..... Not available  
 Water Sold 1997 (gallons):..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

### **NEW CASTLE WATER WORKS**

PWSID:..... 0520520  
 System Type:..... COMMUNITY  
 Owner Type:..... MUNICIPAL  
 Surface Source:  
 Purchase Source: ..... HENRY COUNTY WATER DISTRICT NUMBER 2  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD):..... 0.00  
 Percent Daily Average Production:..... 0.00  
 Total Tank Storage Capacity (gallons):..... 0.00  
 Total Service Connections: ..... 460.00  
 Number of Employees:..... 50.00  
 Treatment Operator Class: ..... 1D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons:..... Not available  
 O/M costs 1997:..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997:..... Not available  
 Total Water Produced 1997 (gallons):..... Not available  
 Water Sold 1997 (gallons):..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

### **PRIVATE DOMESTIC SYSTEMS**

About 1,450 residents of Henry County rely on private domestic water supplies: 600 on wells and 850 on other sources.

In some of the bottoms of the Kentucky River, most drilled wells will produce enough water for a domestic supply at depths of less than 100 feet. Some wells located in the smaller creek valleys and in some less productive areas along the Kentucky River will produce enough water for a domestic supply except during dry weather. In the upland areas of Henry County, which encompasses approximately 70% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines that may produce enough water except during dry weather. Ground water in these areas is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

## JEFFERSON COUNTY

### (Jefferson County Water Service Area Map)

- Estimated 1999 population of 662,500--99% on public water
- Estimated 2020 population of 652,000--100% on public water
- 290 miles of water lines, with plans for 23 additional miles
- Estimated funding needs for public water 2000-2005:\$7,170,000\*\*
- Estimated funding needs for public water 2006-2020:\$0

Jefferson County had an estimated population of 662,507 (281,836 households) in 1999 with a projected population of 651,646 (294,448 households) in 2020. Public water is provided to about 99 percent of the county's residents. In areas of the county not served by public water, half the households rely on private domestic wells and half the households rely on other sources. About 1,870 households will be added to public water service through new line extensions in 2000-2020.

#### *Estimated Costs - Proposed Projects, 2006-2020*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
JEFFERSON			All projects	funded	internally			-
Louisville Water	23	1,870	7,170**					-

#### *Estimated Costs - Proposed Projects, 2000-2020*

Louisville Water Company: ..... \$7,170,000  
 2006-2020:..... \$7,170,000  
   23 miles line extensions, 1,870 households  
**Total, Jefferson County (2005-2020):..... \$7,170,000**

### PUBLIC WATER SYSTEMS

Jefferson County residents are supplied water by the Louisville Water Company (L.W.C.). The L.W.C. serves over 210,669 households. Of these residential customers; 7,219 are in Bullitt County; 3,547 are in Oldham County; 199,033 are in Jefferson County. Additionally the L.W.C. sells water on a wholesale basis to Oldham County, Shelby County, Bullitt County, and Spencer County.

#### **LOUISVILLE WATER COMPANY**

PWSID:..... 0560258

# WATER SERVICE AREAS

## JEFFERSON COUNTY

### Kentucky

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Water Resource Development Commission

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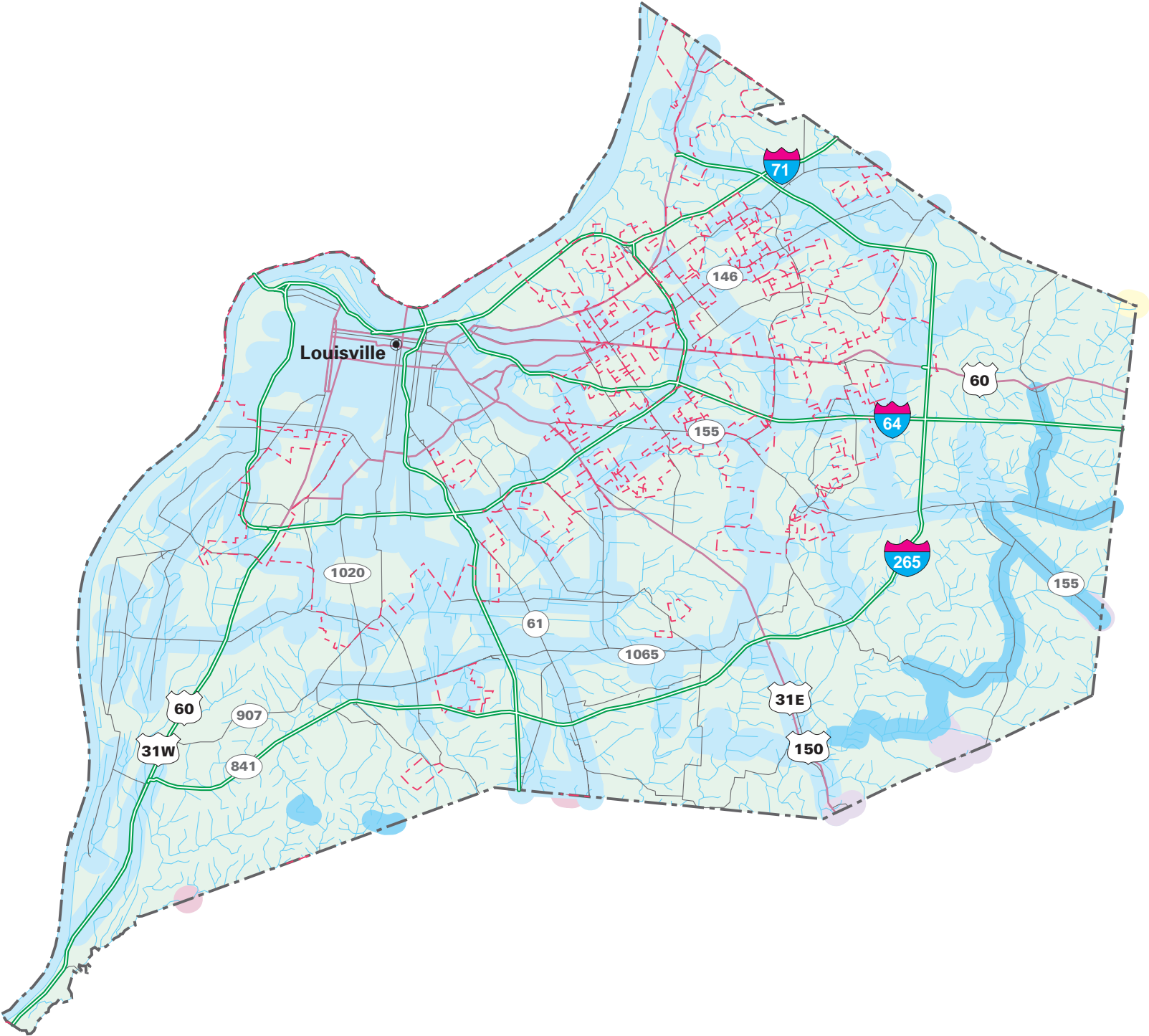
Bob Arnold, Chairman  
Lawrence Wetherby, Executive Director



