

# Kentucky Water Management Plan

*Kentucky Infrastructure Authority*

## Executive Summary



18 10TH STREET TANK 16

**February, 2016**

Kentucky  
Infrastructure  
Authority  
Office of the Governor



February 5, 2015

Dear Governor Beshear and Members of the General Assembly:

Drinking water and wastewater infrastructure is vital to Kentucky's future. Adequate drinking water infrastructure is essential to providing clean, safe drinking water and protecting public health. Kentucky is blessed in both quantity and quality of beautiful lakes, rivers and streams. To protect these valuable natural resources, we must build and maintain the necessary wastewater infrastructure. Without both drinking water and wastewater infrastructure, our economic future and quality of life are at risk.

Kentucky has long recognized the need for adequate drinking water and wastewater infrastructure. In 2000, the Governor and General Assembly working together established a framework to plan for Kentucky's needs. Area Water Management Councils were created in each of Kentucky's Area Development Districts (ADDs), with the ADDs responsible for facilitating their meetings. The Councils are a forum for local utilities and local officials to discuss and identify each area's drinking water and wastewater needs. The Councils are tasked with reviewing and prioritizing needed projects based on local priorities.

For the Councils to successfully plan for the future, they must have information about the location and condition of existing infrastructure. The Kentucky Infrastructure Authority (KIA) was given the responsibility for maintaining and updating the Water Resource Information System (WRIS). The WRIS is a geo-database of existing infrastructure and of the projects reviewed by the Councils. The ADDs work with both the Councils and with every individual utility to gather information about each system, its existing infrastructure and its proposed projects through the creation of Project Profiles that address infrastructure needs. This document was created using the WRIS to identify and rank projects.

The WRIS facilitates a bottom up planning process and is truly a collaborative effort between the Councils, the ADDs and KIA. The information about Kentucky's drinking water and wastewater utilities, existing drinking water and wastewater infrastructure and the projects needed to maintain and improve the existing drinking water and wastewater infrastructure in the WRIS is an invaluable resource.

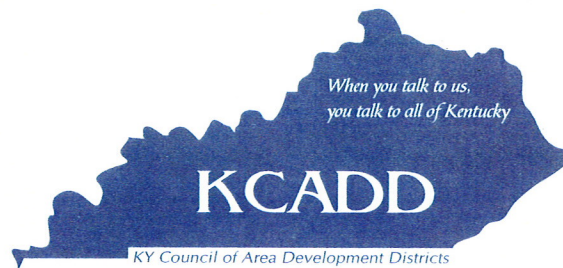
The Water Management Plan was developed from the project profiles of 2,089 drinking water projects with a total cost of \$1,909,356,450 and 1,484 wastewater projects with a total cost of \$2,026,556,842. The Water Management Plan identifies the needs and priorities of each planning council, the ranking process and the ranking of each council's projects.

Kentucky should be proud of the significant improvements we have made to our drinking water and wastewater infrastructure. However, as shown in the Water Management Plan, there is still significant work to be done to meet the growing drinking water and wastewater needs and to maintain our existing infrastructure. Kentucky has in place a planning process that identifies the most important projects from both a local and a regional perspective. This document identifies the drinking water and wastewater needs across the Commonwealth that are still to be met and the projects that will address those needs.

Sincerely,

A handwritten signature in black ink, appearing to read "J.E. Covington, III", with a stylized flourish at the end.

John E. Covington, III  
Executive Director



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501 Capital Avenue • Frankfort, Kentucky 40601 • Office 502.875.2515 • Fax 502.875.0946

January 22, 2015

Governor Beshear and Members of the General Assembly:

The Kentucky Area Development Districts (KADD), in conjunction with our local units of government, water and sewer systems, and the Kentucky Infrastructure Authority (KIA), are pleased to be a partner in providing the enclosed Infrastructure Assessment of providers and projects in our districts. Each Area Development District (ADD) collects and updates information in the Water Resource Information System (WRIS) that is critical to the planning process. The ADD's relationship with local utilities and elected officials give us the ability to successfully maintain the information in the WRIS, which was utilized to generate this report. This information is used by numerous agencies throughout the state, and provides much of the information needed for all aspects of water planning and emergency management decision-making.

This report demonstrates the importance of these projects to the viability of our communities, by providing detail as to the affected areas, services needed, residents/businesses impacted, funding requirements, and projected timeframes for completion. Not only have these projects been identified as important within each county, but they have also been reviewed and ranked as priority projects by each ADD Regional Water Management Planning Council. The prioritization process in each ADD is critical to making sure local governments and utilities are involved with and supportive of regional infrastructure planning.

Thank you for your continued interest and support of this process. We look forward to working with you and KIA to continue the planning and development of infrastructure projects within our communities. We hope you find this data helpful, and welcome your comments, suggestions and questions now and in the future.

Sincerely,

Jody Jenkins  
Union County Judge/Executive  
Chairperson  
Kentucky Council of Area Development Districts

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Over fifteen years ago, the Water Resource Development Commission was tasked by Governor Paul Patton to prepare a strategic plan for water-resource development in the Commonwealth of Kentucky. The intent of Governor Patton's Executive Order was to provide water and wastewater service to every Kentuckian by the year 2020. The original strategic plan for water developed by the WRDC in 1999 not only was a great barometer for the status of water services in the Commonwealth, but also provided recommendations to be carried out over the next twenty years. Similar in format, the strategic plan for wastewater followed in early 2000. Both plans focused on expanding and improving water and wastewater services to all citizens of Kentucky. Of the original 17 recommendations, a number have already been implemented; none more important than the expansion of the Water Resource Information System (WRIS) Portal.

The WRIS Portal has been developed through the cooperative efforts of water and wastewater treatment systems and local, regional, and state agencies. The WRIS Portal provides much of the information needed for all aspects of water and wastewater planning and emergency management decision making. The WRIS portal is designed to bring together information from a multitude of sources and display that information in one easy to use web application. The Portal is linked to databases at the Kentucky Division of Water, Kentucky Department for Environmental Protection, the Kentucky Department for Local Government, the Kentucky Public Service Commission, the Kentucky Department of Education, the Kentucky Department of Parks, KyWARN, and the Kentucky Infrastructure Authority (KIA).

Not only does the WRIS Portal contain valuable system information, but it also serves as the statewide registry for water and wastewater projects in the Commonwealth of Kentucky. Multiple funding sources require applicants to have a completed Project Profile within the WRIS including the Clean Water and Drinking Water State Revolving Fund (SRF), Community Development Block Grants (CDBG), Appalachian Regional Commission (ARC), Delta Regional Authority, State and Federal Line Item Grants, and Coal Severance Grants. The WRIS Project Profile is the project database that populates the e-Clearinghouse portal for review by all state agencies.

WRIS Portal information originating from KIA is maintained by the Kentucky Area Development Districts through system visits performed annually to each drinking water system and wastewater treatment system in the Commonwealth. In addition, the Kentucky Area Development Districts facilitate the Area Water Management Councils, encompassing the Commonwealth. These Area Water Management Councils meet quarterly and by statute assume the role and function of long range planning efforts for the Public Water and Wastewater Systems represented on the Council.

As we approach the year 2020, it is important to recognize the growth of public water and wastewater systems in the Commonwealth over the past several years. Our hope is that after reading through this report, the reader will recognize that the collaborative efforts of the above mentioned local, regional, and state agencies and public water and wastewater systems have begun the framework for continued growth of sustainable infrastructure throughout the Commonwealth of Kentucky.

The information contained in this report was acquired from several sources: U.S. Census Bureau's 2010 Census Data, the Division of Water's Safe Drinking Water Information System (SDWIS), the Environmental Protection Agency's Integrated Compliance Information System (ICIS), and the Kentucky Infrastructure Authority's Water Resource Information System (WRIS) Project Profile and System Data. Most importantly, all of the system data and project information originated with the public water and wastewater systems within this report. The information is either self reported by the public water and wastewater systems to the Area Development District Water Management Planners in a semiannual system visit, or a spatial analysis of reported information by the Kentucky Infrastructure Authority's WRIS Team.

As with any report that aggregates, interpolates, and/or extrapolates information, inconsistencies in the data will arise. However, every effort has been made to minimize the amount of inconsistent data. Please find below the explanations for several of the data sources cited in this report.

**Serviceability Index** – The Serviceable Population and Percent Serviceable information found in State and County Summary pages is derived from a spatial analysis of mapped service lines of public water and wastewater systems and the census blocks from the U.S. Census Bureau. The census blocks are buffered by 250 feet in order to capture a service line that may be able to serve a portion of the census block.

A census block smaller than 10 acres is considered to be fully served if a service line falls within the census block or its buffer zone of 250 feet. If a census block is considered to be fully serviced, then 100% of the census block's population and household count is allocated to the public water or wastewater system that owns the service lines within the given census block.

For a census block larger than 10 acres, an analysis is conducted comparing the ratio of service lines to road centerlines within a given census block. Once the ratio of distribution service line to road centerline is calculated, the ratio is used to allocate a portion of the census block's population and household count to the public water or wastewater system that owns the service lines within the given census block. If the ratio exceeds 75% of service line to road centerline, the census block is considered to be fully serviced. For any ratio smaller than 75%, the ratio is used to allocate only a portion of the census block's population and household count to the public water or wastewater system that owns the service lines located within the census block.

**Project Summary** –A summary of a public water and wastewater system's projects is provided at the bottom of their System Summary page. Only projects that have been approved by the Area Water Management Council and are in need of funding have been annotated in the summary. For more information on a project, please visit [www.wris.ky.gov](http://www.wris.ky.gov).

**Estimated Percentage Water Loss** – The estimated percentage water loss for each system is provided in the system's summary. This figure is an estimate calculated by dividing the amount of water provided to their customers by the system's production and/or purchase values. This information is reported to the Water Management Planners at the ADD on an annual basis. For specific system data, please visit [www.wris.ky.gov](http://www.wris.ky.gov).

Water





# Kentucky

- 2010 census population of 4,339,367 (1,927,164 households) with 96% serviceable.
- Projected 2020 population of 4,672,754 (change of 333,387).
- 62,803 miles of existing water lines.
- 8 new water treatment plants proposed in the next 10 years.
- 2,360 miles of line extensions proposed in the next 10 years.
- 1,300 miles of line rehabilitation proposed in the next 10 years.
- 384 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$1,705,359,640.
- Estimated funding needs for projects from 6 to 10 years: \$223,312,654.
- Average age of structures: water treatment plants is 37 years; water tanks is 27 years.
- Total number of interconnected systems is 417.
- 3,078 miles of asbestos concrete pipe currently in use.
- 13,175 miles of water lines less than 15 years old.
- 15,343 miles of water lines between 15 and 30 years old.
- 17,053 miles of water lines between 31 and 50 years old.
- 8,062 miles of water lines between 51 and 70 years old.
- 3,532 miles of water lines greater than 70 years old.



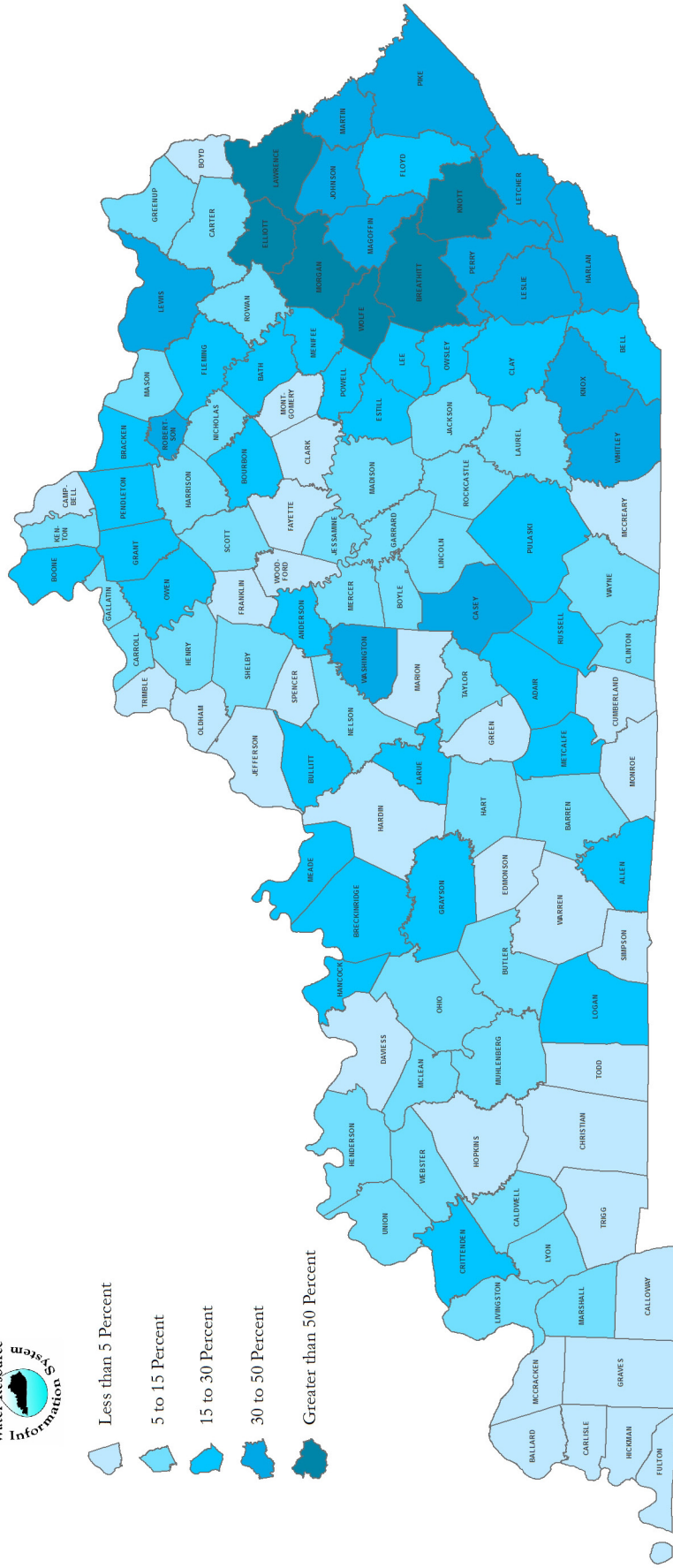
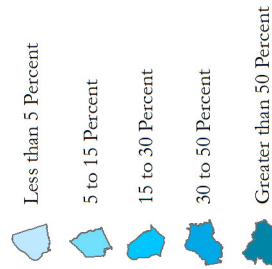
**Area Development District Demographic and Asset Condition Summary**

Area Development District	2010 Population	2020 Population	Serviceable Population	Percent Serviceable	Planned Cost 0 to 10 Years			
Bluegrass Area Development District	770,404	862,521	741,811	97%	\$ 192,912,688			
Barren River Area Development District	284,195	316,297	275,414	97%	\$ 109,090,409			
Big Sandy Area Development District	154,093	148,051	143,809	94%	\$ 40,438,327			
Buffalo Trace Area Development District	56,478	58,306	55,000	97%	\$ 28,155,600			
Cumberland Valley Area Development District	236,618	237,501	229,839	97%	\$ 86,322,570			
Five County Area Development District	137,884	139,098	131,579	95%	\$ 57,178,923			
Green River Area Development District	213,472	220,544	206,411	97%	\$ 105,834,046			
Gateway Area Development District	81,652	87,651	78,865	96%	\$ 14,439,641			
Kentuckiana Regional Planning and Development Agency	959,091	1,058,343	939,582	98%	\$ 269,532,897			
Kentucky River Area Development District	114,762	111,267	98,343	86%	\$ 112,225,110			
Lake Cumberland Area Development District	207,256	221,481	196,359	95%	\$ 151,253,836			
Lincoln Trail Area Development District	269,117	295,040	256,969	95%	\$ 173,060,663			
Northern Kentucky Area Development District	438,647	488,377	425,780	97%	\$ 244,392,317			
Pennyrile Area Development District	219,305	226,580	200,314	95%	\$ 233,742,798			
Purchase Area Development District	196,393	201,697	154,744	79%	\$ 110,092,469			
Demographic Totals	4,339,367	4,672,754	4,134,819	96%	\$ 1,928,672,294			
Area Development District	Average WTP Age (yrs)	Intercon- nected Systems	AC Pipe (mi)	Lines < 15 yrs (mi)	Lines 15 to 30 yrs (mi)	Lines 31 to 50 yrs (mi)	Lines 51 to 70 yrs (mi)	Lines > 70 yrs (mi)
Bluegrass Area Development District	44	57	525	1,229	3,004	2,009	905	1,215
Barren River Area Development District	37	42	179	1,172	1,274	2,792	1,613	20
Big Sandy Area Development District	34	13	58	1,637	833	34	3	0
Buffalo Trace Area Development District	35	17	114	511	820	285	134	35
Cumberland Valley Area Development District	36	37	28	902	1,835	468	318	44
Five County Area Development District	34	17	47	467	729	998	18	123
Green River Area Development District	35	30	182	654	1,389	1,541	245	249
Gateway Area Development District	41	30	29	613	542	763	142	12
Kentuckiana Regional Planning and Development Agency	20	14	184	54	124	427	1,073	412
Kentucky River Area Development District	24	15	44	1,221	682	438	15	0
Lake Cumberland Area Development District	39	20	56	1,158	2,267	1,898	128	164
Lincoln Trail Area Development District	47	26	101	1,590	496	1,047	1,382	71
Northern Kentucky Area Development District	39	24	45	692	804	1,561	215	265
Pennyrile Area Development District	43	55	844	1,017	386	1,970	1,319	531
Purchase Area Development District	35	20	642	258	158	822	552	391
Asset Condition Averages and Totals:	37	417	3,078	13,175	15,343	17,053	8,062	3,532

# Percent Increase in Households Serviceable by Public Water Systems from 2000 to 2010

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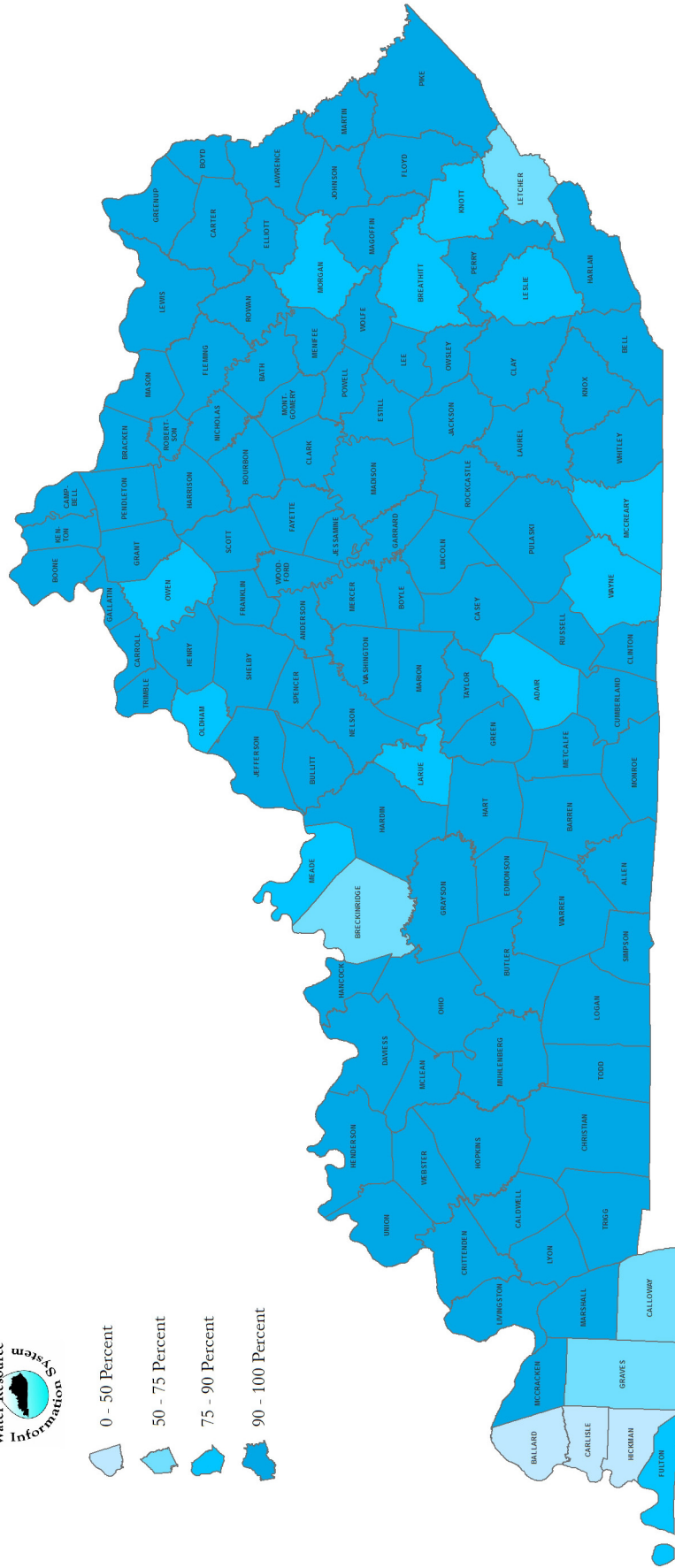
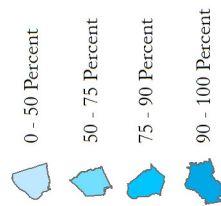
February, 2015



# Percent of Households Serviceable by Public Water Systems in 2010

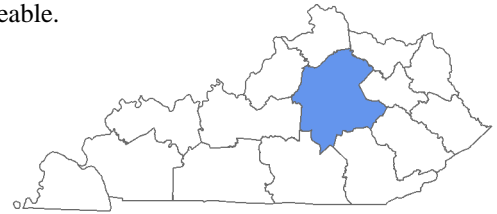
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February, 2015



# Bluegrass Area Development District (BGADD)

- 2010 census population of 770,404 (340,939 households) with 97% serviceable.
- Projected 2020 population of 862,521 (change of 92,117).
- 8,754.09 miles of existing water lines.
- 71.00 miles of line extensions proposed in the next 10 years.
- 79.00 miles of line rehabilitation proposed in the next 10 years.
- 47.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$174,720,263.
- Estimated funding needs for projects from 6 to 10 years: \$18,192,425.
- Average age of structures: water treatment plants is 44 years; water tanks is 30 years.
- Total number of interconnected systems is 57.
- 525 miles of asbestos concrete pipe currently in use.
- 1,229 miles of water lines less than 15 years old.
- 3,004 miles of water lines between 15 and 30 years old.
- 2,009 miles of water lines between 31 and 50 years old.
- 905 miles of water lines between 51 and 70 years old.
- \$ 1,215 miles of water lines greater than 70 years old.



Bluegrass Area Development District has a 2010 census population count of 770,404 (340,939 households) with a projected 2020 population count of 862,521 (355,488 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 239 serviceable households will be added through the construction of 71.00 miles of water line extensions and approximately 152,959 instances of improved service through the rehabilitation of 79.00 miles of existing water lines and other appurtenances. 47.00 miles of transmission lines are also proposed within this district.

County Summary for Bluegrass Area Development District							
County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Anderson	21,421	9,127	23,555	9,582	9,106	100%	\$ 770,000
Bourbon	19,985	8,927	20,530	8,478	8,784	98%	\$ 4,184,000
Boyle	28,432	12,312	29,048	11,782	12,264	100%	\$ 13,550,410
Clark	35,613	15,706	37,985	15,800	15,486	99%	\$ 34,716,255
Estill	14,672	6,865	14,359	6,115	6,703	98%	\$ 7,098,410
Fayette	295,803	135,160	334,733	141,152	126,154	93%	\$ 3,103,960
Franklin	49,285	23,164	50,777	21,761	22,996	99%	\$ 35,788,000
Garrard	16,912	7,463	19,122	7,917	7,359	99%	\$ 1,302,465
Harrison	18,846	8,208	19,640	8,006	8,149	99%	\$ 3,261,274
Jessamine	48,586	19,331	58,928	22,184	19,288	100%	\$ 23,233,600
Lincoln	24,742	10,819	26,170	10,762	10,570	98%	\$ 10,702,664
Madison	82,916	35,043	95,333	38,093	34,819	99%	\$ 29,263,429
Mercer	21,331	9,941	21,810	9,299	9,902	100%	\$ 4,552,700
Nicholas	7,135	3,261	7,411	3,012	3,164	97%	\$ 13,500,000
Powell	12,613	5,598	12,319	4,860	5,495	98%	\$ 2,190,246
Scott	47,173	19,303	63,984	25,538	18,805	97%	-
Woodford	24,939	10,711	26,817	11,147	10,317	96%	\$ 5,695,275
<b>Totals</b>	<b>770,404</b>	<b>340,939</b>	<b>862,521</b>	<b>355,488</b>	<b>329,361</b>	<b>97%</b>	<b>\$ 192,912,688</b>



## Community Drinking Water Systems in Bluegrass Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0030239</a>	Lawrenceburg Water & Sewer Department	Anderson	14,769	6,331
<a href="#">KY0030660</a>	South Anderson Water District	Anderson	6,343	2,654
<a href="#">KY0090287</a>	Millersburg Municipal Water Works	Bourbon	937	479
<a href="#">KY0090322</a>	North Middletown Water Department	Bourbon	1,051	450
<a href="#">KY0090343</a>	Paris Water Works	Bourbon	12,261	5,546
<a href="#">KY0110097</a>	Danville City Water Works	Boyle	23,400	10,362
<a href="#">KY0110345</a>	Parksville Water District	Boyle	3,933	1,696
<a href="#">KY0250981</a>	East Clark County Water District	Clark	6,169	2,669
<a href="#">KY0250473</a>	Winchester Municipal Utilities	Clark	25,165	11,123
<a href="#">KY0330123</a>	Estill County Water District #1	Estill	9,501	4,318
<a href="#">KY0330205</a>	Irvine Municipal Utilities	Estill	4,512	2,220
<a href="#">KY0340250</a>	Kentucky-American Water Company	Fayette	299,497	137,599
<a href="#">KY0370137</a>	Elkhorn Water District	Franklin	1,473	624
<a href="#">KY0370128</a>	Farmdale Water District	Franklin	6,206	2,446
<a href="#">KY0370143</a>	Frankfort Plant Board	Franklin	36,552	18,002
<a href="#">KY0370346</a>	Peaks Mill Water District	Franklin	2,872	1,251
<a href="#">KY0400151</a>	Garrard County Water Association	Garrard	13,036	5,643
<a href="#">KY0400233</a>	Lancaster Water Works	Garrard	3,935	1,839
<a href="#">KY0490096</a>	Cynthiana Municipal Water Works	Harrison	6,634	3,073
<a href="#">KY0490179</a>	Harrison County Water Association	Harrison	13,815	5,820
<a href="#">KY0570214</a>	Jessamine County Water District #1	Jessamine	4,028	1,630
<a href="#">KY0570249</a>	Jessamine- South Elkhorn Water District	Jessamine	7,690	2,977
<a href="#">KY0570315</a>	Nicholasville Utilities	Jessamine	31,464	12,905
<a href="#">KY0570010</a>	Wilmore Water Works	Jessamine	6,403	2,211
<a href="#">KY0690089</a>	Crab Orchard Water Works	Lincoln	1,214	575
<a href="#">KY0690203</a>	Hustonville Water Works	Lincoln	4,323	1,894
<a href="#">KY0690278</a>	McKinney Water District	Lincoln	4,251	1,831
<a href="#">KY0690417</a>	Stanford Water Commission	Lincoln	7,870	3,359
<a href="#">KY0760030</a>	Berea Municipal Utilities	Madison	9,972	4,131
<a href="#">KY0760672</a>	Kirksville Water Association	Madison	4,327	1,804
<a href="#">KY0760224</a>	Madison County Utilities District	Madison	24,991	10,384
<a href="#">KY0760370</a>	Richmond Water, Gas & Sewer	Madison	31,580	13,695
<a href="#">KY0760407</a>	Southern Madison Water District	Madison	11,365	4,732
<a href="#">KY0840048</a>	Burgin Water Department	Mercer	1,041	467
<a href="#">KY0840180</a>	Harrodsburg Municipal Water Department	Mercer	8,310	3,983
<a href="#">KY0840587</a>	Lake Village Water Association	Mercer	4,355	2,094
<a href="#">KY0840321</a>	North Mercer Water District	Mercer	9,772	4,116
<a href="#">KY0910065</a>	Carlisle Water Department	Nicholas	2,059	1,065
<a href="#">KY0910314</a>	Nicholas County Water District	Nicholas	3,480	1,512
<a href="#">KY0990074</a>	Clay City Water System	Powell	1,638	748
<a href="#">KY0990357</a>	Powells Valley Water District	Powell	5,676	2,555
<a href="#">KY0990418</a>	Stanton Water Commission	Powell	5,395	2,316
<a href="#">KY1050157</a>	Georgetown Municipal Water & Sewer Service	Scott	32,988	13,652
<a href="#">KY1200283</a>	Midway Municipal Water Works	Woodford	1,734	757
<a href="#">KY1200310</a>	Northeast Woodford County Water District	Woodford	2,277	983
<a href="#">KY1200411</a>	South Woodford County Water District	Woodford	3,749	1,630

### Community Drinking Water Systems in Bluegrass Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY1200439</a>	Versailles Municipal Water	Woodford	14,370	6,110
		<b>Totals:</b>	738,383	328,261

# Bluegrass Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## **Discussion of Area Development District Needs:**

The Bluegrass Area Development District (BGADD) estimates that approximately 946 persons do not have access to a community water supply out of a 2010 population of 770,404 people. This is consistent with a water-unserved population of about 0.13 percent and a water-served population of about 99.87 percent. Given the high percentage of success the BGADD has had with this initiative, the primary need is the repair and replacement of existing infrastructure. The BGADD region wants to make sure that all of the progress made remains in good condition.

The secondary need in this region is to continue to extend service to unserved areas. Our goal is to not only remain at the top of this initiative but to also be the first to have 100% access to public drinking water.

## **Description and Determination of Planning Units:**

The seventeen counties within our district are split up into seven (7) groups of two (2) to three (3) counties. These counties are adjacent to each other and have the potential to work on regional projects together. The Planning Units are designated as follows:

Planning Unit 1 Meeting - Estill and Powell

Planning Unit 2 Meeting – Bourbon, Harrison and Nicholas

Planning Unit 3 Meeting – Boyle, Garrard and Lincoln

Planning Unit 4 Meeting – Anderson and Mercer

Planning Unit 5 Meeting – Franklin, Scott and Woodford

Planning Unit 6 Meeting – Fayette and Jessamine

Planning Unit 7 Meeting – Clark and Madison

# Bluegrass Area Development District

## Project Ranking Methodology



The Bluegrass Area Water Management Council will examine the following criteria in the ranking of water and wastewater projects for 2015:

To that end, a scoring matrix will be developed with an available score between zero and 20 for the following seven categories:

1. **Project Type:** This category was broken down into three sections. More credit was given for projects that required new capital infrastructure. Less credit was given for projects that are considered improvement or replacement capital infrastructure. Projects that were considered to be maintenance were given the least amount of credit. The maximum possible score for this category is 20 points.

New Capital: 14-20 points

Improvement/Replacement Capital: 7-13 points

Maintenance: 0-6 points

2. **Threshold:** The size of the utility should be taken into account when considering the content/cost of the project. The maximum score for this category is 20 points.

Small Utilities (Less than 3,300 connections): \$50,000 Minimum Threshold

Medium Utilities (3,301 – 10,000 connections): \$250,000 Minimum Threshold

Large Utilities (Greater than 10,001 connections): \$500,000 Minimum Threshold

Does not meet threshold: 0 points

Meets threshold: 20 points

3. **Cost Effectiveness:** Is this project cost effective? What is the cost per household for this project? The maximum possible score for this category is 20 points.

Cost per Household

Less than \$5,000: 16-20 points

\$5,001 – \$10,000: 11-15 points

\$10,001 – \$15,000: 6-10 points

Greater than \$15,001: 0-5 points

4. **Regionalization:** Projects in which inter-local cooperation could in some way be demonstrated would receive more consideration than projects that were simply local in nature. Regional projects in general, tend to promote efficiency and effectiveness in utility delivery service. Projects that satisfy the following categories will score points accordingly. The maximum possible score for this category is 10 points.

This project eliminates existing facilities or redundancy: 2 points

This project serves more than one system/city/county: 2 points

This project is for new construction: 2 points

This project will replace/rehab existing facilities: 2 points

This project has an MOU or inter-local agreement in place: 2 points

5. **Local Rankings:** Planning units are the first step in the project ranking process. These smaller meetings composed of two and three county groups are able to identify local priorities better than the region as a whole. Things to consider during the local ranking meeting should include but are not limited to: Is the project construction ready? Have other funding sources already been committed? Is utility or community currently under any kind of enforcement actions? A project that was first-ranked at its local ranking would



receive 30 points in the scoring category; a second-ranked project, 28 points; a third-ranked project, 26 points, etc, and finally a tenth ranked project, 12 points.

6. Executive Council Ranking: The Water Management Executive Council will review submitted projects. Prior to submission to the Executive Council all projects will have been scored based on the above criteria.

A given project, if top-ranked in every category, could score 120 points.

Executive Council recommendations to the full Bluegrass Water Management Council can be modified by the full Council.

### Project Rankings For Bluegrass Area Development District

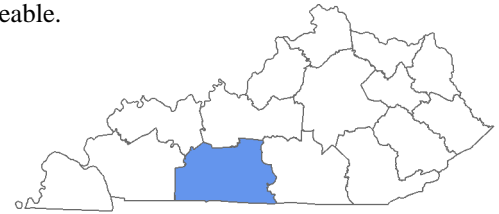
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21049015</a>	Water Treatment Plant - 9.0 MGD	0-2 Years	Not Funded	\$26,110,000	Clark	1	2
<a href="#">WX21073012</a>	Frankfort Plant Board Water Storage Improvement Project	0-2 Years	Not Funded	\$4,000,000	Franklin	2	1
<a href="#">WX21151008</a>	Standby Power Upgrade for Side Storage and College Hill Plant	0-2 Years	Not Funded	\$2,546,700	Madison	3	1
<a href="#">WX21197007</a>	City of Clay City - 150,000 Gallon Elevated Water Storage Tank	0-2 Years	Not Funded	\$658,380	Powell	4	1
<a href="#">WX21065005</a>	Irvine Water Treatment Plant Upgrade and Expansion	0-2 Years	Not Funded	\$5,732,000	Estill	5	2
<a href="#">WX21239026</a>	Versailles Raw Water Main Replacement	0-2 Years	Not Funded	\$1,234,500	Woodford	6	3
<a href="#">WX21113040</a>	Nicholasville 24" Parallel Transmission Main	0-2 Years	Partially Funded	\$3,682,622	Jessamine	7	2
<a href="#">WX21097002</a>	Cynthiana - Phase II Water System Improvements	0-2 Years	Partially Funded	\$2,356,000	Harrison	8	2
<a href="#">WX21151040</a>	Berea Utilities - Owsley Fork Reservoir (Red Lick Creek MPS No. 1) Rehabilitation	0-2 Years	Partially Funded	\$13,259,000	Madison	9	4
<a href="#">WX21017021</a>	Paris Water Treatment Plant Improvements	0-2 Years	Not Funded	\$1,500,000	Bourbon	10	5
<a href="#">WX21167029</a>	Water Distribution Main Replacement 2015	0-2 Years	Not Funded	\$2,887,200	Mercer	11	2
<a href="#">WX21137049</a>	City of Crab Orchard - Deepwell Woods Road Water Line and J&V Water Line	0-2 Years	Not Funded	\$443,700	Lincoln	12	1
<a href="#">WX21137047</a>	Waynesburg Water Line Replacement (KY HWY 328)	0-2 Years	Not Funded	\$85,000	Lincoln	13	2
<a href="#">WX21151046</a>	Richmond Utilities 20" Water Transmission Main Replacement	3-5 Years	Not Funded	\$1,479,200	Madison	14	7
<a href="#">WX21079015</a>	Lancaster - New Water Treatment Plant	0-2 Years	Fully Funded	\$12,240,455	Garrard	15	6
<a href="#">WX21113041</a>	Nicholasville – Jessamine South Elkhorn Water District Interconn	0-2 Years	Partially Funded	\$663,000	Jessamine	16	1
<a href="#">WX21151053</a>	Raw Water and High Service Pumping and Controls Modification	0-2 Years	Partially Funded	\$680,000	Madison	17	6
<a href="#">WX21113037</a>	Wilmore Elevated Storage Tank Rehabilitation	0-2 Years	Not Funded	\$370,000	Jessamine	18	3
<a href="#">WX21073020</a>	Green Wilson Road Water Line Upgrade	0-2 Years	Not Funded	\$770,000	Franklin	19	5
<a href="#">WX21167017</a>	Lake Village Water Association - Contract 14 Water Main West Zone Upgrades	0-2 Years	Not Funded	\$1,100,000	Mercer	20	1
<a href="#">WX21239023</a>	Woodford County Germany, Shore Acres, Foraker, Watts Ferry & Hippe Agee Project	3-5 Years	Not Funded	\$1,254,000	Woodford	21	4
<a href="#">WX21151057</a>	Kirksville Water Association - Welchwood / John Ballard WL Repla	3-5 Years	Not Funded	\$284,600	Madison	22	8
<a href="#">WX21017012</a>	City of Paris Creek Crossing Pipe Replacement Under Houston and Stoner Creeks.	0-2 Years	Not Funded	\$294,000	Bourbon	23	1
<a href="#">WX21021010</a>	Perryville Standpipe Replacement	0-2 Years	Not Funded	\$1,300,000	Boyle	24	3
<a href="#">WX21021026</a>	Danville - Corporate Drive Water Main Extension Project	0-2 Years	Partially Funded	\$1,396,410	Boyle	25	4
<a href="#">WX21151056</a>	Kirksville Water Association - Welchwood Master Meter Connection	0-2 Years	Not Funded	\$189,500	Madison	26	3
<a href="#">WX21239015</a>	South Woodford Water District - Cummins Ferry Water Line Replace	0-2 Years	Not Funded	\$412,000	Woodford	27	6
<a href="#">WX21113034</a>	Jessamine County Water District #1 - Carolyn Lane Water Line Upgrade	0-2 Years	Not Funded	\$660,000	Jessamine	28	4
<a href="#">WX21097019</a>	West End Water System Improvements	0-2 Years	Not Funded	\$1,157,000	Harrison	29	4
<a href="#">WX21167030</a>	Bay West Water Storage Tank Improvements	0-2 Years	Not Funded	\$490,500	Mercer	30	3
<a href="#">WX21079020</a>	Garrard County Water Association Extension 13	0-2 Years	Not Funded	\$139,185	Garrard	31	5
<a href="#">WX21017023</a>	Paris to Kentucky American Water System Connection	0-2 Years	Not Funded	\$90,000	Bourbon	32	3
<a href="#">WX21239009</a>	Sugar Hill Road Extension	0-2 Years	Not Funded	\$123,400	Woodford	33	2

### Project Rankings For Bluegrass Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21151059</a>	Whitt Road Water Line Replacement	0-2 Years	Not Funded	\$165,400	Madison	34	5
<b>Total Cost:</b>				<b>\$89,753,752</b>			

# Barren River Area Development District (BRADD)

- 2010 census population of 284,195 (126,280 households) with 97% serviceable.
- Projected 2020 population of 316,297 (change of 32,102).
- 6,764.95 miles of existing water lines.
- 114.00 miles of line extensions proposed in the next 10 years.
- 67.00 miles of line rehabilitation proposed in the next 10 years.
- 12.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$96,002,209.
- Estimated funding needs for projects from 6 to 10 years: \$13,088,200.
- Average age of structures: water treatment plants is 37 years; water tanks is 28 years.
- Total number of interconnected systems is 42.
- 179 miles of asbestos concrete pipe currently in use.
- 1,172 miles of water lines less than 15 years old.
- 1,274 miles of water lines between 15 and 30 years old.
- 2,792 miles of water lines between 31 and 50 years old.
- 1,613 miles of water lines between 51 and 70 years old.
- \$ 20 miles of water lines greater than 70 years old.