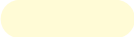
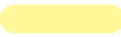
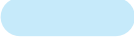



Final GIS & Cartographic Operations By:  
Kent Anness & Kim Prough

Data Collection & GIS Input By:  
Kentucky Area Development Districts



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WATER SERVICE STATUS BY OWNER			
EXISTING SERVICE AREA	PROPOSED SERVICE AREA		
		TAYLORSVILLE WATER WORKS	
		NORTH SHELBY WATER COMPANY	
		LOUISVILLE WATER COMPANY	
		KENTUCKY TURNPIKE WATER DISTRICT NUMBER 1	



System Type:.....COMMUNITY  
 Owner Type:.....MUNICIPAL  
 Surface Source:.....OHIORIVER  
 Purchase Source:  
 Well Source:  
 Sells Water to:.....KENTUCKY TURNPIKE WATER DISTRICT #1  
 Treatment Plant Capacity (MGD):.....300.00  
 Percent Daily Average Production:.....44.00  
 Total Tank Storage Capacity (gallons):.....55,400,000.00  
 Total Service Connections: .....231,808.00  
 Number of Employees:.....Hundreds  
 Treatment Operator Class:.....4D  
 Distribution Operator Class:.....4A  
 Customer Rate for 1,000 Gallons:.....Not available  
 O/M costs 1997:.....Not available  
 O/M costs per Service Connection: .....Not available  
 Net Revenue 1997:.....Not available  
 Total Water Produced 1997 (gallons):.....Not available  
 Water Sold 1997 (gallons):.....Not available  
 Unaccounted-for Water 1997 (%): .....Not available

The Louisville Water Company source of water (surface) comes from the Ohio River. This system has a treatment plant with a design capacity of 60 million gallons per day, and a filter plant with a design capacity of 240 million gallons per day. The total annual volume of water sold is currently around 38.5 billion gallons. They have 22 storage tanks with a total storage capacity of 55,350,000 million gallons. There are several hundred full-time employees, and over 2 dozen are certified operators.

Only 5% of the population in Jefferson County are not presently being served by the L.W.C., but line expansion projects are ongoing and will be complete by 2002. At that time, all previously unserved areas will have water service. The main transmission line to Taylorsville (in *Spencer County*) is finished and Taylorsville Water Works is now buying all its water from the Louisville Water Company. There is also a planned and funded project in *Bullitt County* whereas the city of Lebanon Junction will be purchasing all its water from Ky. Turnpike Water District (who is supplied by the L.W.C.). Also with the eventual construction of the L.W.C. transmission line along I-64 going east into *Shelby County*, the 3 water districts (within *Shelby County*) and Shelbyville Municipal will have enough potable water to meet any future needs. Overall, the Louisville Water Company continues to be a key factor not only in economic growth, but it also provides quantity and quality of potable water in all the counties adjacent to Jefferson County.

## OTHER SYSTEMS

### **SSK**

SSK is located in Jefferson County. The system serves a population of 750 and has 309 service connections. The private, non-transient, non-community system purchases water from Louisville water Company.

### **WALLACE FARM**

Wallace Farm is located in Jefferson County. The system serves a population of 70 and has 25 service connections. The private, community system has treatment capacity of 15000 gallon per day. The water source is ground water from wells.

### **CEDAR RIDGE PRESBYTERIAN CAMP**

Cedar Ridge Presbyterian Camp is located in Jefferson County. The system serves a population of 60 and has 1 service connection. The private, transient, non-community system has treatment capacity of 8000 gallon per day. The water source is surface water from a lake.

## PRIVATE DOMESTIC SYSTEMS

Fewer than 10,000 residents of Jefferson County rely on private domestic water supplies: about half on wells and half on other sources.

The alluvium along the Ohio River is the best source of ground water in the county. Many properly constructed drilled wells will produce over one thousand gallons per minute from the alluvium, with most wells able to produce enough for a domestic supply at depths of less than 100 feet. Water is hard or very hard but otherwise of good quality.

In the main sections of the larger creek valleys and on broad ridges in central Jefferson County, most drilled wells will produce enough water for a domestic supply at depths of less than 100 feet. Some wells located in the smaller creek valleys and in some broad ridges in southwestern and central Jefferson County will produce enough water for a domestic supply except during dry weather. In the upland areas of the rest of Jefferson County which encompasses approximately 30% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines which may produce

enough water except during dry weather. Ground water in these areas is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

## OLDHAM COUNTY

### (Oldham County Water Service Area Map)

- Estimated 1999 population of 41,100--93% on public water
- Estimated 2020 population of 52,600--93% on public water
- 280 miles of water lines, with plans for 13 additional miles
- Estimated funding needs for public water 2000-2005:\$2,517,000
- Estimated funding needs for public water 2006-2020:\$136,000

Oldham County had an estimated population of 41,143 (14,209 households) in 1999 with a projected population of 52,612 (18,453 households) in 2020. Public water is provided to about 93 percent of the county's residents. In areas of the county not served by public water, slightly fewer than half the households rely on private domestic wells and the remainder relies on other sources. About 30 households will be added to public water service through new line extensions in 2000-2020.

#### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
OLDHAM								-
Oldham County Water District	8	18	463	54			2,000	2,517
OLDHAM COUNTY TOTAL	8	18	463	54			2,000	2,517

#### *Estimated Costs - Proposed Projects, 2006-2020*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
OLDHAM								-
Oldham County Water District	5	10	136					136
OLDHAM COUNTY TOTAL	5	10	136					136

# WATER SERVICE AREAS

## OLDHAM COUNTY

### Kentucky

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**Water Resource Development Commission**