Barren River Area Development District has a 2010 census population count of 284,195 (126,280 households) with a projected 2020 population count of 316,297 (128,239 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 785 serviceable households will be added through the construction of 114.00 miles of water line extensions and approximately 96,392 instances of improved service through the rehabilitation of 67.00 miles of existing water lines and other appurtenances. 12.00 miles of transmission lines are also proposed within this district.

**County Summary for Barren River Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Allen	19,956	9,307	22,366	9,171	9,095	98%	\$ 3,701,480
Barren	42,173	19,188	46,361	19,245	19,114	100%	\$ 11,808,000
Butler	12,690	5,877	12,544	5,178	5,658	96%	\$ 8,161,590
Edmonson	12,161	6,467	12,628	5,283	6,380	99%	\$ 3,920,343
Hart	18,199	8,559	18,690	7,604	8,447	99%	\$ 20,172,023
Logan	26,835	12,339	27,382	11,301	12,143	98%	\$ 6,396,502
Metcalfe	10,099	4,681	10,329	4,306	4,535	97%	\$ 4,817,796
Monroe	10,963	5,204	10,405	4,423	5,102	98%	\$ 7,014,200
Simpson	17,327	7,435	18,342	7,429	7,180	97%	\$ 9,361,975
Warren	113,792	47,223	137,250	54,299	44,731	95%	\$ 33,736,500
<b>Totals</b>	<b>284,195</b>	<b>126,280</b>	<b>316,297</b>	<b>128,239</b>	<b>122,385</b>	<b>97%</b>	<b>\$ 109,090,409</b>

## Community Drinking Water Systems in Barren River Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0020956</a>	Allen County Water District	Allen	13,508	6,138
<a href="#">KY0020386</a>	Scottsville Water Department	Allen	5,115	2,444
<a href="#">KY0050490</a>	Cave City Water System	Barren	2,676	1,313
<a href="#">KY0050344</a>	Caveland Environmental Authority	Barren	590	282
<a href="#">KY0050929</a>	Glasgow Water Company	Barren	36,746	16,708
<a href="#">KY0160052</a>	Butler County Water System	Butler	10,678	4,920
<a href="#">KY0160294</a>	Morgantown Utilities	Butler	2,202	1,015
<a href="#">KY0310706</a>	Brownsville Municipal Water System	Edmonson	692	349
<a href="#">KY0310114</a>	Edmonson County Water District	Edmonson	17,603	10,369
<a href="#">KY0500032</a>	Bonnieville Water District	Hart	444	247
<a href="#">KY0500166</a>	Green River Valley Water District	Hart	16,337	7,293
<a href="#">KY0500476</a>	Horse Cave Water System	Hart	2,285	1,111
<a href="#">KY0500305</a>	Munfordville Water Works	Hart	1,484	757
<a href="#">KY0710001</a>	Adairville Water Works	Logan	912	441
<a href="#">KY0710012</a>	Auburn Water Department	Logan	1,379	647
<a href="#">KY0710951</a>	East Logan Water District	Logan	7,780	3,192
<a href="#">KY0710247</a>	Lewisburg Water Works	Logan	2,482	1,202
<a href="#">KY0710318</a>	North Logan Water District	Logan	1,396	618
<a href="#">KY0710378</a>	Russellville Municipal Water System	Logan	7,170	3,448
<a href="#">KY0710707</a>	South Logan Water Association	Logan	4,110	1,811
<a href="#">KY0850115</a>	Edmonton Water Works	Metcalfe	7,191	3,316
<a href="#">KY0860141</a>	Fountain Run Water District #1	Monroe	882	487
<a href="#">KY0860150</a>	Monroe County Water District	Monroe	7,894	3,649
<a href="#">KY0860426</a>	Tompkinsville Water Works	Monroe	2,404	1,204
<a href="#">KY1070144</a>	Franklin Water Works	Simpson	10,457	4,592
<a href="#">KY1070398</a>	Simpson County Water District	Simpson	6,693	2,795
<a href="#">KY1140038</a>	Bowling Green Municipal Utilities	Warren	46,878	19,759
<a href="#">KY1140487</a>	Warren County Water District	Warren	61,349	25,054
		<b>Totals:</b>	279,337	125,161

# **Barren River Area Development District Regional Water Needs Assessment**



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## **Discussion of Area Development District Needs:**

The majority of planning units within the BRADD region have identified the repair and replacement of existing infrastructure as the primary need within their respective county. Evidence of this need is reflected by the types of projects currently on record as well as the overall regional priority rankings submitted by each planning unit. Many planning units within the region have identified aging and/or failing existing infrastructure as a major obstacle to improving water service quality and have developed projects to combat this issue. Planning units also indicated that addressing the primary need of repair and replacement will also aid in the pursuit of extending services to unserved areas, which represents the secondary need identified most frequently within the BRADD region. Although to a lesser extent, improving security risks and increasing storage capacity were also identified as secondary needs by multiple planning units.

## **Description and Determination of Planning Units:**

Planning units within the BRADD region are determined by county and are comprised of all water systems located within county boundaries. In addition, water systems that operate on a regional level within multiple counties are included in each planning unit in which they operate. Water planning units within the BRADD region: Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, and Warren.



# Barren River Area Development District Project Ranking Methodology



The Barren River Water Management Council utilizes the following criteria for the prioritization of water and wastewater projects on a regional scale. The criteria has been adapted from previous versions used by the BRADD combined with examples from other ADDs resulting in a 5 tiered ranking criteria to determine a numerical point value for each project. This process provides for increased collaboration on a local level to increase awareness on the impacts (locally and regionally) of proposed projects.

County Planning Unit Councils meet at least once locally to discuss and rank potential projects. These meetings are hosted by the County Judge/Executive with each local utility, mayor and other officials invited to attend. All proposed projects are reviewed by the council and given a numerical score based on a five tiered ranking criteria including: (1. Project Type 2. Compliance with Enforcement Action 3. Funding Status 4. Project Status and 5. County Ranking). Due to the diverse composition of each planning unit, a wide variety of interests are represented and therefore collaboration and compromise are key factors throughout the ranking process. This also provides for an increased level of understanding regarding the needs of planning unit as a whole and ensures that projects providing the most benefit (both locally and regionally) receive priority.

After all Planning Unit Council meetings have been completed, a summary tabulation of project scores is created and the Area Water Management Council meets to vote and finalize the regional ranking priorities. The top five scoring projects for each county are selected for ranking, resulting in a total of 50 ranked projects each for both water and wastewater. In addition, the top 10 overall projects are comprised of those projects identified as the #1 overall priority for each county (as indicated by each planning unit during regional ranking meetings). In this way each county is assured to have one project appear in the top 10 regional ranking, thus ensuring equal opportunity throughout the region. After the top 10 the projects are ranked based on overall score. The following criteria are used to score projects:

## Drinking Water Ranking Criteria

### I. Project Type

- A. Elimination of a Public Water System (PWS) through a merger = 25 points
- B. Elimination of water treatment plant through an interconnection = 23 points
- C. Rehabilitation and or replacement of aging infrastructure = 20 points
- D. Construction of a supplemental potable/raw water supply = 17 points
- E. Construction of a new water treatment plant or expansion = 15 points
- F. Construction of a new water storage tank = 10 point

### G. Economic Development

- 100+ jobs created or maintained - 20 points
- 75-99 jobs created or maintained - 19 points
- 50-74 jobs created or maintained - 18 points
- 20-49 jobs created or maintained - 15 points
- 10-19 jobs created or maintained - 10 points
- less than 10 jobs created or maintained - 5 points

### H. Extension of Service to Unserved Households

- 9+ households per mile - 20 points
- 7-8 households per mile - 19 points
- 5-6 households per mile - 18 points
- 3-4 households per mile - 15 points
- 1-2 households per mile - 10 points

**I. Underserved Customers**

- 80-100+ households per mile - 20 points
- 60-80 households per mile - 19 points
- 40-60 households per mile - 18 points
- 20-40 households per mile - 15 points
- 0-20 households per mile - 10 points

**II. Compliance with Enforcement Action (Receive points in either A or B)**

- A. Does the project address correction of a documented health threat? = 10 Points
- B. Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? = 5 Points

**III. Funding Status (Receive points in either A, B, or C)**

- A. Funds committed for 50-99% of total project cost = 10 points
- B. Funds committed for 1-49% of total project cost = 5 points
- C. No funds committed for project = 0 points

**IV. Project Status (Can receive points in multiple categories)**

- A. All necessary approvals obtained to start construction (including rights-of-way) = 20 points
- B. Engineering plans & specs submitted to DOW = 15 points
- C. Preliminary engineering report complete = 10 points
- D. Estimated engineer's budget complete = 5 points

**V. County Ranking (Receive points in either A, B, C, or D)**

- A. Number one ranked project = 24 points
- B. Number two ranked project = 18 points
- C. Number three ranked project = 14 points
- D. Number four ranked project = 10 points
- E. Number five ranked project = 8 Points

### Project Rankings For Barren River Area Development District

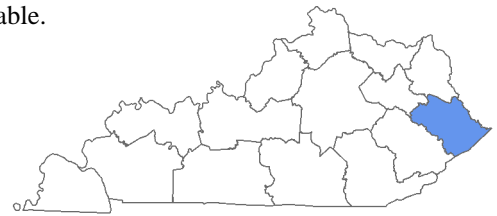
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21171045</a>	Monroe County Water District - New Regional Water Treatment Plant and Water System Improvements	3-5 Years	Over Funded	\$12,412,000	Monroe	1	1
<a href="#">WX21061027</a>	Edmonson County Water District - Edmonson and Hart Extensions # 1	3-5 Years	Not Funded	\$1,117,215	Edmonson	2	1
<a href="#">WX21227087</a>	BGMU - Water Treatment Plant Expansion	0-2 Years	Not Funded	\$39,500,000	Warren	3	1
<a href="#">WX21213028</a>	City of Franklin - West Cedar St. Water Line	0-2 Years	Not Funded	\$495,975	Simpson	4	1
<a href="#">WX21141020</a>	City of Lewisburg - Radio Read Meter Purchase	0-2 Years	Not Funded	\$220,000	Logan	5	1
<a href="#">WX21169032</a>	Edmonton - Water Storage Tank Renovations/SCADA System - Phase II	3-5 Years	Not Funded	\$800,000	Metcalfe	6	1
<a href="#">WX21003003</a>	White Plains Tank Painting	3-5 Years	Not Funded	\$350,000	Allen	7	1
<a href="#">WX21009032</a>	Glasgow Water Improvement - 20 Inch Transmission Line to Haywood	3-5 Years	Not Funded	\$4,500,000	Barren	8	1
<a href="#">WX21099038</a>	Quarry Road Water Main Extension	3-5 Years	Not Funded	\$333,045	Hart	9	1
<a href="#">WX21031049</a>	Butler County Water Line Extensions	0-2 Years	Not Funded	\$134,300	Butler	10	1
<a href="#">WX21227053</a>	WCWD - Morgantown Road Area Improvements	0-2 Years	Not Funded	\$1,114,000	Warren	11	2
<a href="#">WX21099029</a>	GRVWD - Water Treatment Plant Expansion	0-2 Years	Not Funded	\$8,000,000	Hart	12	2
<a href="#">WX21171013</a>	Tompkinsville Downtown Water Line Replacement	3-5 Years	Not Funded	\$500,000	Monroe	13	2
<a href="#">WX21009030</a>	Caveland Environmental - Blair Road	3-5 Years	Not Funded	\$198,000	Barren	14	2
<a href="#">WX21141056</a>	East Logan Water District - Line Improvement Upgrades	3-5 Years	Not Funded	\$3,070,000	Logan	15	2
<a href="#">WX21169025</a>	Edmonton - Joe Fields and Lone Star Line Replacement	3-5 Years	Not Funded	\$150,000	Metcalfe	16	2
<a href="#">WX21003001</a>	Holland Road New Pump Station Project	0-2 Years	Not Funded	\$1,334,180	Allen	17	2
<a href="#">WX21213027</a>	City of Franklin - W. Madison St. Water Line Project	3-5 Years	Not Funded	\$471,000	Simpson	18	3
<a href="#">WX21061020</a>	Edmonson County Water District - Edmonson and Hart Extensions #2	3-5 Years	Not Funded	\$1,061,585	Edmonson	19	2
<a href="#">WX21031042</a>	Morgantown - Water Plant Improvements	3-5 Years	Not Funded	\$500,000	Butler	20	2
<a href="#">WX21099033</a>	Bonnieville Waterline Improvement Project	3-5 Years	Not Funded	\$2,040,100	Hart	21	3
<a href="#">WX21009031</a>	Glasgow Water Improvement - 1 Million Gallon Tank-Grandview	0-2 Years	Not Funded	\$2,000,000	Barren	22	3
<a href="#">WX21171037</a>	Fountain Run Water District #1 - Repaint/Rehab Existing Tank	3-5 Years	Not Funded	\$123,000	Monroe	23	3
<a href="#">WX21141046</a>	City of Russellville - Newtown 6 Inch Waterline Extension	0-2 Years	Not Funded	\$500,000	Logan	24	3
<a href="#">WX21169030</a>	Roy Grider Road Water Main Connection	3-5 Years	Not Funded	\$97,971	Metcalfe	25	3
<a href="#">WX21213029</a>	City of Franklin - Morgantown Rd Water Line	3-5 Years	Not Funded	\$336,000	Simpson	26	5
<a href="#">WX21227050</a>	BGMU - Alternative Water Study	3-5 Years	Partially Funded	\$400,000	Warren	27	3
<a href="#">WX21003020</a>	Water Line Extension to Sumitomo Plant	3-5 Years	Not Funded	\$654,300	Allen	28	3
<a href="#">WX21061005</a>	Edmonson County Water Improvement - Nolin State Park	3-5 Years	Not Funded	\$176,000	Edmonson	29	3
<a href="#">WX21031046</a>	BCWS - Pump Station Standby Power System	0-2 Years	Not Funded	\$90,000	Butler	30	3
<a href="#">WX21213034</a>	SCWD- Macedonia Road Fire Protection	3-5 Years	Not Funded	\$120,000	Simpson	31	2
<a href="#">WX21099019</a>	City of Munfordville - Water Line Improvements	3-5 Years	Fully Funded	\$150,000	Hart	32	4
<a href="#">WX21141023</a>	City of Auburn-Water Project #2	0-2 Years	Partially Funded	\$370,926	Logan	33	4
<a href="#">WX21171029</a>	Monroe County Water District Improvements - GPS Mapping System	3-5 Years	Not Funded	\$150,000	Monroe	34	4
<a href="#">WX21009029</a>	Westside Line Improvement - Glasgow	0-2 Years	Not Funded	\$105,000	Barren	35	4

### Project Rankings For Barren River Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21169034</a>	Martin Cemetery Road Water Main	3-5 Years	Not Funded	\$55,370	Metcalf	36	4
<a href="#">WX21227028</a>	WCWD - Greenwood Pump Station #2	3-5 Years	Not Funded	\$275,000	Warren	37	4
<a href="#">WX21003014</a>	City of Scottsville - Maysville Rd Tank Painting and Old Tank Demolition	3-5 Years	Not Funded	\$350,000	Allen	38	4
<a href="#">WX21031039</a>	Morgantown - Water Tank	0-2 Years	Fully Funded	\$200,000	Butler	39	4
<a href="#">WX21009010</a>	Glasgow Water Improvement	0-2 Years	Not Funded	\$230,000	Barren	40	5
<a href="#">WX21099035</a>	Edmonson County Water District - Edmonson and Hart Extensions #1	3-5 Years	Not Funded	\$977,075	Hart	41	5
<a href="#">WX21171046</a>	New Water Line - KY 87 (South) - Long Hollow Road to Tennessee L	3-5 Years	Not Funded	\$151,000	Monroe	42	5
<a href="#">WX21141027</a>	Russellville Water Project #4	3-5 Years	Not Funded	\$647,672	Logan	43	5
<a href="#">WX21213042</a>	SCWD - Rural Fire Protection Project A	3-5 Years	Not Funded	\$803,000	Simpson	44	4
<a href="#">WX21003012</a>	City of Scottsville - WTP Emergency Generator Project	3-5 Years	Not Funded	\$500,000	Allen	45	5
<a href="#">WX21169029</a>	City of Edmonton - Water Service to New Bypass	6-10 Years	Not Funded	\$2,000,000	Metcalf	46	5
<a href="#">WX21031028</a>	BCWS - Jetson Tank Replacement	3-5 Years	Not Funded	\$550,000	Butler	47	5
<a href="#">WX21227066</a>	BGMU - South Park Pump Station Emergency Generator	0-2 Years	Not Funded	\$125,000	Warren	48	5
<b>Total Cost:</b>				<b>\$90,438,714</b>			

# Big Sandy Area Development District (BSADD)

- 2010 census population of 154,093 (70,217 households) with 94% serviceable.
- Projected 2020 population of 148,051 (change of -6,042).
- 2,467.11 miles of existing water lines.
- 57.00 miles of line extensions proposed in the next 10 years.
- 35.00 miles of line rehabilitation proposed in the next 10 years.
- There are no transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$38,928,327.
- Estimated funding needs for projects from 6 to 10 years: \$1,510,000.
- Average age of structures: water treatment plants is 34 years; water tanks is 23 years.
- Total number of interconnected systems is 13.
- 58 miles of asbestos concrete pipe currently in use.
- 1,637 miles of water lines less than 15 years old.
- 833 miles of water lines between 15 and 30 years old.
- 34 miles of water lines between 31 and 50 years old.
- 3 miles of water lines between 51 and 70 years old.
- \$ 0 miles of water lines greater than 70 years old.



Big Sandy Area Development District has a 2010 census population count of 154,093 (70,217 households) with a projected 2020 population count of 148,051 (61,704 households). Public water is currently available to approximately 94 percent of the district's households based on 2010 census counts. Over the next ten years approximately 277 serviceable households will be added through the construction of 57.00 miles of water line extensions and approximately 73,661 instances of improved service through the rehabilitation of 35.00 miles of existing water lines and other appurtenances.

County Summary for Big Sandy Area Development District							
County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Floyd	39,451	18,175	37,153	15,594	17,465	96%	\$ 15,147,068
Johnson	23,356	10,624	23,265	9,647	10,145	96%	\$ 133,322
Magoffin	13,333	5,950	13,587	5,696	5,683	96%	\$ 4,691,593
Martin	12,929	5,164	12,055	4,410	5,014	97%	\$ 5,843,350
Pike	65,024	30,304	61,991	26,357	27,576	91%	\$ 14,622,994
<b>Totals</b>	<b>154,093</b>	<b>70,217</b>	<b>148,051</b>	<b>61,704</b>	<b>65,883</b>	<b>94%</b>	<b>\$ 40,438,327</b>

## Community Drinking Water Systems in Big Sandy Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0360272</a>	Martin Water Works	Floyd	657	379
<a href="#">KY0360358</a>	Prestonsburg City's Utilities Commission	Floyd	18,073	8,226
<a href="#">KY0360026</a>	Southern Water & Sewer District	Floyd	19,791	9,112
<a href="#">KY0360463</a>	Wheelwright Utilities Commission	Floyd	953	397
<a href="#">KY0580340</a>	Paintsville Utilities Commission	Johnson	21,809	9,942
<a href="#">KY0770525</a>	Magoffin County Water District	Magoffin	10,638	4,751
<a href="#">KY0770566</a>	Salyersville Water Works	Magoffin	2,256	1,006
<a href="#">KY0800273</a>	Martin County Water District	Martin	11,698	5,034
<a href="#">KY0980350</a>	City of Pikeville	Pike	9,105	4,162
<a href="#">KY0980120</a>	Elkhorn City Water Department	Pike	1,429	715
<a href="#">KY0980575</a>	Mountain Water District	Pike	48,163	22,481
		<b>Totals:</b>	144,572	66,205



# Big Sandy Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Increase Storage Capacity**

## **Discussion of Area Development District Needs:**

In the Big Sandy Area 94% of the population is served by public water. The unserved population lives in very rural areas and waterline extension and maintenance is very expensive. The capital cost of designing and constructing public water system extensions is perhaps the chief impediment to the extension of public service into rural areas of the Big Sandy. The average age of water infrastructure in the region is approximately 50 years old. The primary need for the Big Sandy Area is to repair and replace existing infrastructure. The aging water infrastructure need to be upgraded or replaced. The area's secondary need for sufficient water supply to deal with drought or heavy water usage implementation of inter connectivity among systems would alleviate the problem and some connections have been made.

## **Description and Determination of Planning Units:**

Big Sandy has five Water Planning Areas: Floyd, Johnson, Magoffin, Martin, and Pike Counties. The planning group is made up of Judge Executives, Mayors, and Utilities within the planning area. The planning area follows the county boundary of the respective planning unit.

The water suppliers in the planning groups are as follows:

- Floyd County - Prestonsburg City's, Martin Water Works, Wheelwright Utilities, Southern Water and Sewer District
- Johnson County - Paintsville Utilities
- Magoffin County- Magoffin County Water District, Salyersville Water Works
- Martin County- Martin County Water District,
- Pike County-Mountain Water District, Pikeville Water Department, and Elkhorn City Water Department.

# Big Sandy Area Development District Project Ranking Methodology



The Big Sandy Area Water Management Council prioritizes projects based on points. Points are given under the following categories: Project Impact and Project Status.

## Project Impact

Under this category, points are awarded based on the regional needs met by the project, the scope of impact, and the delivery of the project.

Regional needs are awarded points based upon which regional need is met. Each regional need is determined by the Water Management Council and an established point value.

The scope of impact includes the impact of the project to un-served households, underserved households, and economic stimulation. Un-served households are homes that currently do not have public water/wastewater service available to them. Underserved households are homes that have public water/wastewater service, but the completion of the proposed project will improve service and/or quality to said areas in the utility's system. Points are allocated to the economic stimulation group based on the number of jobs the completed project will create. The more households and jobs that a project affects/creates, the more points the project is given. Projects that have more than one scope can receive an additional 5 points and other unlisted project scopes can receive 5 points - maximum points possible for project scope is 20 points.

Project Delivery is allotted 20 points for a regional project and 5 points for a non-regional project.

## Project Status

Under this category, points are awarded based on project development and commitment of funds.

For project development, projects are given 5 points for preliminary planning, 10 points for attaining a cost estimate from a project engineer or for procuring an engineer for the project, 15 points if a preliminary engineering report is completed, or 20 points if engineering plans and specs have been completed and submitted to Division of Water.

The maximum value of point awarded for commitment of funds is 20 points for projects with more than 50% of the total project cost committed - projects with 25-49% of project funds receive 10 points and projects with less than 25% of project funds committed or with pending applications receive 5 points.

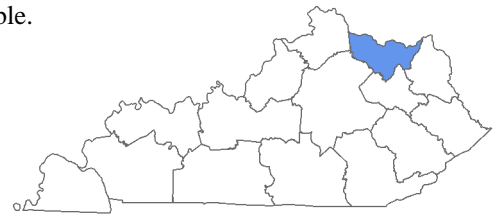
The category totals are added together for a maximum of 100 points possible. The higher the cumulative total, the higher the project is ranked. For projects with the same overall point total, a cost per connection tie breaker is utilized. The cost per connection tie breaker is calculated using the estimated project cost divided by the total number of households the project will affect. The lower the cost per connection, the higher ranking the project receives.

### Project Rankings For Big Sandy Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21195024</a>	City of Pikeville By-pass Waterline Extension	0-2 Years	Not Funded	\$225,000	Pike	1	4
<a href="#">WX21195007</a>	Water Treatment Plant Clarifier Rehab	0-2 Years	Not Funded	\$1,011,600	Martin	2	2
<a href="#">WX21195027</a>	Water Loss Prevention Program Phase I – Contract #1	0-2 Years	Not Funded	\$1,500,000	Pike	3	1
<a href="#">WX21195028</a>	Water Loss Prevention Program Phase I – Contract #2	0-2 Years	Not Funded	\$1,500,000	Pike	4	2
<a href="#">WX21195030</a>	Interconnect with MWD	0-2 Years	Not Funded	\$315,000	Pike	5	9
<a href="#">WX21195009</a>	City of Elkhorn City - Water Improvements - Radio Read Meters	0-2 Years	Not Funded	\$605,000	Pike	6	5
<a href="#">WX21071008</a>	Southern Water - Mink Branch Tank Replacement	0-2 Years	Not Funded	\$550,000	Floyd	7	1
<a href="#">WX21195010</a>	Steel Bridge Water Line Replacement	0-2 Years	Not Funded	\$270,000	Pike	8	3
<a href="#">WX21195009</a>	Water Intake Upgrades	0-2 Years	Not Funded	\$2,223,420	Martin	9	3
<a href="#">WX21153013</a>	Salysersville Church Street Storage Tank	0-2 Years	Not Funded	\$700,982	Magoffin	10	1
<a href="#">WX21195006</a>	Martin County Rehab Aging Infrastructure/Radio Reads	0-2 Years	Not Funded	\$3,599,900	Martin	11	1
<a href="#">WX21115015</a>	Miscellaneous Water Line Extensions - Phase 3	0-2 Years	Not Funded	\$118,322	Johnson	12	1
<a href="#">WX21195021</a>	Greasy Creek Booster Pump Station	0-2 Years	Not Funded	\$500,000	Pike	13	7
<a href="#">WX21153012</a>	Salysersville Water Aging Water Main Phase III	0-2 Years	Not Funded	\$1,600,000	Magoffin	14	4
<a href="#">WX21071730</a>	SWSD - Lackey to Wayland Water Line Replacement	3-5 Years	Not Funded	\$1,350,000	Floyd	15	2
<a href="#">WX21115018</a>	Hydrology Model for System	0-2 Years	Not Funded	\$15,000	Johnson	16	2
<a href="#">WX21153023</a>	Magoffin County Water District - Radio Telemetry System	0-2 Years	Not Funded	\$644,000	Magoffin	17	5
<a href="#">WX21153019</a>	Magoffin Industrial Park	0-2 Years	Not Funded	\$431,300	Magoffin	18	2
<a href="#">WX21195029</a>	Radio Read Meter Replacement Project - Phase I	0-2 Years	Not Funded	\$1,100,000	Pike	19	6
<a href="#">WX21153029</a>	Magoffin - KY 542/Sandbottom Water Line Extension	3-5 Years	Not Funded	\$1,097,811	Magoffin	20	3
<a href="#">WX21195740</a>	MWD-Variou s Waterline Extensions	3-5 Years	Not Funded	\$675,000	Pike	21	10
<a href="#">WX21195007</a>	City of Elkhorn City John Moore's Branch Water Line Extension	0-2 Years	Not Funded	\$2,750,000	Pike	22	8
<a href="#">WX21115019</a>	Route 172 Waterline Upgrade	3-5 Years	Unknown	\$0	Johnson	23	3
<b>Total Cost:</b>				<b>\$22,782,335</b>			

# Buffalo Trace Area Development District (BTADD)

- 2010 census population of 56,478 (26,144 households) with 97% serviceable.
- Projected 2020 population of 58,306 (change of 1,828).
- 1,779.13 miles of existing water lines.
- 18.00 miles of line extensions proposed in the next 10 years.
- 90.00 miles of line rehabilitation proposed in the next 10 years.
- 1.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$22,817,100.
- Estimated funding needs for projects from 6 to 10 years: \$5,338,500.
- Average age of structures: water treatment plants is 35 years; water tanks is 22 years.
- Total number of interconnected systems is 17.
- 114 miles of asbestos concrete pipe currently in use.
- 511 miles of water lines less than 15 years old.
- 820 miles of water lines between 15 and 30 years old.
- 285 miles of water lines between 31 and 50 years old.
- 134 miles of water lines between 51 and 70 years old.
- \$ 35 miles of water lines greater than 70 years old.



Buffalo Trace Area Development District has a 2010 census population count of 56,478 (26,144 households) with a projected 2020 population count of 58,306 (24,059 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 148 serviceable households will be added through the construction of 18.00 miles of water line extensions and approximately 27,861 instances of improved service through the rehabilitation of 90.00 miles of existing water lines and other appurtenances. 1.00 miles of transmission lines are also proposed within this district.

**County Summary for Buffalo Trace Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bracken	8,488	3,840	8,744	3,538	3,796	99%	\$ 6,224,600
Fleming	14,348	6,623	14,880	6,231	6,513	98%	\$ 9,731,000
Lewis	13,870	6,481	13,899	5,717	6,208	96%	\$ 4,518,500
Mason	17,490	8,105	18,419	7,608	7,808	96%	\$ 5,996,500
Robertson	2,282	1,095	2,364	965	1,089	100%	\$ 1,685,000
<b>Totals</b>	<b>56,478</b>	<b>26,144</b>	<b>58,306</b>	<b>24,059</b>	<b>25,414</b>	<b>97%</b>	<b>\$ 28,155,600</b>

## Community Drinking Water Systems in Buffalo Trace Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0120013</a>	Augusta Regional WTP	Bracken	1,169	573
<a href="#">KY0120039</a>	Bracken County Water District	Bracken	6,067	2,700
<a href="#">KY0120044</a>	Brooksville Water	Bracken	655	297
<a href="#">KY0350133</a>	Fleming County Water Association	Fleming	9,458	4,167
<a href="#">KY0350134</a>	Flemingsburg Water	Fleming	2,920	1,496
<a href="#">KY0910675</a>	Western Fleming Water District	Fleming	2,888	1,309
<a href="#">KY0680153</a>	Garrison Water	Lewis	2,818	1,252
<a href="#">KY0680438</a>	Vanceburg Water	Lewis	6,358	3,029
<a href="#">KY0810046</a>	Buffalo Trail Water Association	Mason	3,430	1,603
<a href="#">KY0810275</a>	Maysville Water	Mason	11,248	5,395
<a href="#">KY0810366</a>	Western Lewis-Rectorville Water & Gas District	Mason	4,964	2,242
<a href="#">KY0810460</a>	Western Mason Water District	Mason	2,184	953
<a href="#">KY1010297</a>	Mount Olivet Water	Robertson	442	211
		<b>Totals:</b>	54,601	25,227

# Buffalo Trace Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Increase Storage Capacity**

## **Discussion of Area Development District Needs:**

Buffalo Trace Area Development District (BTADD) is comprised of Bracken, Fleming, Lewis, Mason and Robertson Counties. Thirteen (13) water systems provide potable water to the residents of the area. In addition, one water commission provides water on a wholesale basis to other utilities. During a Regional Water Management Council meeting, the systems were given the opportunity to meet with the other systems in their respective county to discuss the needs for their system and determine the needs that were most prevalent in the county. The needs identified were used in the determination of the primary and secondary of the Buffalo Trace Area Development District.

The primary need identified in the Buffalo Trace Region is Repair and Replace Existing Infrastructure. This is the primary need for four of the five planning units and was identified as the secondary need for the other county. Many of the utilities have identified this as their primary need due to aging infrastructure and undersized lines. Approximately 250 miles of water line in the region was constructed prior to 1970, with more than 200 miles being constructed of AC line. In addition, wells need to be replaced and tanks need to be cleaned.

The secondary need identified is Increase Storage Capacity. This was identified as the primary need in one planning unit and secondary in two planning units. Several areas do not have adequate storage to meet regular demands within the area.

Additional secondary needs identified by the planning units include: Economic Stimulation and Meet Regulatory Requirements

## **Description and Determination of Planning Units:**

The Buffalo Trace Area Development covers five planning units, each encompassing a political county boundary. The five planning units are: Bracken County, Fleming County, Lewis County, Mason County and Robertson County.

There are five water utilities in Bracken County: Augusta Regional WTP, Bracken County Water District, Brooksville Utility, Buffalo Trail Water Association and Western Mason Water District.

Four utilities serve residences in Fleming County. They include: Fleming County Water Association, Flemingsburg Utility, Western Fleming Water District and Rowan Water, Inc. In addition, Greater Fleming Regional Water Commission is a wholesale provider to Fleming County Water Association, Flemingsburg Utility and Western Fleming Water District.

Lewis County residents are served by three systems: Garrison Quincy Heights Water District, Vanceburg Electric Plant Board and Western Lewis Rectorville Water District.

Mason County is served by six utilities: Maysville Utility System, Western Mason Water District, Western Lewis Rectorville Water District, Buffalo Trail Water Association, Bracken County Water District and Fleming County Water Association.

Robertson County has service provided by Mt. Olivet Water and Buffalo Trail Water Association.



# Buffalo Trace Area Development District Project Ranking Methodology



The project ranking process in Buffalo Trace Area Development District is a two-part ranking system that allows projects to be ranked in each county (Bracken County, Fleming County, Lewis County, Mason County, and Robertson County) prior to being ranked regionally by the Water Management Council. Water and wastewater projects are ranked separately in both the county and regional rankings.

## County Ranking Meetings

1. Buffalo Trace Area Development District facilitates a meeting in each county to discuss and rank project profile(s) in the WRIS Portal that utilities request to be ranked.
2. Individuals on the Water Management Council mailing list (water and wastewater systems, Judge-Executives, Mayors, engineers, Health Departments, DOW, etc.) are notified and invited to the county ranking meeting.
3. The projects are discussed and considered for county rankings using the following criteria: (1) meeting regulatory requirements, (2) funding status, (3) regionalization, (4) source water protection, (5) readiness of the project to move forward, (6) source water protection (water projects only), and (7) CSO/SSO elimination projects (wastewater projects only).
4. Water Management Council members present at their respective county ranking meeting rank the projects based on a consensus of what is determined to be most important and beneficial for the county. (Engineers do not participate in project ranking.)
5. Project rankings are sorted by priority and the project with the highest priority is given a value of “1” – all subsequent projects are given values accordingly.

## Water Management Council Regional Rankings

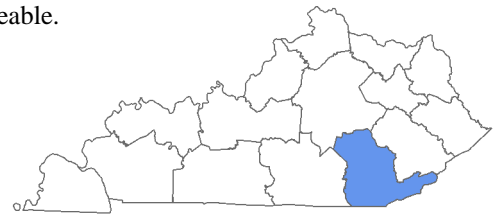
1. The Water Management Council ranks projects on a regional basis after each county has had the opportunity to complete county project rankings.
2. Projects are grouped for regional ranking based on the county rankings. Each project that is the highest priority (or ranked “1”) in each county is presented to the Council. A representative of the respective utility or county is given an opportunity to present the project.
3. The Council members discuss the highest priority projects from each county to determine the most important and beneficial projects for the region by reviewing the following criteria: (1) meeting regulatory requirements, (2) funding status, (3) regionalization, (4) source water protection, (5) readiness of the project to move forward, (6) source water protection (water projects only), and (7) CSO/SSO elimination projects (wastewater projects only).
4. The highest priority projects for each county are ranked “1”, “2”, “3”, “4,” or “5” regionally based on the Council’s determination of each project’s regional priority.
5. This process continues for each subsequent group of county rankings until all projects have been given a regional ranking.