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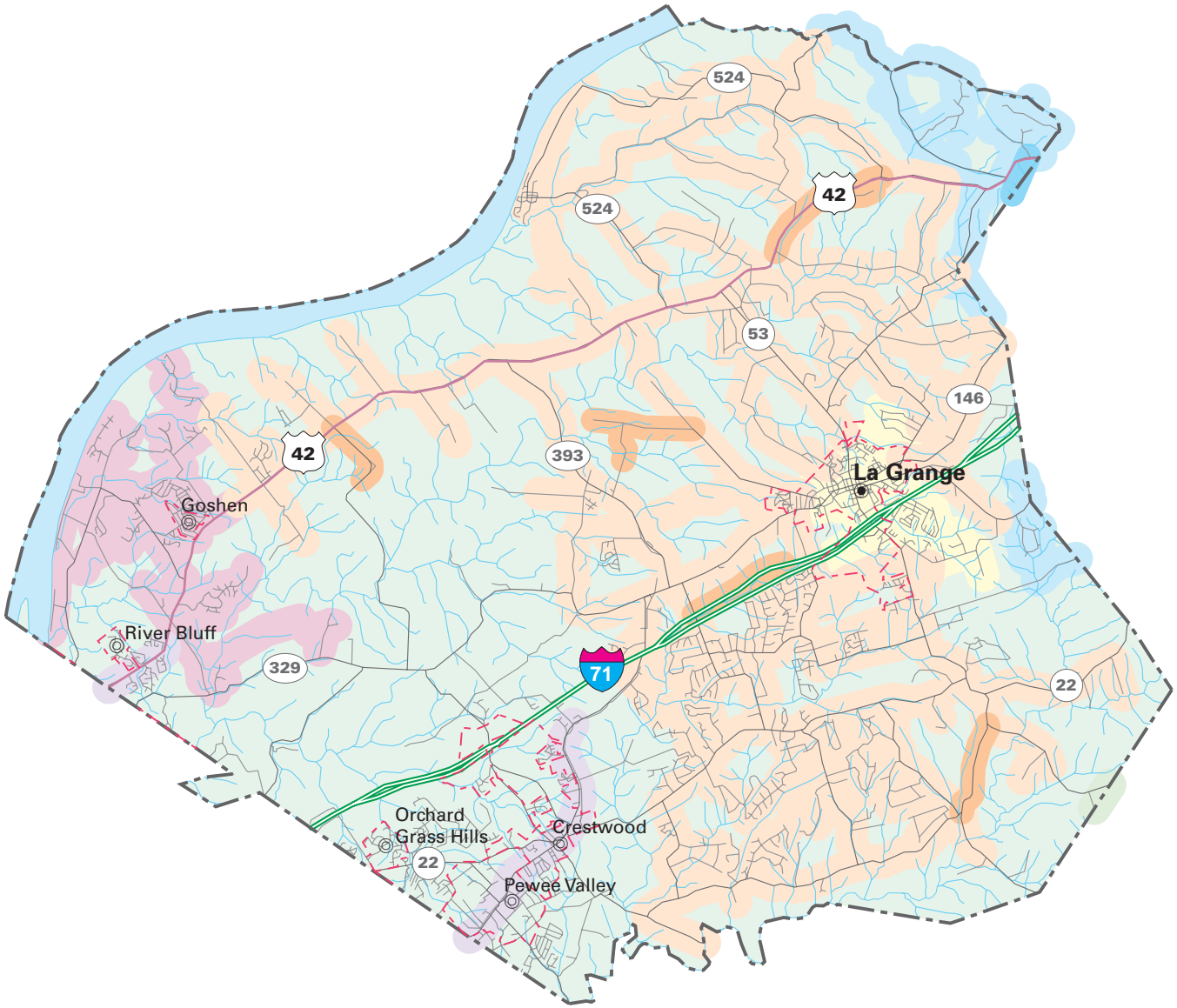
Bob Arnold, Chairman  
Lawrence Wetherby, Executive Director

Final GIS & Cartographic Operations By:  
Kent Anness & Kim Prough

Data Collection & GIS Input By:  
Kentucky Area Development Districts



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#### WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		OLDHAM COUNTY WATER DISTRICT
		NORTH SHELBY WATER COMPANY
		LOUISVILLE WATER COMPANY
		LAGRANGE UTILITIES
		HENRY COUNTY WATER DISTRICT NUMBER 2
		GOSHEN UTILITIES

## PUBLIC WATER SYSTEMS

The residents of Oldham County are provided water by 5 systems: 3 municipal systems-- Goshen Utilities, LaGrange Water Commission, and Louisville Water Company; and 2 water districts--Oldham County Water District and Henry County Water District #2.

The L.W.C. and the H.C.W.D.#2 are the only suppliers outside the Oldham County area. The L.W.C. serves 3,600 customers in the eastern portion. The H.C.W.D.#2 serves 149 customers in western portion. Goshen Utilities, Inc. sells water on a retail basis to residents in and around the Goshen area.

### **OLDHAM COUNTY WATER DISTRICT**

PWSID: ..... 0930333  
 System Type: ..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source:  
 Well Source: ..... Yes  
 Sells Water to: ..... LAGRANGE UTILITIES COMMISSION  
 Treatment Plant Capacity (MGD): ..... 7.00  
 Percent Daily Average Production: ..... 71.00  
 Total Tank Storage Capacity (gallons): ..... 4,400,000.00  
 Total Service Connections: ..... 5,357.00  
 Number of Employees: ..... 8.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class: ..... 4B  
 Customer Rate for 1,000 Gallons: ..... 2.76  
 O/M costs 1997: ..... 886,060.00  
 O/M costs per Service Connection: ..... 155.61  
 Net Revenue 1997: ..... 352,167.00  
 Total Water Produced 1997 (gallons): ..... 231,135,000.00  
 Water Sold 1997 (gallons): ..... 1,072,369,500.00  
 Unaccounted-for Water 1997 (%): ..... 11.43

The Oldham County Water District (O.C.W.D.) sells water on a wholesale basis to the city of La Grange, city of Goshen, and to the H.C.W.D.#2 (only 100,000 gallons per month).

The total annual volume of water required for these wholesale customers is 73 million gallons. The O.C.W.D. currently serves 5,400 customers in Oldham County and has unlimited source of water from the Ohio River for any future needs.

The O.C.W.D. has 8 full-time employees; 3 are certified water treatment operators, and 4 certified water distribution operators. This system is well managed and actively participates

in Water Supply Planning . The local officials and the water superintendent appear to have a cohesive, coordinated plan for the future growth of this county. There will also be industrial growth in the city of Buckner located around the I-71 corridor, which will require at least an additional 300,000,000 gallons per year.

### **GOSHEN UTILITIES INCORPORATED**

PWSID: ..... 0930235  
 System Type: ..... COMMUNITY  
 Owner Type: ..... PRIVATE  
 Surface Source:  
 Purchase Source: ..... OLDHAM COUNTY WATER DISTRICT  
 Well Source: ..... Yes  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.80  
 Percent Daily Average Production: ..... 36.00  
 Total Tank Storage Capacity (gallons): ..... 700,000.00  
 Total Service Connections: ..... 1,639.00  
 Number of Employees: ..... 10.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class: ..... 3B  
 Customer Rate for 1,000 Gallons: ..... 3.28  
 O/M costs 1997: ..... 424,225.00  
 O/M costs per Service Connection: ..... 258.83  
 Net Revenue 1997: ..... 32,336.00  
 Total Water Produced 1997 (gallons): ..... 165,065,000.00  
 Water Sold 1997 (gallons): ..... 164,742,000.00  
 Unaccounted-for Water 1997 (%): ..... 14.16

The city of Goshen is supplied water by the Goshen Utilities, Inc. The source of water for this system is the Ohio River aquifer in Oldham County. It has 3 wells with a capacity of 1 million GPD. There are 2 storage tanks with total storage capacity of 950,000 gallons. This system is privately owned, with the President serving as CEO and the Vice-President serving as manager/superintendent. They have 10 full-time employees, 4 of which are certified operators. This system supplies water to 1,600 households. There are no service gaps within or adjacent to their boundaries.