### Project Rankings For Buffalo Trace Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21161042</a>	Sardis Elevated Tank	0-2 Years	Not Funded	\$640,000	Mason	1	1
<a href="#">WX21135007</a>	Garrison Quincy Water District-Phase 4	0-2 Years	Not Funded	\$2,500,000	Lewis	2	1
<a href="#">WX21069034</a>	Flemingsburg Water - East Water Street Water Line Replacement	3-5 Years	Not Funded	\$215,000	Fleming	3	1
<a href="#">WX21023039</a>	Augusta Lagoon Cleaning	3-5 Years	Not Funded	\$80,000	Bracken	4	1
<a href="#">WX21069039</a>	WFWD Planning and Design for AC Line Replacement	0-2 Years	Not Funded	\$300,000	Fleming	5	2
<a href="#">WX21023042</a>	BCWD-County Roads Without Water	3-5 Years	Not Funded	\$279,000	Bracken	6	2
<a href="#">WX21161037</a>	WMWD-Augusta Dover Road Water Line Upgrade	3-5 Years	Not Funded	\$572,500	Mason	7	2
<a href="#">WX21135021</a>	Vanceburg School Tank Rehab	3-5 Years	Not Funded	\$269,000	Lewis	8	2
<a href="#">WX21201014</a>	Mt. Olivet Water Upgrade-KY 617/KY 165 S	6-10 Years	Not Funded	\$370,000	Robertson	9	1
<a href="#">WX21201016</a>	BTWA-KY1029 From Ogden Ridge to KY 165	6-10 Years	Not Funded	\$400,000	Robertson	10	2
<a href="#">WX21023036</a>	Augusta-New Water Tank & Loop	3-5 Years	Not Funded	\$1,300,000	Bracken	11	3
<a href="#">WX21069032</a>	Western Fleming-Planning & Design & Phase 1 AC Replacement	0-2 Years	Not Funded	\$4,300,000	Fleming	12	3
<a href="#">WX21135018</a>	GQWD- Phase II, AC Water Line Replacement- Old County Ln (In Qui	3-5 Years	Not Funded	\$600,000	Lewis	13	3
<a href="#">WX21161024</a>	Mayslick Tank	3-5 Years	Not Funded	\$1,400,000	Mason	14	3
<a href="#">WX21201013</a>	BTWA-Scattered Lines	6-10 Years	Not Funded	\$365,000	Robertson	15	3
<a href="#">WX21023034</a>	BCWD-Phase V-Roads Without Water & Upgrades	6-10 Years	Not Funded	\$549,500	Bracken	16	4
<a href="#">WX21161013</a>	Maysville Utility Telemetry/Security Improvements	6-10 Years	Not Funded	\$150,000	Mason	17	4
<a href="#">WX21201010</a>	BTWA - KY 1029 & Gayles Gorge	6-10 Years	Not Funded	\$550,000	Robertson	18	4
<a href="#">WX21069040</a>	Greater Fleming Well	3-5 Years	Not Funded	\$555,000	Fleming	19	5
<a href="#">WX21161034</a>	BTWA-Sardis Upgrade	3-5 Years	Not Funded	\$150,000	Mason	20	5
<a href="#">WX21023047</a>	Augusta Water Treatment Plant Improvements	3-5 Years	Not Funded	\$225,000	Bracken	21	5
<a href="#">WX21069028</a>	Phase 3-Asbestos Cement Water Line Replacement- KY 111 (Poplar Plains Rd)	0-2 Years	Not Funded	\$276,736	Fleming	22	4
<b>Total Cost:</b>				<b>\$16,046,736</b>			

# Cumberland Valley Area Development District (CVADD)

- 2010 census population of 236,618 (104,865 households) with 97% serviceable.
- Projected 2020 population of 237,501 (change of 883).
- 4,541.62 miles of existing water lines.
- 128.00 miles of line extensions proposed in the next 10 years.
- 57.00 miles of line rehabilitation proposed in the next 10 years.
- 48.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$74,444,622.
- Estimated funding needs for projects from 6 to 10 years: \$11,877,948.
- Average age of structures: water treatment plants is 36 years; water tanks is 26 years.
- Total number of interconnected systems is 37.
- 28 miles of asbestos concrete pipe currently in use.
- 902 miles of water lines less than 15 years old.
- 1,835 miles of water lines between 15 and 30 years old.
- 468 miles of water lines between 31 and 50 years old.
- 318 miles of water lines between 51 and 70 years old.
- \$ 44 miles of water lines greater than 70 years old.



Cumberland Valley Area Development District has a 2010 census population count of 236,618 (104,865 households) with a projected 2020 population count of 237,501 (97,085 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 9,517 serviceable households will be added through the construction of 128.00 miles of water line extensions and approximately 175,808 instances of improved service through the rehabilitation of 57.00 miles of existing water lines and other appurtenances. 48.00 miles of transmission lines are also proposed within this district.

**County Summary for Cumberland Valley Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bell	28,691	13,154	27,648	11,714	12,853	98%	\$ 13,964,921
Clay	21,730	8,875	20,289	7,421	8,355	94%	\$ 10,145,200
Harlan	29,278	13,513	26,099	10,856	12,949	96%	\$ 6,533,074
Jackson	13,494	6,523	13,771	5,961	6,103	94%	\$ 9,021,410
Knox	31,883	14,485	32,132	13,362	14,143	98%	\$ 8,038,500
Laurel	58,849	25,446	64,713	26,415	25,254	99%	\$ 21,694,502
Rockcastle	17,056	7,703	17,593	7,308	7,432	97%	\$ 8,419,476
Whitley	35,637	15,166	35,256	14,048	14,677	97%	\$ 8,505,487
<b>Totals</b>	<b>236,618</b>	<b>104,865</b>	<b>237,501</b>	<b>97,085</b>	<b>101,766</b>	<b>97%</b>	<b>\$ 86,322,570</b>

## Community Drinking Water Systems in Cumberland Valley Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0070353</a>	Pineville Water System	Bell	15,609	7,060
<a href="#">KY0070282</a>	Water Service Corporation of Kentucky	Bell	12,022	5,726
<a href="#">KY0260737</a>	Manchester Water Works	Clay	13,187	5,701
<a href="#">KY0260266</a>	North Manchester Water Association Inc	Clay	6,657	2,282
<a href="#">KY0480265</a>	BMUD - Ages/Coxton	Harlan	1,010	445
<a href="#">KY0480277</a>	BMUD - Dayhoit	Harlan	1,960	915
<a href="#">KY0480341</a>	BMUD - Green Hills	Harlan	1,377	621
<a href="#">KY0480603</a>	BMUD - Kenvir	Harlan	756	329
<a href="#">KY0480498</a>	BMUD - Louellen	Harlan	785	380
<a href="#">KY0480650</a>	BMUD - Rosspoint	Harlan	1,823	851
<a href="#">KY0480461</a>	BMUD - Sukey Ridge	Harlan	790	369
<a href="#">KY0480572</a>	BMUD - Wallins	Harlan	1,670	761
<a href="#">KY0480565</a>	Cawood Water District	Harlan	4,516	1,974
<a href="#">KY0483727</a>	Cawood Water District - Pathfork	Harlan	486	231
<a href="#">KY0480028</a>	City of Benham	Harlan	758	398
<a href="#">KY0480262</a>	City of Lynch	Harlan	825	490
<a href="#">KY0483458</a>	Coap, Inc.	Harlan	73	31
<a href="#">KY0480092</a>	Cumberland Municipal Water Works	Harlan	3,551	1,724
<a href="#">KY0480125</a>	Evarts Municipal Water Plant	Harlan	3,425	1,403
<a href="#">KY0480178</a>	Harlan Municipal Water Works	Harlan	4,281	2,048
<a href="#">KY0550784</a>	City of McKee	Jackson	845	447
<a href="#">KY0550209</a>	Jackson County Water Association Inc	Jackson	11,651	5,534
<a href="#">KY0610016</a>	Barbourville Utility Commission	Knox	15,840	7,071
<a href="#">KY0610110</a>	Knox County Utility Commission	Knox	7,849	3,768
<a href="#">KY0630797</a>	East Laurel Water District	Laurel	12,976	5,487
<a href="#">KY0630238</a>	Laurel Water District #2	Laurel	14,699	6,161
<a href="#">KY0630255</a>	London Utility Commission	Laurel	9,130	4,144
<a href="#">KY0630451</a>	West Laurel Water Association	Laurel	12,286	5,284
<a href="#">KY0630477</a>	Wood Creek Water District	Laurel	11,746	5,130
<a href="#">KY1020889</a>	City of Brodhead	Rockcastle	1,510	679
<a href="#">KY1020299</a>	City of Mount Vernon	Rockcastle	4,404	2,026
<a href="#">KY1020288</a>	Eastern Rockcastle County Water Association	Rockcastle	1,592	782
<a href="#">KY1020253</a>	Livingston Municipal Water Works	Rockcastle	385	198
<a href="#">KY1020891</a>	Western Rockcastle Water Association	Rockcastle	10,657	4,702
<a href="#">KY1180085</a>	Corbin Utilities Commission	Whitley	14,916	6,849
<a href="#">KY1180093</a>	Cumberland Falls Highway Water District	Whitley	8,953	3,717
<a href="#">KY1180468</a>	Whitley County Water District	Whitley	11,139	4,792
<a href="#">KY1183728</a>	Whitley County Water District - 92 West	Whitley	460	198
<a href="#">KY1180471</a>	Williamsburg Municipal WTP	Whitley	5,105	1,917
		<b>Totals:</b>	231,704	102,625

# Cumberland Valley Area Development District Regional Water Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Improve Security Risks**

## **Discussion of Area Development District Needs:**

The Cumberland Valley Area Water Management Planning Council held meetings at the county level to assess current and future water needs in the region. Most of those water needs are described in project profiles, but information on potential growth areas (subdivisions) is not available. During the review it was noted that repair and replacing aging infrastructure is common need in the entire region while extending lines to unserved areas is not a need in Laurel and a few other counties. All customers in those counties have access to public water if needed. Counties with unserved customers include: Bell County 400, Jackson County 619, Harlan County 35, and Knox County 150 customers and Rockcastle county 13 customers. Other needs in the region are water storage, regionalization, source protection, improved security, economic stimulation and meeting regulatory requirement.

Repair or replace aging infrastructure, remain a major need in the Cumberland Valley ADD region. That need is reflected by the number of proposed projects in the database. Extending lines to unserved customers is the primary need in the region because of the Council's goal to extend lines to unserved households by 2020. Many miles of older lines have been replaced since 2001 when the planning process began, but some line connections installed before 1930 are still in use. Cumberland Fall Stake Park in Whitley County has more older lines than any other utility. The Park is owned by the State of Kentucky and cannot propose and submit project through the Water Management Planning Council like other utilities. As such no line replacement has taken place. The water management planning council is working hard to ensure that all aging infrastructure is replaced and unserved households have access to public water by the year 2020.

## **Description and Determination of Planning Units:**

The Cumberland Valley Area Development District is divided into eight planning units that are based on the eight counties in the Cumberland Valley Area. The planning units are: Bell County, Clay County, Harlan County, Jackson County, Knox County, Laurel County, Rockcastle County, and Whitley County.

In the Bell County planning unit, there are two water utilities (Water Service Corporation of Kentucky and Pineville Water System) that serve approximately 12,853 households.

The City of Manchester and the North Manchester are the water utilities in the Clay County planning unit and serve approximately 8,355 households.

The Harlan County planning unit is comprised of seven utilities (Black Mountain Utility District, Cawood Water District, City of Benham, Cumberland Municipal Water Works, Evarts Municipal Water Plant, Harlan Municipal Water Works, and the City of Lynch) that serve approximately 12,947 households.

The City of McKee and the Jackson County Water Association are the water utilities in the Jackson County planning unit and serve approximately 6,101 households.

The Knox County planning unit has two water utilities (Barbourville Utility Commission and Knox county Utility Commission) that serve approximately 14,141 households.

The Laurel County planning unit has five water utilities (London Utility Commission, Corbin Utilities Commission, Laurel County Water District #2, West Laurel Water Association, and Wood Creek Water District) that serve approximately 25,255 households.



The Rockcastle County planning unit serves approximately 7,424 households with five water utilities (City of Brodhead, Livingston Municipal Water Works, City of Mount Vernon, East Laurel Water Association, and Western Rockcastle County Water Association).

The City of Williamsburg, Corbin Utilities Commission, Cumberland Falls Highway Water District, and the Whitley County Water District are the water utilities in the Whitley County planning unit and serves approximately 14,659 households.

# Cumberland Valley Area Development District

## Project Ranking Methodology



The annual ranking in the Cumberland Valley area begins with a series of county-wide meetings comprised of all the water and sewer utilities in the county where the meeting is taking place. Each utility present decides which of their projects is to be ranked and determines the importance of those for themselves. The county ranking process is based on a consensus decision by the members present at the meeting.

While the county rankings are based on a consensus, the regional ranking process uses a quantitative points system to determine the importance of each project ranked at the county level. The points given to each project fall within 7 categories: Project Type, Compliance, Financial, Project Status, County Ranking, Water Loss, and Regional Importance.

### Project Type

A. Elimination of Public Water System (PWS) through a merger	25
B. Elimination of a water treatment plant through an interconnection.	23
C. Construction of a new water treatment plant for regional provider.	20
D. Construction of a supplemental potable/raw water supply	17
E. Rehabilitation and/or replacement of aging infrastructure or for hydraulic necessity	15
F. Construction of a new water treatment plant or expansion	15
G. Construction of a new water storage tank	10
H. Extension of Service to Unserved Households	
a. 9+ households per mile	20
b. 7-8 households per mile	19
c. 5-6 households per mile	18
d. 3-4 households per mile	15
e. 1-2 households per mile	10

### Compliance with Enforcement Action

Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree?	20
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### Financial

A. Documented financing plan in Project Profile	10
B. Utility service area has a MHI less than \$32,958	20
C. Utility service area with a MHI between \$41,197 and \$32,959	10

### Project Status

A. Estimated engineer's budget complete	5
B. Estimated bid date and construction start date	5

### County Ranking

A. Number one ranked project	24
B. Number two ranked project	20
C. Number three ranked project	16
D. Number four ranked project	14
E. Number five ranked project	12

### Water Loss

A. Utility has a water loss percentage less than 15%	20
B. Utility has a water loss percentage between 15% to 25%	15
C. Utility has a water loss percentage between 25% to 35%	10

### Regional Importance

A project can be awarded points at the discretion of the regional water management council. No more than thirty points can be awarded by the council to water projects in the regional ranking.

### Project Rankings For Cumberland Valley Area Development District

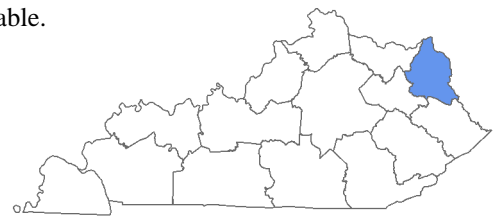
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21095008</a>	Lynch - Backwash at WTP	0-2 Years	Not Funded	\$392,650	Harlan	1	1
<a href="#">WX21013918</a>	Pineville: WTP Expansion Project	3-5 Years	Partially Funded	\$4,076,623	Bell	2	1
<a href="#">WX21095003</a>	Cumberland Water System Improvements	3-5 Years	Not Funded	\$1,664,000	Harlan	3	2
<a href="#">WX21121004</a>	Barbourville - Wal-Mart Tank Replacement	0-2 Years	Not Funded	\$666,000	Knox	4	2
<a href="#">WX21203006</a>	Brodhead: Waterline Replacement and Upgrade	3-5 Years	Not Funded	\$1,136,000	Rockcastle	5	4
<a href="#">WX21109003</a>	Jackson County Water Association - Water Line Extensions	3-5 Years	Not Funded	\$1,366,410	Jackson	6	2
<a href="#">WX21121537</a>	Knox: Water Line Extension In Whitley County	0-2 Years	Partially Funded	\$709,260	Whitley	7	2
<a href="#">WX21235403</a>	CFHWD Water - New Line Extension Project	0-2 Years	Fully Funded	\$933,000	Whitley	8	3
<a href="#">WX21121532</a>	Knox County - Water Projects	0-2 Years	Partially Funded	\$2,777,500	Knox	9	5
<a href="#">WX21051005</a>	Water Tank Project	0-2 Years	Not Funded	\$1,700,000	Clay	10	1
<a href="#">WX21121006</a>	Barbourville - KY 1527 Waterline Replacement	0-2 Years	Not Funded	\$279,250	Knox	11	1
<a href="#">WX21235005</a>	Upper Lot Mud Creek Road Water Line Extension	0-2 Years	Not Funded	\$450,000	Whitley	12	4
<a href="#">WX21121009</a>	Water Extension to Grace Community Health Facility	0-2 Years	Not Funded	\$85,750	Knox	13	3
<a href="#">WX21013001</a>	Brownies Creek/Cabbage Waterline Rehab Phase 2	3-5 Years	Not Funded	\$548,350	Bell	14	2
<a href="#">WX21051010</a>	New Water Meters	0-2 Years	Not Funded	\$62,000	Clay	15	2
<a href="#">WX21125007</a>	Bakersfield Subdivision Water Line Upgrade Project	3-5 Years	Not Funded	\$179,693	Laurel	16	2
<a href="#">WX21109002</a>	Downtown Water Storage Tank Replacement	3-5 Years	Not Funded	\$1,825,000	Jackson	17	1
<a href="#">WX21051006</a>	Water Meter Replacement	3-5 Years	Not Funded	\$1,000,000	Clay	18	4
<a href="#">WX21121001</a>	Barbourville - Knox County Regionalization	3-5 Years	Not Funded	\$3,000,000	Knox	19	4
<a href="#">WX21109005</a>	Water Treatment Plant Improvements	0-2 Years	Not Funded	\$530,000	Jackson	20	3
<a href="#">WX21125003</a>	West 5th Street/College Street Waterline Replacement - Phase I	0-2 Years	Not Funded	\$127,658	Laurel	21	3
<a href="#">WX21125012</a>	Hawk Creek Water Line Replacement	3-5 Years	Not Funded	\$917,674	Laurel	22	1
<a href="#">WX21235006</a>	Valve locating; recovery; exercising and/or replacement	0-2 Years	Not Funded	\$100,000	Whitley	23	1
<a href="#">WX21013912</a>	City of Pineville - A/C Waterline Replacement	6-10 Years	Not Funded	\$1,854,948	Bell	24	4
<a href="#">WX21095009</a>	Raw Water Meters	0-2 Years	Not Funded	\$7,285	Harlan	25	5
<a href="#">WX21203005</a>	Mount Vernon - Phase #3 - Water Treatment Plant Improvements	3-5 Years	Not Funded	\$800,000	Rockcastle	26	3
<a href="#">WX21051008</a>	Waterline Extensions in Clay County	3-5 Years	Not Funded	\$900,000	Clay	27	5
<a href="#">WX21210139</a>	Pmria- Waterline Ext. to Proposed Industrial Park	0-2 Years	Not Funded	\$6,500,000	Bell	28	3
<a href="#">WX21051007</a>	Raw Water Pump Replacement - Goose Creek Intake Phase II	3-5 Years	Not Funded	\$50,000	Clay	29	3
<a href="#">WX21125009</a>	Meadowlane Subdivision Water Line Extension Project	3-5 Years	Not Funded	\$198,662	Laurel	30	4
<a href="#">WX21125013</a>	Hammock-Foly-SR1223 Loop Lines Project	3-5 Years	Not Funded	\$195,164	Laurel	31	5
<a href="#">WX21095002</a>	City of Benham - Water Tank Repair/Replacement	0-2 Years	Partially Funded	\$929,120	Harlan	32	3
<a href="#">WX21203009</a>	Eastern Rockcastle - Meter Replacement and Radio Read Meters	0-2 Years	Not Funded	\$35,800	Rockcastle	33	2
<a href="#">WX21125014</a>	HWY 552 and Robinson Creek Road Loop Lines Project	3-5 Years	Not Funded	\$221,517	Laurel	34	7
<a href="#">WX21203534</a>	Livingston Ky - Water System Debt Reduction	6-10 Years	Not Funded	\$52,500	Rockcastle	35	1

### Project Rankings For Cumberland Valley Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21095666</a>	City of Cumberland Water Treatment Plant Upgrades (Was WX21095662)	0-2 Years	Not Funded	\$1,750,000	Harlan	36	4
<a href="#">WX21051202</a>	North Manchester Water Association Line Extension & Line Upgrade	0-2 Years	Not Funded	\$526,700	Clay	37	6
<a href="#">WX21235803</a>	Williamsburg - Phase III Water System Improvements	6-10 Years	Not Funded	\$3,250,000	Whitley	38	5
<a href="#">WX21125553</a>	Water System Extension Project	3-5 Years	Not Funded	\$310,000	Laurel	39	6
<b>Total Cost:</b>				<b>\$42,108,514</b>			

# Five County Area Development District (FIVCO)

- 2010 census population of 137,884 (61,101 households) with 95% serviceable.
- Projected 2020 population of 139,098 (change of 1,214).
- 2,419.00 miles of existing water lines.
- 59.00 miles of line extensions proposed in the next 10 years.
- 22.00 miles of line rehabilitation proposed in the next 10 years.
- 11.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$56,942,523.
- Estimated funding needs for projects from 6 to 10 years: \$236,400.
- Average age of structures: water treatment plants is 34 years; water tanks is 28 years.
- Total number of interconnected systems is 17.
- 47 miles of asbestos concrete pipe currently in use.
- 467 miles of water lines less than 15 years old.
- 729 miles of water lines between 15 and 30 years old.
- 998 miles of water lines between 31 and 50 years old.
- 18 miles of water lines between 51 and 70 years old.
- \$ 123 miles of water lines greater than 70 years old.