### **LAGRANGE UTILITIES COMMISSION**

PWSID: ..... 0930481  
 System Type: ..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source: ..... LAGRANGE UTILITIES  
 Well Source:  
 Sells Water to:

Treatment Plant Capacity (MGD):.....	0.00
Percent Daily Average Production:.....	0.00
Total Tank Storage Capacity (gallons):.....	500,000.00
Total Service Connections: .....	2,353.00
Number of Employees:.....	7.00
Treatment Operator Class: .....	2D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:.....	Not available
O/M costs 1997:.....	Not available
O/M costs per Service Connection: .....	Not available
Net Revenue 1997:.....	Not available
Total Water Produced 1997 (gallons):.....	Not available
Water Sold 1997 (gallons):.....	Not available
Unaccounted-for Water 1997 (%): .....	Not available

## OTHER SYSTEMS

### **TARA SPRINGS**

Tara Springs is located in Oldham County. The system serves a population of 25 and has 1 service connection. The private, community system has treatment capacity of 600 gallon per day. The water source is ground water from springs.

## PRIVATE DOMESTIC SYSTEMS

About 2,750 residents of Oldham County rely on private domestic water supplies: 1,250 on wells, and 1,500 on other sources.

The alluvium along the Ohio River is the best source of ground water in the county. Many properly constructed drilled wells will produce several hundred gallons per minute from the alluvium, with most wells able to produce enough for a domestic supply at depths of less than 100 feet. Water is hard or very hard but otherwise of good quality.

In the main sections of the larger creek valleys, in some of the Ohio River bottoms, and on broad ridges in a limited area south of the towns of Skylight and Crestwood, most drilled wells will produce enough water for a domestic supply at depths of less than 100 feet. Some wells located in the smaller creek valleys and in some broad ridges in western and central Oldham County will produce enough water for a domestic supply except during dry weather. In the upland areas of the rest of Oldham County which encompasses approximately 50% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines, which may produce enough water except during dry

weather. Ground water in these areas is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

## SHELBY COUNTY

### (Shelby County Water Service Area Map)

- Estimated 1999 population of 29,500--90% on public water
- Estimated 2020 population of 37,400--94% on public water
- 500 miles of water lines, with plans for 70 additional miles
- Estimated funding needs for public water 2000-2005:\$5,832,000
- Estimated funding needs for public water 2006-2020:\$403,000

Shelby County had an estimated population of 29,543 (12,053 households) in 1999 with a projected population of 37,431 (16,186 households) in 2020. Public water is provided to about 90 percent of the county's residents. In areas of the county not served by public water, about 1/3 of the households rely on private domestic wells and the remainder rely on other sources. About 635 households will be added to public water service through new line extensions in 2000-2020.

#### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
SHELBY								-
West Shelby Water District	44	214	2,240					2,240
U.S. 60 Water District	12	81	503	558	1,375			2,436
Shelbyville Municipal	2	5	140					140
North Shelby Water District	4	16	135	881				1,016
SHELBY COUNTY TOTAL	62	316	3,018	1,439	1,375			5,832

#### *Estimated Costs - Proposed Projects, 2006-2020*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
SHELBY								-
North Shelby Water District	7	317	403					403
SHELBY COUNTY TOTAL	7	317	403	-	-			403

### PUBLIC WATER SYSTEMS

Residents of Shelby County are served by 4 public water systems: 1 municipality, Shelbyville Municipal Water; and 3 water districts, U.S. 60 Water District, North Shelby Water District, and West Shelby Water District. Portions of the county are also served by the

# WATER SERVICE AREAS

## SHELBY COUNTY

### Kentucky

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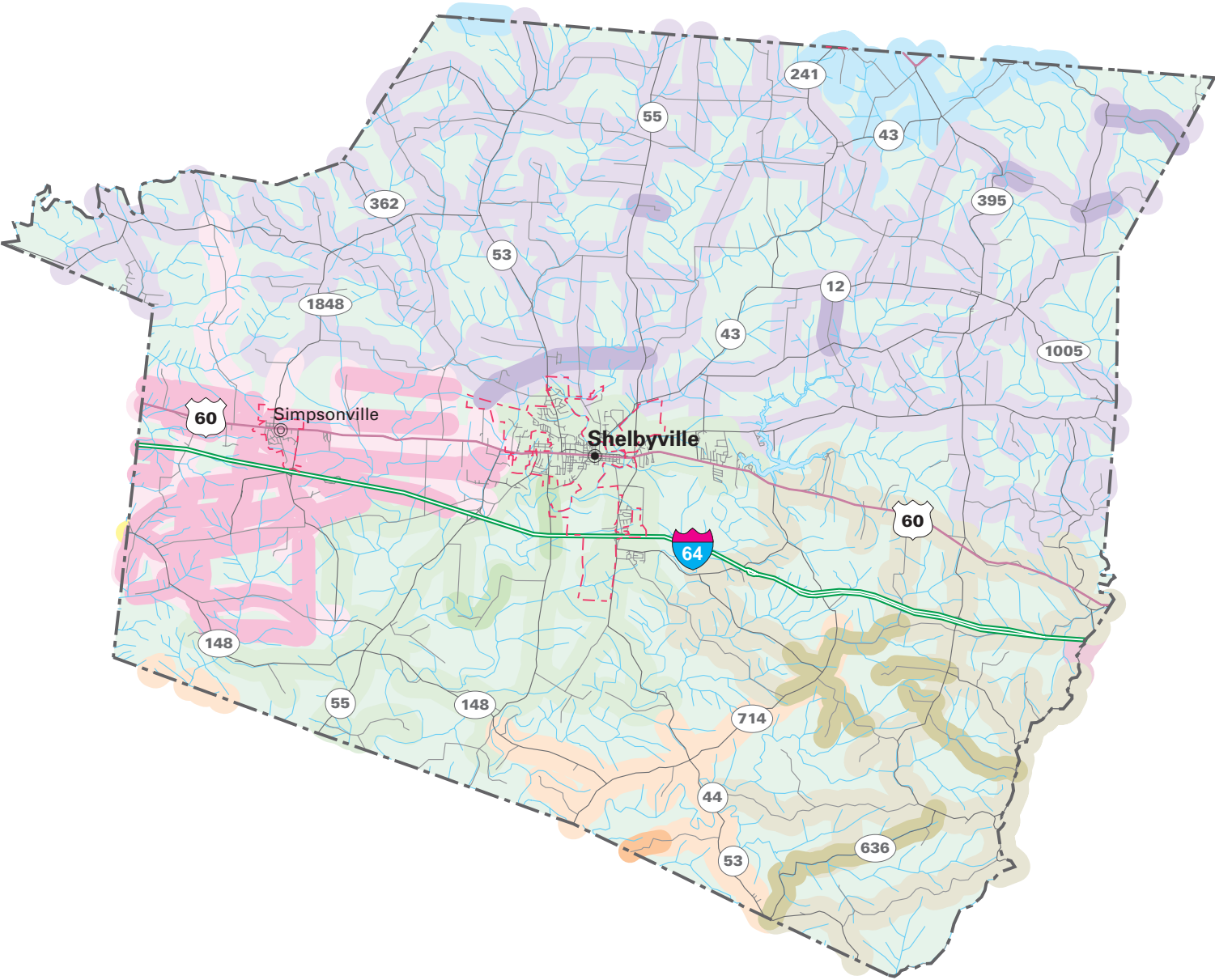
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WATER SERVICE STATUS BY OWNER		
EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		WEST SHELBY WATER DISTRICT
		U S 60 WATER DISTRICT
		TAYLORSVILLE WATER WORKS
		SHELBYVILLE WATER AND SEWER COMMISSION
		NORTH SHELBY WATER DISTRICT
		LOUISVILLE WATER COMPANY
		HENRY COUNTY WATER DISTRICT #2
		FARMDALE WATER DISTRICT