Five County Area Development District has a 2010 census population count of 137,884 (61,101 households) with a projected 2020 population count of 139,098 (56,252 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,816 serviceable households will be added through the construction of 59.00 miles of water line extensions and approximately 94,421 instances of improved service through the rehabilitation of 22.00 miles of existing water lines and other appurtenances. 11.00 miles of transmission lines are also proposed within this district.

**County Summary for Five County Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Boyd	49,542	21,803	49,446	20,040	21,740	100%	\$ 7,200,475
Carter	27,720	12,311	28,459	11,508	11,591	94%	\$ 9,099,000
Elliott	7,852	3,371	8,078	3,011	3,108	92%	\$ 1,500,000
Greenup	36,910	16,330	36,923	15,046	15,125	93%	\$ 36,569,448
Lawrence	15,860	7,286	16,192	6,647	6,604	91%	\$ 2,810,000
<b>Totals</b>	<b>137,884</b>	<b>61,101</b>	<b>139,098</b>	<b>56,252</b>	<b>58,168</b>	<b>95%</b>	<b>\$ 57,178,923</b>

## Community Drinking Water Systems in Five County Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0100944</a>	Big Sandy Water District	Boyd	13,720	5,935
<a href="#">KY0100064</a>	Cannonsburg Water District	Boyd	8,953	3,715
<a href="#">KY0100011</a>	City of Ashland	Boyd	35,811	16,135
<a href="#">KY0100004</a>	Overland Development Inc. - Lockwood Estates	Boyd	278	108
<a href="#">KY0220335</a>	City of Olive Hill	Carter	4,964	2,338
<a href="#">KY0220164</a>	Grayson Utility Commission	Carter	10,817	4,588
<a href="#">KY0220555</a>	Rattlesnake Ridge Water District	Carter	11,396	5,191
<a href="#">KY0320383</a>	Sandy Hook Water District	Elliott	3,722	1,514
<a href="#">KY0450132</a>	City of Flatwoods	Greenup	8,030	3,553
<a href="#">KY0450169</a>	City of Greenup	Greenup	10,299	4,478
<a href="#">KY0450365</a>	City of Raceland	Greenup	3,185	1,446
<a href="#">KY0450376</a>	City of Russell	Greenup	4,893	2,141
<a href="#">KY0450410</a>	City of South Shore	Greenup	4,615	2,180
<a href="#">KY0450478</a>	City of Worthington	Greenup	1,613	684
<a href="#">KY0450479</a>	City of Wurtland	Greenup	1,476	632
<a href="#">KY0640257</a>	City of Louisa	Lawrence	5,476	2,474
		<b>Totals:</b>	129,248	57,112

# Five County Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Meet Regulatory Requirements**

## **Discussion of Area Development District Needs:**

Just the mention of aging infrastructure effectively blocks out all other discussion of area needs for the water utilities, but, in truth, most of the specifics all relate back to that general problem. Tanks in need of inspection, cleaning or painting is a function of age. Waterlines breaking are often the result of age or inferior materials or both. The City of Olive Hill, for example, has a 50 year old water treatment plant and a distribution system to match. In many cases there are projects to address these needs but not always. The utilities itemize there needs in the form of projects according to what needs to be done first or what might actually be feasible. Some comment that listing every need is the same as listing none; the task is crippling and stops all progress.

## **Description and Determination of Planning Units:**

The FIVCO Planning Units consist of the FIVCO Counties. With few exceptions, the water systems do not have large customer bases in multiple counties. The exceptions to this are Rattlesnake Ridge Water District covering Carter, Elliott and Lawrence Counties, and the Big Sandy Water District in Boyd and Lawrence Counties. The other 14 water systems are bounded by their county lines. It is good to note that every system in the ADD is in some way interconnected with every other for emergency purposes or as a means of addressing pressure problems in more rural areas. In 2005, Hal Rogers secured funds for a study to connect 40 counties in Eastern Kentucky for the purposes of uninterrupted water supply. The ADDs involved in this study were FIVCO, Gateway, Big Sandy, Kentucky River, Cumberland Valley and Lake Cumberland. At least in the FIVCO area all the systems used the same chlorination process which eased the problems of interconnection somewhat. Though connectivity in the ADD is high, each county has its own plans for economic growth which makes division of the Planning Units by county understandable.

Boyd County is served by the City of Ashland (a large producer) and the Big Sandy Water District (a large distributor) and Cannonsburg Water District. Coverage is nearly 100% though BSWD is only recently working on an interconnect with Ashland. Previously, the Water District purchased the bulk of its supply from the City of Kenova in West Virginia and the City of Louisa in Lawrence County Kentucky.

Carter County is served by the Cities of Grayson and Olive Hill as well as the Rattlesnake Ridge Water District. The Water District has its corporate office in Carter County and its treatment plant in Elliott County.

Elliott County is served by Sandy Hook Water District and Rattlesnake Ridge Water District. Most of the County is served with only small "spurs" remaining to complete coverage.

Lawrence County is served by the Louisa Water and Sewer Commission and the Big Sandy Water District. In the past year, Paintsville Water has been invited to extend service into the southern region of the County around the City of Blaine. The Fiscal Court has paid for this extension.

Greenup County is served by seven of the sixteen water systems with corporate offices in the County as well as service from Ashland Water Department and the Cannonsburg Water District, both from Boyd County. Most of these systems are localized municipalities but the City of Greenup has expanded to provide service to most of the unserved areas of the County. Cannonsburg Water District provides service along the southern part of the Industrial Parkway and provides an interconnect with Greenup Water to help with pressure problems in the more remote reaches on their system.



# Five County Area Development District

## Project Ranking Methodology



The annual ranking in the FIVCO area begins with a series of county-wide meetings comprised of all the water and sewer utilities in the county where the meeting is taking place. Each utility present decides which of their projects is to be ranked and determines the importance of those for themselves. The county ranking process is based on a consensus decision by the members present at the meeting.

While the county rankings are based on a consensus, the regional ranking process uses a quantitative points system to determine the importance of each project ranked at the county level. The points given to each project fall within 6 categories: Project Type, Compliance, Financial, Project Status, County Ranking, and Regional Importance.

### Project Type

A. This project will merge Public Water Systems.	25
B. This project will eliminate a water treatment plant through new interconnections.	23
C. Construction of a new regional water treatment plant.	20
D. Establishment of a supplemental potable or raw water supply.	17
E. Replacement and/or rehabilitation of aging infrastructure.	15
F. New Treatment Plant/Expanding Existing Plant.	15
G. New water tank.	10
H. Extension of Service to Unserved Households	
a. 10+ households per mile	20
b. 8-9 households per mile	18
c. 6-7 households per mile	15
d. > 5 households per mile	10

### Compliance with Enforcement Action

Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree?	20
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### Financial

A. Documented financing plan in Project Profile	10
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### Project Status

A. Estimated engineer's budget complete	5
B. Estimated bid date and construction start date	5

### County Ranking

A. Number one ranked project	24
B. Number two ranked project	20
C. Number three ranked project	16
D. Number four ranked project	14
E. Number five ranked project	12

### Regional Importance

A project can be awarded points at the discretion of the regional water management council.  
No more than thirty points can be awarded by the council to water projects in the regional ranking.

### Project Rankings For Five County Area Development District

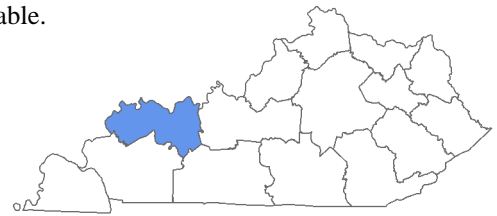
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21089013</a>	Greenup: New Water Intake Structure	3-5 Years	Partially Funded	\$4,900,000	Greenup	1	2
<a href="#">WX21089090</a>	City of Russell 500,000 Gallon Water Tank	0-2 Years	Not Funded	\$1,000,000	Greenup	2	1
<a href="#">WX21019047</a>	Ashland: Debord Hill Water Tank Upgrade	0-2 Years	Not Funded	\$900,000	Boyd	3	1
<a href="#">WX21043028</a>	RRWD: Carter County Line Extensions	3-5 Years	Not Funded	\$1,500,000	Carter	4	1
<a href="#">WX21127021</a>	Downtown Water Rehab Project	0-2 Years	Not Funded	\$700,000	Lawrence	5	2
<a href="#">WX21089011</a>	Russell: New Water Treatment Plant	0-2 Years	Not Funded	\$16,000,000	Greenup	6	5
<a href="#">WX21019050</a>	Boyd and Lawrence County Regional Water Treatment Plant - Feasibility Study	0-2 Years	Not Funded	\$10,000	Boyd	7	2
<a href="#">WX21043042</a>	Olive Hill: New Backwash Pump at WTP	0-2 Years	Not Funded	\$85,000	Carter	8	2
<a href="#">WX21063008</a>	Well Rehabilitation	3-5 Years	Not Funded	\$258,000	Elliott	9	1
<a href="#">WX21089005</a>	Worthington: Clean out Wells to Increase Output	6-10 Years	Not Funded	\$71,400	Greenup	10	3
<a href="#">WX21127006</a>	Louisa WTP Water Intake Improvements Phase 2	3-5 Years	Not Funded	\$1,385,000	Lawrence	11	1
<a href="#">WX21089089</a>	City of South Shore Water System Improvement Project	0-2 Years	Not Funded	\$1,546,000	Greenup	12	7
<a href="#">WX21127022</a>	Kentucky 645 Water Extension Project	0-2 Years	Unknown	\$0	Lawrence	13	3
<a href="#">WX21043037</a>	Grayson: WTP Flocculation & Clarification System	0-2 Years	Not Funded	\$2,638,000	Carter	14	3
<a href="#">WX21089091</a>	City of Flatwoods New 250,000 Gallon Water Storage Tank	0-2 Years	Not Funded	\$700,000	Greenup	15	4
<a href="#">WX21043041</a>	Olive Hill: Replace Downtown Area Water Line	3-5 Years	Not Funded	\$883,000	Carter	16	4
<a href="#">WX21043038</a>	Grayson: WTP Emergency Power Generators	0-2 Years	Not Funded	\$333,000	Carter	17	5
<a href="#">WX21019040</a>	CWD: Waterline Loop for Fair Ground Road	0-2 Years	Not Funded	\$50,000	Boyd	18	3
<a href="#">WX21089061</a>	Raceland: Relocate RR Water Main to Corkey Lane	0-2 Years	Not Funded	\$236,100	Greenup	19	6
<a href="#">WX21089077</a>	Greenup: Downtown Greenup Water System Upgrades	0-2 Years	Not Funded	\$1,500,000	Greenup	20	8
<a href="#">WX21089075</a>	South Shore: Killen Hollow Water Tank Upgrade with Line Extensions	0-2 Years	Not Funded	\$500,000	Greenup	21	21
<a href="#">WX21089092</a>	City of Flatwoods New Interconnect Project	3-5 Years	Unknown	\$0	Greenup	22	11
<a href="#">WX21043043</a>	Olive Hill: New Road Hill Waterline Rehab Project	3-5 Years	Not Funded	\$300,000	Carter	23	6
<a href="#">WX21043027</a>	Olive Hill: Pressure Upgrade for Charlie Branch & Last Resort	3-5 Years	Not Funded	\$20,000	Carter	24	7
<a href="#">WX21089072</a>	Worthington: Valve Replacement Project Systemwide	3-5 Years	Not Funded	\$20,800	Greenup	25	9
<a href="#">WX21089065</a>	Raceland: Leak Detection Survey for Water Loss Abatement	0-2 Years	Not Funded	\$19,488	Greenup	26	10
<a href="#">WX21089023</a>	Wurtland: Isolation Valves for Entire Water Distribution System	0-2 Years	Fully Funded	\$30,000	Greenup	27	12
<a href="#">WX21089093</a>	City of Flatwoods Water Tank Rehab Project	3-5 Years	Unknown	\$0	Greenup	28	13
<a href="#">WX21089053</a>	Raceland: System Loop along US 23 from Caroline Rd to Buckenham	0-2 Years	Not Funded	\$395,500	Greenup	29	14
<a href="#">WX21089095</a>	City of Worthington New 100,000 Gallon Water Tank	0-2 Years	Unknown	\$0	Greenup	30	15
<a href="#">WX21089049</a>	Raceland: Chlorine Booster Stations and Telemetry System	0-2 Years	Not Funded	\$125,000	Greenup	31	17
<a href="#">WX21089097</a>	City of Russell Downtown Water Main Upgrade Project	0-2 Years	Unknown	\$0	Greenup	32	19
<a href="#">WX21089041</a>	Worthington: Calumet Causeway Water Project	0-2 Years	Not Funded	\$55,000	Greenup	33	20
<a href="#">WX21089024</a>	Wurtland: Adena Water Tank Security	0-2 Years	Not Funded	\$15,000	Greenup	34	16

### Project Rankings For Five County Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21089040</a>	Worthington: Worthington Ave & Prospect Ave Loop	0-2 Years	Not Funded	\$110,000	Greenup	35	18
<a href="#">WX21089059</a>	Wurtland: Industrial Parkway Water Project	0-2 Years	Not Funded	\$50,000	Greenup	36	22
<b>Total Cost:</b>				<b>\$36,336,288</b>			

# Green River Area Development District (GRADD)

- 2010 census population of 213,472 (92,066 households) with 97% serviceable.
- Projected 2020 population of 220,544 (change of 7,072).
- 4,042.49 miles of existing water lines.
- 124.00 miles of line extensions proposed in the next 10 years.
- 83.00 miles of line rehabilitation proposed in the next 10 years.
- 53.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$89,327,935.
- Estimated funding needs for projects from 6 to 10 years: \$16,506,111.
- Average age of structures: water treatment plants is 35 years; water tanks is 28 years.
- Total number of interconnected systems is 30.
- 182 miles of asbestos concrete pipe currently in use.
- 654 miles of water lines less than 15 years old.
- 1,389 miles of water lines between 15 and 30 years old.
- 1,541 miles of water lines between 31 and 50 years old.
- 245 miles of water lines between 51 and 70 years old.
- \$ 249 miles of water lines greater than 70 years old.



Green River Area Development District has a 2010 census population count of 213,472 (92,066 households) with a projected 2020 population count of 220,544 (89,593 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 930 serviceable households will be added through the construction of 124.00 miles of water line extensions and approximately 127,081 instances of improved service through the rehabilitation of 83.00 miles of existing water lines and other appurtenances. 53.00 miles of transmission lines are also proposed within this district.

**County Summary for Green River Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Daviess	96,656	41,452	102,214	41,878	39,706	96%	\$ 3,844,758
Hancock	8,565	3,734	8,843	3,502	3,689	99%	\$ 4,944,646
Henderson	46,250	20,320	47,600	19,851	20,069	99%	\$ 43,974,575
McLean	9,531	4,264	9,271	3,821	4,082	96%	\$ 28,971,447
Ohio	23,842	10,219	24,781	9,786	9,888	97%	\$ 2,639,250
Union	15,007	6,141	14,436	5,463	5,958	97%	\$ 7,008,381
Webster	13,621	5,936	13,399	5,292	5,733	97%	\$ 14,450,989
<b>Totals</b>	<b>213,472</b>	<b>92,066</b>	<b>220,544</b>	<b>89,593</b>	<b>89,125</b>	<b>97%</b>	<b>\$ 105,834,046</b>

## Community Drinking Water Systems in Green River Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0300109</a>	East Daviess County Water Association	Daviess	11,129	4,521
<a href="#">KY0300336</a>	Owensboro Municipal Utilities	Daviess	58,408	26,473
<a href="#">KY0300387</a>	Southeast Daviess County Water District	Daviess	11,608	4,534
<a href="#">KY0300450</a>	West Daviess County Water District	Daviess	10,746	4,262
<a href="#">KY0300467</a>	Whitesville Water Works	Daviess	3,494	1,325
<a href="#">KY0460182</a>	Hawesville Water Works	Hancock	2,747	1,191
<a href="#">KY0460248</a>	Lewisport Municipal Water Works	Hancock	2,605	1,170
<a href="#">KY0510189</a>	Henderson County Water District	Henderson	16,027	6,469
<a href="#">KY0510188</a>	Henderson Water Utility - North	Henderson	30,089	13,756
<a href="#">KY0750529</a>	Beech Grove Water Association	McLean	1,136	498
<a href="#">KY0750055</a>	Calhoun Water Works	McLean	976	491
<a href="#">KY0750207</a>	Island Water Department	McLean	1,038	464
<a href="#">KY0750252</a>	Livermore Water Works	McLean	1,411	673
<a href="#">KY0300320</a>	North McLean County Water District	McLean	2,924	1,214
<a href="#">KY0750907</a>	Sacramento Water Works	McLean	1,824	823
<a href="#">KY0920025</a>	Beaver Dam Municipal Water & Sewer System	Ohio	3,595	1,527
<a href="#">KY0920070</a>	Centertown Water System	Ohio	1,139	478
<a href="#">KY0920136</a>	Fordsville Water Works	Ohio	928	427
<a href="#">KY0920181</a>	Hartford Municipal Water Works	Ohio	2,704	1,166
<a href="#">KY0920332</a>	Ohio County Water District	Ohio	14,779	6,308
<a href="#">KY1130293</a>	Morganfield Water Works	Union	5,545	1,907
<a href="#">KY1130422</a>	Sturgis Water Works	Union	2,506	1,217
<a href="#">KY1130433</a>	Union County Water District	Union	5,377	2,309
<a href="#">KY1130434</a>	Uniontown Water & Sewer Department	Union	1,141	522
<a href="#">KY1170073</a>	Clay Water Works	Webster	1,287	557
<a href="#">KY1170104</a>	Dixon Water Department	Webster	657	232
<a href="#">KY1170361</a>	Providence Water Works	Webster	3,598	1,779
<a href="#">KY1170388</a>	Sebree Water Department	Webster	1,660	626
<a href="#">KY1170400</a>	Slaughters Water Works	Webster	584	248
<a href="#">KY1170995</a>	Webster County Water District	Webster	5,235	2,209
		<b>Totals:</b>	206,897	89,376

# Green River Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Source Protection**

## Discussion of Area Development District Needs:

The GRADD region covers seven counties and their individual needs vary widely. The counties all know the importance and value of rationalization and regional projects and strive to build them. However, these individual systems do have other needs that need to be addressed on a daily basis, while regional projects can take years to plan and complete.

In the GRADD region, the primary and most important need is the repair and replacement of existing infrastructure. All seven counties of the GRADD region have repair and replacement of existing infrastructure as either their primary or secondary need. Under this need, the most important aspect is repair/replacement of aging water lines to eliminate water loss, improve pressure, and improve water quality. In addition, this need extends to repairing/replacing equipment in the water distribution system such as water pumps and water tanks.