Farmdale Water District, Henry County Water District #2, and Taylorsville Municipal Water.

### **US 60 WATER DISTRICT**

PWSID: ..... 1060436  
 System Type:..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source:  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD):..... 0.00  
 Percent Daily Average Production:..... 0.00  
 Total Tank Storage Capacity (gallons): ..... 385,000.00  
 Total Service Connections: ..... 1,477.00  
 Number of Employees:..... 6.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class:  
 Customer Rate for 1,000 Gallons:..... 5.53  
 O/M costs 1997:..... 260,692.00  
 O/M costs per Service Connection: ..... 179.54  
 Net Revenue 1997:..... 63,623.00  
 Total Water Produced 1997 (gallons):..... 0.00  
 Water Sold 1997 (gallons):..... 90,773,000.00  
 Unaccounted-for Water 1997 (%): ..... 17.74

U.S. 60 Water District (U.S. 60 W.D) mainly serves customers in the southern portion of Shelby County, but also has customers in Spencer, Franklin, and Anderson. This system is currently has a total of 1,456 residential connections and 21 commercial. Their water source is from Frankfort Electric & Water. The annual residential usage is 77.3 million gallons. Total annual water sold is 83 million gallons. U.S. 60 W.D. has 3 tanks with total storage capacity of 385,000 gallons. There will be some line extensions but only to connect existing lines in order to increase flow and pressure. This water district serves a rural area, and overall this system appears to be well prepared for any future needs.

### **NORTH SHELBY WATER DISTRICT**

PWSID: ..... 1060324  
 System Type:..... COMMUNITY  
 Owner Type: ..... WATER DISTRICT  
 Surface Source:  
 Purchase Source: ..... LOUISVILLE WATER COMPANY  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD):..... 0.00  
 Percent Daily Average Production:..... 0.00

Total Tank Storage Capacity (gallons):	825,000.00
Total Service Connections:	3,185.00
Number of Employees:	6.00
Treatment Operator Class:	2D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:	4.00
O/M costs 1997:	877,686.00
O/M costs per Service Connection:	257.08
Net Revenue 1997:	138,945.00
Total Water Produced 1997 (gallons):	0.00
Water Sold 1997 (gallons):	307,331,000.00
Unaccounted-for Water 1997 (%):	18.30

North Shelby Water District is multi-county by nature. They have customers in 5 counties: Shelby, Henry, Jefferson, Franklin, and Oldham. Their majority of service is in the upper region of Shelby County or north of U.S.60. Presently, the total population served by N.S.W.D. is 19,140; with a total annual volume of residential usage at 207,228,900 gallons. This system purchases water from 4 sources (Shelbyville Municipal, Louisville Water Company, West Shelby Water District, and Frankfort Electric & Water Company). N.S.W.D. has 5 tanks with a total storage capacity of 825,000 gallons. There are 6 full-time employees; 2 of which are certified operators. This system is well managed and service gaps are non-existent. Only a few large farms and rural homes are without water service, but wells and hauled water seem to be adequate.

#### **WEST SHELBY WATER DISTRICT**

PWSID:	1060457
System Type:	COMMUNITY
Owner Type:	WATER DISTRICT
Surface Source:	
Purchase Source:	
Well Source:	
Sells Water to:	NORTH SHELBY WATER DISTRICT
Treatment Plant Capacity (MGD):	0.00
Percent Daily Average Production:	0.00
Total Tank Storage Capacity (gallons):	200,000.00
Total Service Connections:	1,139.00
Number of Employees:	3.00
Treatment Operator Class:	2D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:	4.23
O/M costs 1997:	396,974.00
O/M costs per Service Connection:	375.92
Net Revenue 1997:	150,066.00
Total Water Produced 1997 (gallons):	0.00
Water Sold 1997 (gallons):	182,127,000.00
Unaccounted-for Water 1997 (%):	7.29

West Shelby Water District (W.S.W.D) distributes water to Southwest Shelby County and a very small portion of Jefferson County. This system is supplied water from Louisville Water Company and Shelbyville Water. The ground sources of the two suppliers are the Ohio River and Guist Creek Lake. The W.S.W.D. has 2 tanks with total storage capacity of 950,000 gallons. There are 956 residential customers in Shelby County and 66 in Jefferson County. Population growth in this portion of Shelby County is projected to be 100 new households per year for the next 5 years. The water district has 3 full-time employees (1 is a certified operator).

The majority of their water supply comes from the Louisville Water Company and there are plans for upgrading the existing transmission line to meet the future needs of this area. In the next 5 years it will essential for the W.S.W.D. to extend and expand their existing lines to accommodate the rapid industrial, commercial, and residential growth around the City of Simpsonville.

**SHELBYVILLE WATER AND SEWER COMMISSION**

PWSID: ..... 1060394  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source: ..... GUIST CREEK LAKE  
 Purchase Source:  
 Well Source:  
 Sells Water to: ..... NORTH SHELBY WATER DISTRICT  
 Treatment Plant Capacity (MGD): ..... 6.00  
 Percent Daily Average Production: ..... 71.00  
 Total Tank Storage Capacity (gallons): ..... 2,000,000.00  
 Total Service Connections: ..... 5,570.00  
 Number of Employees: ..... 23.00  
 Treatment Operator Class: ..... 3D  
 Distribution Operator Class: ..... 4A  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

The Shelbyville Water & Sewer Commission is one of the largest systems in the KIPDA region with the city of Shelbyville making up the majority of residential usage in this county. This system's surface source of water is Guist Creek Lake that is located in Shelbyville. This system has well managed treatment plant that has a treatment capacity of 6 million gallons per day. They have 4 tanks with a total storage capacity of 2 million gallons. There are currently 5,020 households being served and over 500 commercial connections. This water system also is contracted to sell finished water (wholesale) to West Shelby County Water District and North Shelby Water District. There are 23 full-time employees of which 7 are certified operators. At the present, Shelbyville Water is selling 814,493,000 gallons annually (384,287,625 is residential). The superintendent has been communicating with the Louisville Water Company about the plausibility purchasing water from the L.W.C. for future needs within Shelby County.

**PRIVATE DOMESTIC SYSTEMS**

About 2,800 residents of Shelby County rely on private domestic water supplies: 900 on wells and 1,900 on other sources.

Ground-water resources in Shelby County are limited. Wells located in the larger valley bottoms throughout the county will produce enough water for a domestic supply except during dry weather. In the upland area Shelby County which encompasses approximately 80% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines which may produce enough water except during dry weather.

Throughout the county ground water is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

## SPENCER COUNTY

### (Spencer County Water Service Area Map)

- Estimated 1999 population of 10,000--90% on public water
- Estimated 2020 population of 18,700--94% on public water
- 145 miles of water lines, with plans for 46 additional miles
- Estimated funding needs for public water 2000-2005:\$4,303,000
- Estimated funding needs for public water 2006-2020:\$0

Spencer County had an estimated population of 10,049 (4,021 households) in 1999 with a projected population of 18,683 (7,654 households) in 2020. Public water is provided to about 90 percent of the county's residents. In areas of the county not served by public water, about 1/5 of the households rely on private domestic wells and 4/5 rely on other sources. About 310 households will be added to public water service through new line extensions in 2000-2020.

### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
SPENCER								-
Taylorsville Water Works	46	312	1,303	2,000			1,000	4,303
SPENCER COUNTY TOTAL	46	312	1,303	2,000			1,000	4,303

### PUBLIC WATER SYSTEMS

Residents of Spencer County are served by the Taylorsville Water Works. A few customers in the southwestern part of the county are served by the Nelson County Water District. The U.S. 60 Water District serves about a dozen households in the northwestern portion of Spencer County.

# WATER SERVICE AREAS

## SPENCER COUNTY

### Kentucky

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**Water Resource Development Commission**

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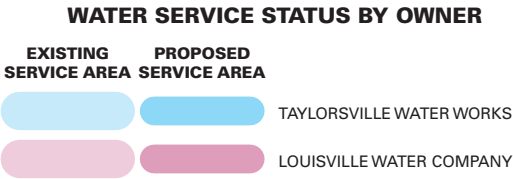
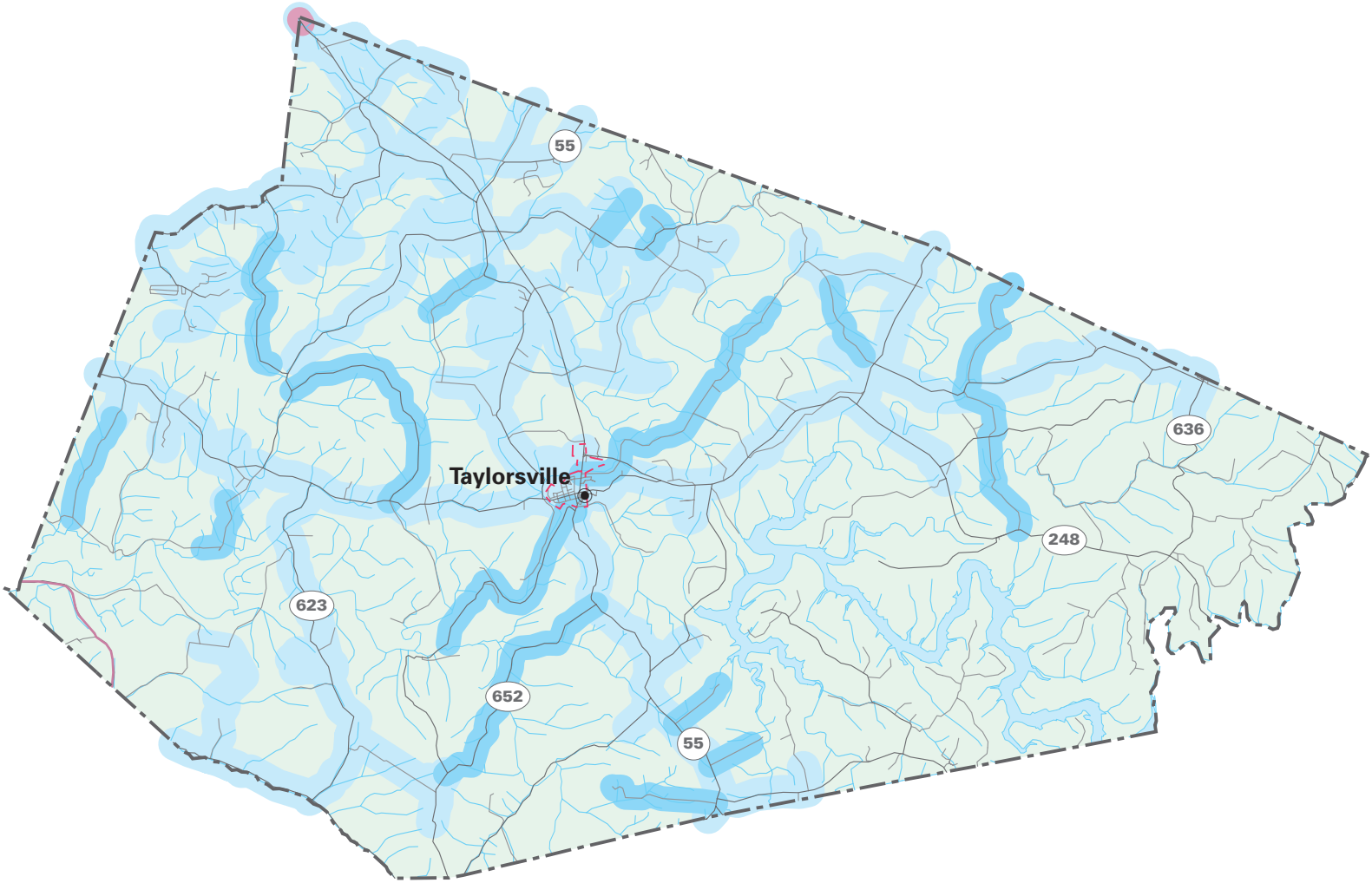
Bob Arnold, Chairman  
Lawrence Wetherby, Executive Director