The secondary need of the area is source protection. The need for this varies, but each of the systems in the GRADD region have projects that they have looked at that will protect their source of water. These source protection projects vary from emergency interconnects, work needed at water plants and repair work needed to raw water and transmission lines. However, the three counties of Hancock, Ohio and Union all have direct projects that are looking at protect their water sources.

## Description and Determination of Planning Units:

The GRADD Water Management Council adopted the GRADD geographical boundary as its services area. Additional areas were also incorporated into the planning area based on the service areas of the water providers located in the GRADD district. For example, Barren River ADD incorporated a small portion of Ohio County into their planning area based on the service area of one of the water providers in their district.

The following systems serve communities in the Green River Area Development District, and their service areas are included in the Water Management Planning Area:

### \*Daviess County

1. East Daviess County Water Association
2. Owensboro Municipal Utilities
3. Southeast Daviess County Water District
4. West Daviess County Water District
5. Whitesville Water Works

### \*Hancock County

1. Hawesville Water Works
2. Lewisport Municipal Water Works

### \*Henderson County

1. Henderson County Water District
2. Henderson Water Utility--North
3. Henderson Water Utility--South

### \*McLean County

1. Beech Grove Water Board
2. Calhoun Water Works
3. Island Water Department
4. North McLean County Water District
5. Livermore Water Works
6. Sacramento Water Works

### \*Ohio County

1. Beaver Dam Municipal Water
2. Fordsville Water Works
3. Hartford Municipal Water Works
4. Ohio County Water District

### \*Union County

1. Morganfield Water Works
2. Sturgis Water Works
3. Union County Water District
4. Uniontown Water Department

### \*Webster County

1. Clay Water Works
2. Dixon Water Department
3. Providence Water Works
4. Sebree Water Department
5. Slaughters Water Works
6. Webster County Water District

# Green River Area Development District Project Ranking Methodology



## Basic Information

- Project County
- Project Owner
- WRIS Project Number
- Project Description
- Estimated Project Cost

## Type of Project

### Unserved

- 9 or more per mile 20 pts
- 7-8 per mile 19 pts
- 5-6 per mile 18 pts
- 3-4 per mile 15 pts
- 1-2 per mile 10 pts
- <1 per mile 5 pts

### Underserved

- 80-100% total customer base impacted 20 pts
- 60-79% total customer base impacted 19 pts
- 40-59% total customer base impacted 18 pts
- 20-39% total customer base impacted 15 pts
- 10-19% total customer base impacted 10 pts
- less than 10% customer base impacted 5 pts

### Economic Development

- 100 or more jobs created or retained 20 pts
- 75-99 jobs created or retained 19 pts
- 50-74 jobs created or retained 18 pts
- 20-49 jobs created or retained 15 pts
- 10-19 jobs created or retained 10 pts
- less than 10 jobs created or retained 5 pts

Other (a project that does not meet above criteria, i.e. a building for chemicals)

- 3 pts

### Combination

- If a project is a combination of the above, whichever category the project scored higher in (unserved, underserved, or economic development) the project will get those points, plus 3 additional pts

Maximum of 20 points for this section

## Delivery Area

- Regional – Consolidation into single system 30 pts
- Regionalization of a WTP or WWTP 20 pts
- Project benefits multiple systems/communities 15 pts
- Project benefits two systems/communities 10 pts
- Non-regional 5 pts
- Non-regional project that eliminates a lift station/ package treatment plant/pump station 10 pts



**Project Status**

- Engineering plans and specs submitted to DOW 20 pts
- PER 15 pts
- Engineering procurement completed 10 pts
- Cost estimate by PE 10 pts
- Preliminary planning by system 5 pts

**Funding Status**

A project costing greater than \$100,000

1. Funding committed for 50% or more 20 pts
2. Funding committed for 25-49% 10 pts
3. Funding committed for 1-24% 5 pts
4. Pending applications 3 pts

A project costing less than \$100,000

1. 10 pts as long as the project is in one of the above four processes

**Environmental Factors**

Any project can receive as many (or none) of the points below

- Water loss reduction/I&I reduction 5 pts
- Replacing inefficient pumps/motors with high efficiency ones 5 pts
- Use of some other Green Technology not listed above 5 pts

Tie breaker is cost per connection

**County Ranking**

The highest scoring project in a county will be the number one ranking project for that county. The number two and subsequently ranked projects will follow in order of next highest scoring. The top five ranked projects in the county will be sent to be ranked regionally; however, all county ranked projects will still be submitted to KIA.

**Regional Ranking**

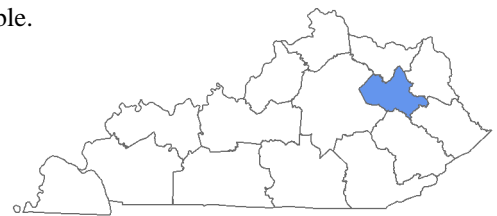
The highest scoring projects in the region will be determined from the highest ranked projects in the counties.

### Project Rankings For Green River Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21091056</a>	Hawesville/Lewisport Emergency Interconnection	3-5 Years	Not Funded	\$76,500	Hancock	1	1
<a href="#">WX21183038</a>	Rochester Dam Regional Water Commission	0-2 Years	Not Funded	\$3,300,000	Ohio	2	1
<a href="#">WX21233009</a>	Webster County Water District Water Tank Maintenance/ Mixing System	3-5 Years	Not Funded	\$500,000	Webster	3	1
<a href="#">WX21233090</a>	Hwy 132 - Hwy 109 S. Water Line Replacement and West Elm Replace	3-5 Years	Not Funded	\$84,000	Webster	4	2
<a href="#">WX21225047</a>	Morganfield Raw Water Main Replacement	0-2 Years	Not Funded	\$4,703,950	Union	5	1
<a href="#">WX21233023</a>	Dixon Water Line Upgrade	0-2 Years	Not Funded	\$165,000	Webster	6	3
<a href="#">WX21059032</a>	Sawmill Road Water Line Extension	6-10 Years	Not Funded	\$51,300	Daviess	7	1
<a href="#">WX21059026</a>	Yelvington Grandview Road Water Line	3-5 Years	Not Funded	\$14,178	Daviess	8	2
<a href="#">WX21059031</a>	Ward Road Water Line Upgrade	3-5 Years	Not Funded	\$197,675	Daviess	9	3
<a href="#">WX21059045</a>	Jack Hinton Road Water Main Project	3-5 Years	Not Funded	\$499,280	Daviess	10	4
<a href="#">WX21149059</a>	Pack Schoolhouse Road	0-2 Years	Not Funded	\$427,000	McLean	11	1
<a href="#">WX21233102</a>	Reworking Mt. Pleasant to Dixon Pumpstation	0-2 Years	Not Funded	\$80,000	Webster	12	4
<a href="#">WX21101001</a>	North System Improvements	3-5 Years	Not Funded	\$2,100,000	Henderson	13	1
<a href="#">WX21059030</a>	Morgantown Road Water Line Loop	3-5 Years	Not Funded	\$72,500	Daviess	14	5
<a href="#">WX21149066</a>	Highway 539 Booster Pump Station	0-2 Years	Not Funded	\$158,400	McLean	15	2
<a href="#">WX21183036</a>	Rehab Sunnydale Pump Station	6-10 Years	Not Funded	\$25,000	Ohio	16	2
<a href="#">WX21149058</a>	Sacramento Water Meter Replacement	3-5 Years	Not Funded	\$150,000	McLean	17	5
<a href="#">WX21091082</a>	Hawesville Water Treatment Plant Upgrade	3-5 Years	Not Funded	\$300,000	Hancock	18	2
<a href="#">WX21091062</a>	Windward Heights Water Line Rehab	6-10 Years	Not Funded	\$400,000	Hancock	19	3
<a href="#">WX21091075</a>	Lewisport/EDCWA Emergency Interconnect	3-5 Years	Not Funded	\$41,000	Hancock	20	4
<a href="#">WX21183013</a>	Hartford Water System Improvements	3-5 Years	Not Funded	\$1,342,000	Ohio	21	3
<a href="#">WX21233095</a>	Providence Line Extension	6-10 Years	Not Funded	\$1,000,000	Webster	22	5
<a href="#">WX21101108</a>	US 41 South A/C Main Replacement	0-2 Years	Not Funded	\$1,403,820	Henderson	23	3
<a href="#">WX21225044</a>	Highway 130 Water Main Replacement Project	0-2 Years	Not Funded	\$116,370	Union	24	2
<a href="#">WX21149005</a>	Beech Grove Water System Storage Tank Addition	0-2 Years	Not Funded	\$1,305,650	McLean	25	3
<a href="#">WX21101109</a>	Hwy 416 W Main Replacement	0-2 Years	Not Funded	\$1,720,440	Henderson	26	4
<a href="#">WX21101110</a>	Hwy 351 Main Replacement	0-2 Years	Not Funded	\$2,329,156	Henderson	27	5
<a href="#">WX21149022</a>	431 Tank Project	0-2 Years	Partially Funded	\$1,488,000	McLean	28	4
<a href="#">WX21183033</a>	Fordsville Water Loss Project	0-2 Years	Not Funded	\$246,550	Ohio	29	4
<a href="#">WX21101116</a>	Henderson Riverport Infrastructure Extension, Water Line	0-2 Years	Not Funded	\$66,788	Henderson	30	2
<a href="#">WX21183021</a>	Oak Wood Drive Water Main Replacement	6-10 Years	Not Funded	\$132,000	Ohio	31	5
<a href="#">WX21091058</a>	Hawesville Generator Project	11-20 Years	Not Funded	\$150,000	Hancock	32	5
<a href="#">WX21225046</a>	Uniontown Water Tanks and Repair Project	6-10 Years	Not Funded	\$200,000	Union	33	3
<a href="#">WX21225045</a>	Morganfield Combined Sewer Separation Project Phase 3	0-2 Years	Not Funded	\$450,000	Union	34	4
<a href="#">WX21225026</a>	Uniontown Valve Upgrades	6-10 Years	Not Funded	\$131,311	Union	35	5
<b>Total Cost:</b>				<b>\$25,427,868</b>			

# Gateway Area Development District (GWADD)

- 2010 census population of 81,652 (36,780 households) with 96% serviceable.
- Projected 2020 population of 87,651 (change of 5,999).
- 1,833.51 miles of existing water lines.
- 18.00 miles of line extensions proposed in the next 10 years.
- 14.00 miles of line rehabilitation proposed in the next 10 years.
- There are no transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$8,099,596.
- Estimated funding needs for projects from 6 to 10 years: \$6,340,045.
- Average age of structures: water treatment plants is 41 years; water tanks is 23 years.
- Total number of interconnected systems is 30.
- 29 miles of asbestos concrete pipe currently in use.
- 613 miles of water lines less than 15 years old.
- 542 miles of water lines between 15 and 30 years old.
- 763 miles of water lines between 31 and 50 years old.
- 142 miles of water lines between 51 and 70 years old.
- \$ 12 miles of water lines greater than 70 years old.



Gateway Area Development District has a 2010 census population count of 81,652 (36,780 households) with a projected 2020 population count of 87,651 (34,583 households). Public water is currently available to approximately 96 percent of the district's households based on 2010 census counts. Over the next ten years approximately 107 serviceable households will be added through the construction of 18.00 miles of water line extensions and approximately 149,381 instances of improved service through the rehabilitation of 14.00 miles of existing water lines and other appurtenances.

County Summary for Gateway Area Development District							
County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bath	11,591	5,405	12,132	5,006	5,150	95%	\$ 2,928,086
Menifee	6,306	3,744	6,038	2,422	3,498	93%	\$ 1,548,150
Montgomery	26,499	11,699	30,750	12,483	11,654	100%	\$ 4,492,945
Morgan	13,923	5,830	14,023	5,126	5,128	88%	\$ 1,190,900
Rowan	23,333	10,102	24,708	9,546	9,904	98%	\$ 4,279,560
<b>Totals</b>	<b>81,652</b>	<b>36,780</b>	<b>87,651</b>	<b>34,583</b>	<b>35,334</b>	<b>96%</b>	<b>\$ 14,439,641</b>

## Community Drinking Water Systems in Gateway Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0060022</a>	Bath County Water District	Bath	8,944	4,029
<a href="#">KY0060338</a>	City of Owingsville	Bath	1,915	958
<a href="#">KY0060392</a>	Sharpsburg Water District	Bath	3,158	1,426
<a href="#">KY0830148</a>	City of Frenchburg	Menifee	5,195	3,227
<a href="#">KY0870212</a>	City of Jeffersonville	Montgomery	4,623	2,011
<a href="#">KY0870147</a>	Judy Water Association	Montgomery	4,602	1,938
<a href="#">KY0870246</a>	Levee Road Water Association, Inc	Montgomery	2,166	917
<a href="#">KY0870290</a>	Montgomery County Water District #1	Montgomery	1,809	754
<a href="#">KY0870298</a>	Mount Sterling Water and Sewer	Montgomery	12,009	5,524
<a href="#">KY0870367</a>	Reid Village Water District	Montgomery	2,543	1,081
<a href="#">KY0880452</a>	City of West Liberty	Morgan	3,417	851
<a href="#">KY0880594</a>	Morgan County Water District	Morgan	8,434	3,909
<a href="#">KY1030480</a>	Morehead State University	Rowan	1,684	178
<a href="#">KY1030292</a>	Morehead Utility Plant Board	Rowan	7,935	3,542
<a href="#">KY1030375</a>	Rowan Water, Inc	Rowan	16,153	7,512
		<b>Totals:</b>	84,587	37,857

# Gateway Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Meet Regulatory Requirements**

## **Discussion of Area Development District Needs:**

There are a total of 16 water systems serving the Gateway Area Development District. Each water utility in the Gateway ADD was provided with the opportunity to identify the needs for the system. The needs of every system were considered in the determination of the Gateway Area Development District's primary and secondary Drinking Water needs.

The District's primary Drinking Water need is Repair/Replace Existing Infrastructure. This is the primary need for four of the five planning units, excluding Rowan County. Many of the utilities have identified this as their primary need due to aging waterline infrastructure in which line breaks are becoming more prevalent. Numerous other valve replacements, tank cleanings, and pump station projects are in need of attention due to age and increases in population served.

The secondary Drinking Water need is Meet Regulatory Requirements in the Gateway District. With more stringent rules and regulations being enforced, utilities need additional resources to keep up with changes. Rehabilitation work to treatment plant filters and flushing valves throughout the distribution systems will help keep chemical levels, in the water, within specified requirements.

Additional needs for the District, as identified by utilities, are Increase Storage Capacity to better serve existing customers and, to add additional customers on existing lines. Improve Security Risks by adding cameras and alarm systems to treatment plants and system appurtenances and Extend Services to Un-Served Areas.

## **Description and Determination of Planning Units:**

The Gateway Area Development District covers five planning units, each following a political county boundary. The five planning units are: Bath County, Menifee County, Montgomery County, Morgan County, and Rowan County.

There are three water utilities in Bath County. Two water districts, Bath County Water District and Sharpsburg Water District, and one municipality, City of Owingsville Water and Sewer.

Two utilities are included in the Menifee County Planning Unit, City of Frenchburg Water and Sewer, a municipality, and Cave Run Water Commission. Cave Run Water Commission is a wholesale water producer and does not have residential customers. Cave Run supplies water to the City of Frenchburg Water and Sewer, Jeffersonville Water, and Morgan County Water District.

The Montgomery County Planning unit includes six water utilities. Two utilities are municipalities; Mount Sterling Water and Sewer and Jeffersonville Water, two associations; Judy Water and Levee Road Water, and two water districts; Montgomery County Water District #1 and Reid Village.

One municipality, West Liberty Water Works, and one water district, Morgan County Water District, make up the two water utilities in the Morgan County Planning Unit.

Three water systems are located in the Rowan County Planning Unit. There is one municipality, Morehead Utility Plant Board, one association, Rowan Water, Inc., and one higher education institution, Morehead State University. Morehead State University only serves the population on campus.

# Gateway Area Development District

## Project Ranking Methodology



The Gateway Area Water Management Council prioritizes projects based on points. Points are given under the following categories: Project Impact and Project Status.

### Project Impact

Under this category, points are awarded based on the regional needs met by the project, the scope of impact, and the delivery of the project. Regional needs are based on the Regional Needs Assessment and projects are awarded points based upon which regional need is met. Each regional need has a point value established by the Water Management Council. The scope of impact includes the impact of the project to un-served households, underserved households, and economic stimulation. Un-served households are homes that currently do not have public water/wastewater service available to them. Underserved households are homes that have public water/wastewater service, but the completion of the proposed project will improve service and/or quality to said areas in the utility's system. Points are allocated to the economic stimulation group based on the number of jobs the completed project will create. The more households and jobs that a project affects/creates, the more points the project is given. Projects that have more than one scope can receive an additional 5 points and other unlisted project scopes can receive 5 points - maximum points possible for project scope is 20 points. Project Delivery is allotted 20 points for a regional project and 5 points for a non-regional project. A regional project affects more than one utility.

### Project Status

Under this category, points are awarded based on project development, commitment of funds, project timeline, and funding type. For project development, projects are given 5 points for preliminary planning, 10 points for attaining a cost estimate from a project engineer or for procuring an engineer for the project, 15 points if a preliminary engineering report is completed, or 20 points if engineering plans and specs have been completed and submitted to Division of Water. The maximum value of point awarded for commitment of funds is 20 points for projects with more than 50% of the total project cost committed - projects with 25-49% of project funds receive 10 points and projects with less than 25% of project funds committed or with pending applications receive 5 points. Projects with a timeline that is more than 10 years receive 5 points, project scheduled for 6-10 years receive 10 points, and project that will take place in 5 years or less receive 20 points. Finally, projects are awarded points based on the type of anticipated funding - projects that will utilize 100% loan funding receive 20 points, projects that will utilize both loan and grant funding receive 10 points, and projects that will only utilize grant funds receive 5 points.

The category totals are added together for a maximum of 140 points possible. The higher the cumulative total, the higher the project is ranked. For projects with the same overall point total, a cost per connection tie breaker is utilized. The cost per connection tie breaker is calculated using the estimated project cost divided by the total number of households the project will affect. The lower the cost per connection, the higher ranking the project receives.

All profiled projects that are submitted to the Water Management Council are prioritized and receive both a county and regional ranking. The prioritization of the projects is based on the points allocated during the ranking process.