Final GIS & Cartographic Operations By:  
Kent Anness & Kim Prough

Data Collection & GIS Input By:  
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**TAYLORSVILLE WATER WORKS**

PWSID: ..... 1080425  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source: ..... SALT RIVER  
 Purchase Source: ..... LOUISVILLE WATER COMPANY  
 Well Source:  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.864  
 Percent Daily Average Production: ..... 60.00  
 Total Tank Storage Capacity (gallons): ..... 850,000.00  
 Total Service Connections: ..... 3,429.00  
 Number of Employees: ..... 9.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class: ..... 3A  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

The main supplier of water in Spencer County is the Taylorsville Water Works. The Taylorsville Water Works is now currently buying all its water from the Louisville Water Company. The L.W.C. has more than adequate source of water to furnish the future needs of Taylorsville Water. This system presently serves 2,701 customers in Spencer County; 66 in Jefferson County; 30 in Nelson County; 208 in Shelby County; and 392 in Bullitt County. The total annual volume of water sold is 154.6 million gallons. They have 9 tanks with a storage capacity of 850,000 gallons total. The municipal system has treatment capacity of 864,000 gallon per day. The water source is surface water from Salt River. There are 9 full-time employees of which 4 are certified operator.

Expansion and system upgrade is usually taken one project at a time, whenever the need arises. Contracted engineers are presently working on several line extension project plans. According to the Kentucky Population Research, Spencer County will double in population by the year 2020. This makes Spencer County the fastest growing county in Kentucky. The Taylorsville Water system serves 90% of the Spencer County households. An additional storage capacity of at least 750,000 gallons; and upgrading of the existing infrastructure is crucial for increased flow and pressure. The immediate need of line extensions in this

territory results primarily from the rapid residential growth and commercial potential. The approximate cost and customer impact were ascertained after discussion with system operators and their engineers.

## **PRIVATE DOMESTIC SYSTEMS**

About 900 residents of Spencer County rely on private domestic water supplies: about 180 on wells and 720 on other sources.

In the Salt River valley bottoms west of Taylorsville and in far eastern end of the county, most drilled wells in the valley will produce enough water for a domestic supply at depths of less than 100 feet. Wells located in the rest of the larger valleys throughout the county will produce enough water for a domestic supply except during dry weather. In the upland area Spencer County which encompasses approximately 60% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines which may produce enough water except during dry weather.

Throughout the county ground water is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

## TRIMBLE COUNTY

### (Trimble County Water Service Area Map)

- Estimated 1999 population of 7,500--90% on public water
- Estimated 2020 population of 9,050--90% on public water
- 220 miles of water lines, with plans for 2 additional miles
- Estimated funding needs for public water 2000-2005:\$5,288,000
- Estimated funding needs for public water 2006-2020:\$0

Trimble County had an estimated population of 7,474 (3,010 households) in 1999 with a projected population of 9,048 (3,840 households) in 2020. Public water is provided to about 90 percent of the county's residents. In areas of the county not served by public water, about half of the households rely on private domestic wells and half rely on other sources. One household will be added to public water service through new line extensions in 2000-2020.

### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
TRIMBLE COUNTY								-
Milton Water Company				556	88		425	1,069
Trimble County Water District	2	1	50	1,669	2,500			4,219
TRIMBLE COUNTY TOTAL	2	1	50	2,225	2,588		425	5,288

### PUBLIC WATER SYSTEMS

There are 2 water suppliers in Trimble County: 1 municipal system, Milton Water Works, and 1 water district, Trimble County Water District #1. Henry County Water District #2 serves customers in the southern part of the county. The West Carroll Water District buys water from Trimble County Water district#1 and distributes to the eastern portion of Trimble County.

# WATER SERVICE AREAS

## TRIMBLE COUNTY

### Kentucky

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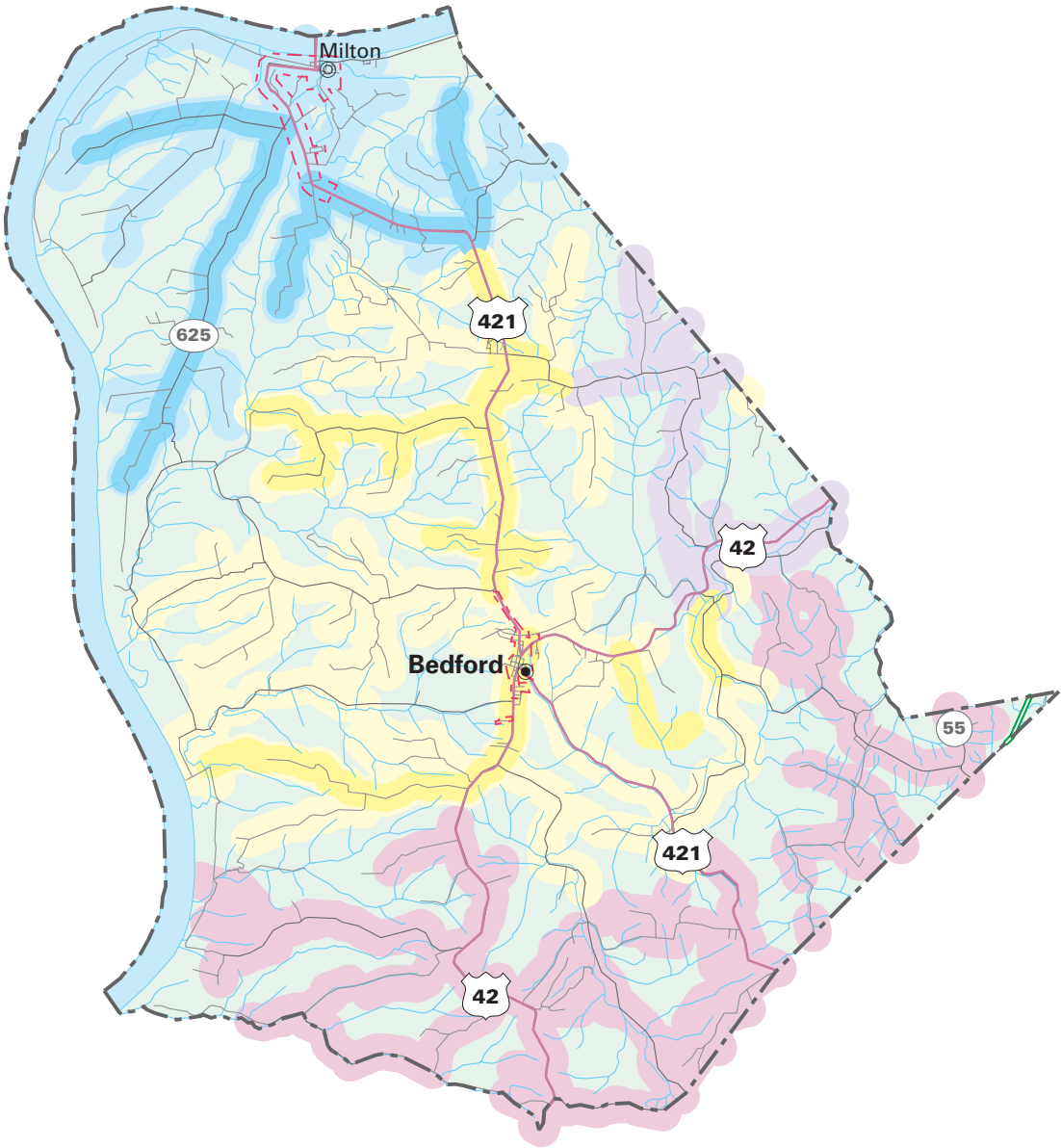
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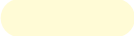

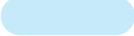



Data Collection & GIS Input By:  
Kentucky Area Development Districts



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#### WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		WEST CARROLL WATER DISTRICT/CARROLLTON
		TRIMBLE COUNTY WATER DISTRICT #1
		MILTON WATER AND SEWER DEPARTMENT
		HENRY COUNTY WATER DISTRICT #2

**TRIMBLE COUNTY WATER DISTRICT #1**

PWSID: ..... 1120431  
 System Type:..... COMMUNITY  
 Owner Type:..... WATER DISTRICT  
 Surface Source:  
 Purchase Source:  
 Well Source: ..... Yes  
 Sells Water to:  
 Treatment Plant Capacity (MGD):..... 0.36  
 Percent Daily Average Production:..... 99.00  
 Total Tank Storage Capacity (gallons):..... 265,000.00  
 Total Service Connections: ..... 2,100.00  
 Number of Employees:..... 4.00  
 Treatment Operator Class:  
 Distribution Operator Class:..... 2BD  
 Customer Rate for 1,000 Gallons:..... 3.58  
 O/M costs 1997:..... 233,838.00  
 O/M costs per Service Connection: ..... 190.42  
 Net Revenue 1997:..... 54,402.00  
 Total Water Produced 1997 (gallons):..... 126,484,000.00  
 Water Sold 1997 (gallons):..... 96,011,000.00  
 Unaccounted-for Water 1997 (%): ..... 18.72

The Trimble County Water District#1 (T.C.W.D.#1) serves customers in the central portion of Trimble County, including the city of Bedford (county seat of Trimble). This system draws water from 4 wells on the Ohio River aquifer in Trimble County. It has a treatment capacity of 300,000 gpd. There are 3 tanks with a total storage capacity of 265,000 gallons. This system is currently serving approximately 2,100 households with a total annual volume of residential usage at 81 million gallons. The total annual volume water sold (residential, commercial and other) is 277 million gallons.

The Trimble County Water District #1 has applied for funding, and is waiting on their engineering contractors to pull together an expansion and upgrade plan. This system will have to upgrade their existing lines and increase storage capacity in order to keep up with the demands in their territory. They have also concluded that there will probably have to be an additional transmission line from their well field to enhance their overall capabilities. A common problem is the number of 3-inch lines extending throughout the rural area. There are several developers already building and obvious residential growth is eminent in the area south of Bedford extending all the way to I-71.

**MILTON WATER AND SEWER DEPARTMENT**

PWSID: ..... 1120289  
 System Type: ..... COMMUNITY  
 Owner Type: ..... MUNICIPAL  
 Surface Source:  
 Purchase Source:  
 Well Source: ..... Yes  
 Sells Water to:  
 Treatment Plant Capacity (MGD): ..... 0.72  
 Percent Daily Average Production: ..... 33.00  
 Total Tank Storage Capacity (gallons): ..... 150,000.00  
 Total Service Connections: ..... 1,068.00  
 Number of Employees: ..... 5.00  
 Treatment Operator Class: ..... 2D  
 Distribution Operator Class: ..... 3B  
 Customer Rate for 1,000 Gallons: ..... Not available  
 O/M costs 1997: ..... Not available  
 O/M costs per Service Connection: ..... Not available  
 Net Revenue 1997: ..... Not available  
 Total Water Produced 1997 (gallons): ..... Not available  
 Water Sold 1997 (gallons): ..... Not available  
 Unaccounted-for Water 1997 (%): ..... Not available

The city of Milton is located in the northern tip of Trimble County overlooking the Ohio River. The Milton Water Company gets its water from 2 wells in the Trimble County aquifer, located on Coopers Bottom & Highway 421. According to the Trimble County Water Supply Plan there is an adequate supply of water to meet the future needs of this territory. The Milton Water Company is now in the construction stage of adding another well to their system. They have 2 tanks with total storage capacity of 150,000 gallons. On a average daily basis, this system draws around 350,000 gallons and does not have a treatment plant but does have the standard post treatment. They have 5 full-time employees; 2 of which are certified operators.

The Milton Water Company directly serves 1,046 households and 31 other service connections (commercial, institutional). The total annual volume of water sold is 720 million. This system sells water to West Carroll Water District under a contract to make available 1.2 million gallons per year. This system is well managed and with funding, could easily serve over 60 existing households currently without water service connection. Mostly upgrading existing lines, increased storage capacity, and several line extensions are seen as crucial to meet future needs in this area.

## PRIVATE DOMESTIC SYSTEMS

About 700 residents of Trimble County rely on private domestic water supplies, 300 on wells and 400 on other sources.

The alluvium along the Ohio River is the best source of ground water in the county. Many properly constructed drilled wells will produce several hundred gallons per minute from the alluvium, with most wells able to produce enough for a domestic supply at depths of less than 100 feet. Water is hard or very hard but otherwise of good quality.

In the lower sections of the larger creek valleys and in some of the Ohio River bottoms, most drilled wells will produce enough water for a domestic supply at depths of less than 100 feet. Some wells located in the smaller creek valleys will produce enough water for a domestic supply except during dry weather. In the upland areas of Trimble County, which encompasses approximately 60% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines that may produce enough water except during dry weather. Ground water in these areas is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.