### Project Rankings For Gateway Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21175023</a>	City of West Liberty Johnson Hill Storage Tank Rehabilitation	3-5 Years	Not Funded	\$170,600	Morgan	1	1
<a href="#">WX21175022</a>	City of West Liberty Highway 519 Water Storage Tank Improvement Project	3-5 Years	Not Funded	\$209,600	Morgan	2	2
<a href="#">WX21011011</a>	City of Owingsville Water Storage Tank Project - Phase 1.1	0-2 Years	Fully Funded	\$1,446,040	Bath	3	1
<a href="#">WX21205045</a>	Morehead Utility Plant Board MMRC Water Tank Rehabilitation	0-2 Years	Not Funded	\$320,440	Rowan	4	1
<a href="#">WX21205027</a>	Morehead Utility Plant Board Paint US 60 Water Tank Project	0-2 Years	Not Funded	\$256,920	Rowan	5	2
<a href="#">WX21205041</a>	Morehead Utility Plant Board Water Treatment Plant Improvement Project	3-5 Years	Not Funded	\$200,000	Rowan	6	3
<a href="#">WX21205039</a>	Morehead Utility Plant Board 500,000 Gallon Water Tank Project	6-10 Years	Not Funded	\$800,000	Rowan	7	4
<a href="#">WX21173134</a>	Mount Sterling Water and Sewer Bottom of Filter Chlorine Analyzers	3-5 Years	Not Funded	\$25,000	Montgomery	8	1
<a href="#">WX21173043</a>	Mt. Sterling Water & Sewer WTP Backwash Valve Replacement	3-5 Years	Not Funded	\$75,000	Montgomery	9	2
<a href="#">WX21205042</a>	Morehead Utility Plant Board Radio Read Meter and Technology Project	3-5 Years	Not Funded	\$700,000	Rowan	10	5
<a href="#">WX21205035</a>	Morehead Utility Plant Board 801 South Waterline Rehab Project	3-5 Years	Not Funded	\$900,000	Rowan	11	6
<a href="#">WX21205028</a>	Morehead Utility Plant Board Guardian Pump Station Rehabilitation	0-2 Years	Not Funded	\$102,200	Rowan	12	7
<a href="#">WX21205043</a>	Rowan Water Inc. Water Tank Rehab Project	3-5 Years	Not Funded	\$600,000	Rowan	13	8
<a href="#">WX21011019</a>	Sharpsburg Water District Meter Replacement Project	3-5 Years	Not Funded	\$200,000	Bath	14	2
<a href="#">WX21011021</a>	Sharpsburg Water District Water Tank Rehab Project	3-5 Years	Not Funded	\$500,000	Bath	15	3
<a href="#">WX21175021</a>	City of West Liberty Davis Lane Waterline Replacement Project	3-5 Years	Not Funded	\$135,700	Morgan	16	3
<a href="#">WX21011016</a>	Bath County Water District Standby Power Generator Project	6-10 Years	Not Funded	\$120,000	Bath	17	4
<a href="#">WX21173121</a>	Judy Water Association Water Tank Inspection Project	3-5 Years	Not Funded	\$100,000	Montgomery	18	3
<a href="#">WX21175030</a>	City of West Liberty Broadway, Main, and Prestonburg Streets Line Replacement Project	3-5 Years	Not Funded	\$300,000	Morgan	19	4
<a href="#">WX21175009</a>	City of West Liberty McClain Way Increase Pressure Project	3-5 Years	Not Funded	\$75,000	Morgan	20	5
<a href="#">WX21173094</a>	Mt. Sterling Water & Sewer System Automatic Flush Valve Project	3-5 Years	Not Funded	\$35,000	Montgomery	21	4
<a href="#">WX21173090</a>	Levee Road Water Association Gate Valve Project	3-5 Years	Not Funded	\$50,000	Montgomery	22	5
<a href="#">WX21173059</a>	City of Jeffersonville Highway 599 Water Tank Rehab Project	6-10 Years	Not Funded	\$159,000	Montgomery	23	6
<a href="#">WX21205029</a>	Rowan Water Inc. Tank Rehab and Meter Pit Project	0-2 Years	Not Funded	\$250,000	Rowan	24	9
<a href="#">WX21173041</a>	Mt. Sterling Water & Sewer Main Street Water Main Replacement	3-5 Years	Not Funded	\$800,000	Montgomery	25	7
<a href="#">WX21173047</a>	Levee Road Water Association Countryside Drive Waterline Extension	6-10 Years	Not Funded	\$246,045	Montgomery	26	8
<a href="#">WX21165017</a>	City of Frenchburg Mountain Ridge Road Waterline Extension	3-5 Years	Not Funded	\$91,150	Menifee	27	1
<a href="#">WX21173106</a>	Judy Water Association Meter Change-Out Project	3-5 Years	Not Funded	\$200,000	Montgomery	28	9
<a href="#">WX21173125</a>	City of Jeffersonville Welch Road Project - Phase II	11-20 Years	Not Funded	\$250,000	Montgomery	29	10
<a href="#">WX21011018</a>	Bath County Water District Computer Hardware and System Appurtenance Project	11-20 Years	Not Funded	\$53,000	Bath	30	5
<a href="#">WX21173095</a>	Mt. Sterling Water & Sewer System Valve Replacement Project	6-10 Years	Not Funded	\$150,000	Montgomery	31	11
<a href="#">WX21173066</a>	Mt. Sterling Water & Sewer System Fire Hydrant Project	6-10 Years	Not Funded	\$168,000	Montgomery	32	12



### Project Rankings For Gateway Area Development District

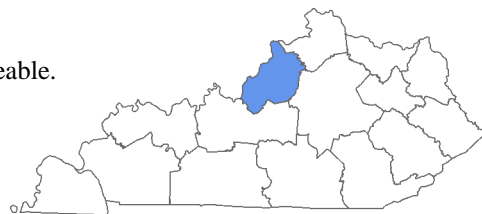
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21173110</a>	Montgomery County Water District #1 Fire Hydrant Improvement Project	3-5 Years	Not Funded	\$70,000	Montgomery	33	13
<a href="#">WX21173139</a>	Reid Village Water District Office and Maintenance Building Purchase Project	0-2 Years	Fully Funded	\$401,625	Montgomery	34	14
<a href="#">WX21173065</a>	Mt. Sterling Water & Sewer System South Queen Project	3-5 Years	Not Funded	\$326,000	Montgomery	35	15
<a href="#">WX21173111</a>	Mount Sterling Water and Sewer Waterline Rehab Projects - Various Sites	6-10 Years	Not Funded	\$600,000	Montgomery	36	16
<a href="#">WX21173046</a>	Reid Village Water District Wades Mill Tank Mixing System Project	3-5 Years	Not Funded	\$20,000	Montgomery	37	17
<a href="#">WX21173008</a>	Mt. Sterling Water & Sewer Spencer Road Water Main Extension	6-10 Years	Not Funded	\$250,000	Montgomery	38	18
<a href="#">WX21173101</a>	Montgomery County Water District No. 1 System Improvement Project	11-20 Years	Not Funded	\$300,000	Montgomery	39	19
<a href="#">WX21173107</a>	Levee Road Water Association Phase III Meter Replacement Project	3-5 Years	Not Funded	\$100,000	Montgomery	40	20
<a href="#">WX21173116</a>	City of Jeffersonville Fay Street Tie In Project	3-5 Years	Not Funded	\$15,000	Montgomery	41	21
<a href="#">WX21205034</a>	Morehead Utility Plant Board Waterline Rehab Project	6-10 Years	Not Funded	\$150,000	Rowan	42	10
<a href="#">WX21011020</a>	Sharpsburg Water District AC Line Replacement Project	6-10 Years	Not Funded	\$300,000	Bath	43	6
<a href="#">WX21011027</a>	Bath County Water District Scattered Site System Improvement Project	3-5 Years	Not Funded	\$140,000	Bath	44	7
<a href="#">WX21011009</a>	Sharpsburg Water District Rich Lan Road Waterline Extension Project	0-2 Years	Not Funded	\$136,086	Bath	45	8
<a href="#">WX21165022</a>	City of Frenchburg Leatherwood Area Waterline Extension Project	6-10 Years	Not Funded	\$1,432,000	Menifee	46	2
<a href="#">WX21173072</a>	City of Jeffersonville Office Equipment Upgrade	0-2 Years	Not Funded	\$10,000	Montgomery	47	22
<a href="#">WX21165010</a>	Cave Run Water Commission Storage Building Project	3-5 Years	Not Funded	\$25,000	Menifee	48	3
<a href="#">WX21173137</a>	Levee Road Water Association Line Checking Meter Project	3-5 Years	Not Funded	\$3,500	Montgomery	49	23
<a href="#">WX21173117</a>	City of Jeffersonville Equipment Project	3-5 Years	Not Funded	\$10,000	Montgomery	50	24
<a href="#">WX21173115</a>	City of Jeffersonville Utility Truck Project	3-5 Years	Not Funded	\$50,000	Montgomery	51	25
<a href="#">WX21173128</a>	Mt. Sterling Water & Sewer System Equipment Project	6-10 Years	Not Funded	\$175,000	Montgomery	52	26
<a href="#">WX21173132</a>	Montgomery County Water District #1 Building Project Phase II	3-5 Years	Not Funded	\$25,000	Montgomery	53	27
<a href="#">WX21175020</a>	Morgan County Water District Equipment Project	3-5 Years	Not Funded	\$100,000	Morgan	54	6
<a href="#">WX21173096</a>	Mt Sterling Water & Sewer System GIS Project	3-5 Years	Not Funded	\$225,000	Montgomery	55	28
<a href="#">WX21173135</a>	Mount Sterling Water and Sewer Storage Tank Demolition and Maintenance	3-5 Years	Not Funded	\$225,000	Montgomery	56	29
<a href="#">WX21205044</a>	Rowan Water Inc. New Pump Station and Tank Project	11-20 Years	Not Funded	\$600,000	Rowan	57	11
<a href="#">WX21173044</a>	Montgomery County Water District #1 Whitaker Lane Vault Valve Replacement	6-10 Years	Not Funded	\$60,000	Montgomery	58	30
<a href="#">WX21173136</a>	Levee Road Water Association Radio Read Meter Replacement Project	3-5 Years	Not Funded	\$2,400	Montgomery	59	31
<a href="#">WX21173050</a>	City of Jeffersonville New Cut Rd Line Replacement Project	6-10 Years	Not Funded	\$50,000	Montgomery	60	32
<a href="#">WX21173088</a>	Judy Water Association Bourbon County Line Upgrade Project	6-10 Years	Not Funded	\$300,000	Montgomery	61	33
<a href="#">WX21173051</a>	City of Jeffersonville Corey Lane Improvement Project	6-10 Years	Not Funded	\$18,000	Montgomery	62	34
<a href="#">WX21011030</a>	City of Owingsville Atkinson Road Waterline Extension Project	6-10 Years	Not Funded	\$100,000	Bath	63	9
<a href="#">WX21173138</a>	Levee Road Water Association Fence Replacement Project	6-10 Years	Not Funded	\$10,000	Montgomery	64	35

### Project Rankings For Gateway Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21173048</a>	City of Jeffersonville Highway 1050 Line Replacement Project	11-20 Years	Not Funded	\$300,000	Montgomery	65	36
<a href="#">WX21173109</a>	Montgomery County Water District #1 Concrete Abestos Pipe Replacement	11-20 Years	Not Funded	\$400,000	Montgomery	66	37
<a href="#">WX21173126</a>	City of Jeffersonville Lower Spruce Tie In Project	0-2 Years	Not Funded	\$120,000	Montgomery	67	38
<a href="#">WX21173114</a>	City of Jeffersonville Harpers Ridge Waterline Tie-In Project	11-20 Years	Not Funded	\$100,000	Montgomery	68	39
<a href="#">WX21173113</a>	City of Jeffersonville Spruce Valley Waterline Tie In Project	11-20 Years	Not Funded	\$80,000	Montgomery	69	40
<a href="#">WX21173049</a>	City of Jeffersonville Highway 213 Line Replacement Project	11-20 Years	Not Funded	\$275,000	Montgomery	70	41
<a href="#">WX21173123</a>	Montgomery County Water District No. 1 Equipment Project	11-20 Years	Not Funded	\$15,000	Montgomery	71	42
<a href="#">WX21173054</a>	Mount Sterling Water and Sewer Storage Building Project	11-20 Years	Not Funded	\$120,000	Montgomery	72	43
<a href="#">WX21173124</a>	Montgomery County Water District No. 1 Dump Truck Project	11-20 Years	Not Funded	\$60,000	Montgomery	73	44
<b>Total Cost:</b>				<b>\$17,388,306</b>			

# Kentuckiana Regional Planning and Development Agency (KIPDA)

- 2010 census population of 959,091 (421,502 households) with 98% serviceable.
- Projected 2020 population of 1,058,343 (change of 99,252).
- 6,304.90 miles of existing water lines.
- 147.00 miles of line extensions proposed in the next 10 years.
- 56.00 miles of line rehabilitation proposed in the next 10 years.
- 91.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$233,003,543.
- Estimated funding needs for projects from 6 to 10 years: \$36,529,354.
- Average age of structures: water treatment plants is 20 years; water tanks is 35 years.
- Total number of interconnected systems is 14.
- 184 miles of asbestos concrete pipe currently in use.
- 54 miles of water lines less than 15 years old.
- 124 miles of water lines between 15 and 30 years old.
- 427 miles of water lines between 31 and 50 years old.
- 1,073 miles of water lines between 51 and 70 years old.
- \$ 412 miles of water lines greater than 70 years old.



Kentuckiana Regional Planning and Development Agency has a 2010 census population count of 959,091 (421,502 households) with a projected 2020 population count of 1,058,343 (437,016 households). Public water is currently available to approximately 98 percent of the district's households based on 2010 census counts. Over the next ten years approximately 96,372 serviceable households will be added through the construction of 147.00 miles of water line extensions and approximately 46,409 instances of improved service through the rehabilitation of 56.00 miles of existing water lines and other appurtenances. 91.00 miles of transmission lines are also proposed within this district.

**County Summary for Kentuckiana Regional Planning and Development Agency**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bullitt	74,319	29,318	88,508	34,970	28,122	96%	\$ 20,074,800
Henry	15,416	6,640	15,915	6,405	6,327	95%	\$ 9,424,855
Jefferson	741,096	337,616	793,817	336,744	334,993	99%	\$ 120,459,908
Oldham	60,316	20,688	74,990	26,354	17,914	87%	\$ 22,020,750
Shelby	42,074	16,606	51,944	19,663	16,198	98%	\$ 82,810,312
Spencer	17,061	6,704	23,655	9,025	6,345	95%	\$ 4,860,172
Trimble	8,809	3,930	9,514	3,855	3,621	92%	\$ 9,882,100
<b>Totals</b>	<b>959,091</b>	<b>421,502</b>	<b>1,058,343</b>	<b>437,016</b>	<b>413,520</b>	<b>98%</b>	<b>\$ 269,532,897</b>

## Community Drinking Water Systems in Kentuckiana Regional Planning and Development Agency County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0150242</a>	Lebanon Junction Water Works	Bullitt	2,191	933
<a href="#">KY0150300</a>	Mount Washington Water & Sewer Company	Bullitt	19,320	7,681
<a href="#">KY0520122</a>	Eminence Water Works	Henry	2,525	1,091
<a href="#">KY0520192</a>	Henry County Water District #2	Henry	14,537	6,106
<a href="#">KY0520520</a>	New Castle Water Works	Henry	930	428
<a href="#">KY0560258</a>	Louisville Water Company	Jefferson	806,903	362,013
<a href="#">KY0930481</a>	Lagrange Utilities Commission	Oldham	6,796	2,692
<a href="#">KY0930333</a>	Oldham County Water District	Oldham	19,840	5,829
<a href="#">KY1060324</a>	North Shelby Water Company	Shelby	10,908	4,363
<a href="#">KY1060394</a>	Shelbyville Municipal Water & Sewer Commission	Shelby	22,016	8,913
<a href="#">KY1060436</a>	US 60 Water District	Shelby	4,939	2,066
<a href="#">KY1060457</a>	West Shelby Water District	Shelby	5,127	1,975
<a href="#">KY1080425</a>	Taylorsville Water Works	Spencer	18,681	7,298
<a href="#">KY1120289</a>	Milton Water & Sewer Department	Trimble	2,372	1,133
<a href="#">KY1120431</a>	Trimble County Water District #1	Trimble	3,518	1,525
		<b>Totals:</b>	940,603	414,046

# Kentuckiana Regional Planning and Development Agency

## Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

### **Discussion of Area Development District Needs:**

The KIPDA Regional Water Council through discussion recognizes that planning needs in the region are constantly changing. What may be viewed as the primary need in the near future could differ from what is viewed as the primary need in the present. All of the listed options are viewed as necessities throughout the region and many are viewed to be intertwined with none being mutually exclusive. With these thoughts in consideration, the KIPDA Regional Water Management Council identified the Repair and Replacement of Existing Infrastructure as its primary planning need which may require Increased Storage Capacity and Regionalization leading to Economic Stimulation.

Much of the current infrastructure in the KIPDA region is aging with many lines approaching 100 years. This causes problems for systems throughout the region in the form of breaks and leaks which lead to substantial water loss. Many of these lines are undersized and not capable of providing fire protection or adequate flow and pressure. Providing redundancy to the existing system is also placed in high priority which can be achieved by adding pipes and Increased Storage Capacity. The Council has placed a high priority on projects that set out to achieve these goals. Additionally, Regionalization is a driving force to provide an alternative water source in times of emergency and to meet future demands. The top priority project in the KIPDA Region is the I-64 Transmission Main which would provide an alternative water source for utilities in Shelby County through a pipeline to Jefferson County and Louisville Water Company. This project would additionally provide for Increased Storage Capacity within the county.

Realizing that capabilities must be in place to drive commercial, industrial, and residential development, the Repair and Replacement of Existing Infrastructure would additionally provide for Economic Stimulation. With a few exceptions, utilities upgrade existing infrastructure when it is replaced. The increased capabilities from these upgrades enables systems to meet demands and provide improved services to areas that may be currently underserved. Through increasing line sizes, water treatment capacity, and storage; cities and counties are much more attractive for future development. The Council realizes that for there to be Economic Stimulation, the infrastructure must be in place.

When the KIPDA Regional Water Management Council was originally formed, providing service to unserved areas was the goal with the initiative of all unserved areas having access to potable drinking water by 2020. Much effort has been provided to accomplish this goal, and systems in the region estimate that better than 97% of residents in the region are either being served or have access to public water. The Council recognizes that the provision of water service is still of high priority due to its impact on public health, for this reason Extending Service to Unserved areas was consider the Secondary Need of the region. Elected officials and water providers throughout the KIPDA Region continue to work with residents of their communities to identify areas in need of potable water and work in conjunction to develop projects in order to provide this service. Projects that provide water to currently unserved areas take precedence over similarly scored projects during the annual priority ranking process.

### **Description and Determination of Planning Units:**

After reviewing water systems and their respected service areas, the KIPDA Regional Water Management Council designated the KIPDA boundary to be used as the regional management area. Further, the Council designated the seven (7) water management areas in the KIPDA region to be defined by county boundaries.

1. Bullitt County Water Management Planning Area
  - Lebanon Junction, City of
  - Mount Washington Water and Sewer Company

2. Henry County Water Management Planning Area
  - Eminence , City of
  - Henry County Water District #2
  - New Castle, City of
3. Jefferson County Water Management Planning Area
  - Louisville Water Company
4. Oldham County Water Management Planning Area
  - Oldham County Water District
  - LaGrange Utilities Commission
5. Shelby County Water Management Planning Area
  - North Shelby Water Company
  - Shelbyville Municipal Water and Sewer Commission
  - U.S. 60 Water District
  - West Shelby Water District
6. Spencer County Water Management Planning Area
  - Taylorsville, City of
7. Trimble County Water Management Planning Area
  - Milton, City of
  - Trimble County Water District #1

# Kentuckiana Regional Planning and Development Agency

## Project Ranking Methodology



The KIPDA Regional Water Management Council prioritizes projects using local input and an established priority ranking scoresheet.

Before projects are brought before the KIPDA Regional Water Management Council to be prioritized, they are ranked at the County level. The County Water Management Councils consist of utility representatives and local elected officials. Projects are ranked based on perceived importance within the county.

To bring continuity and fairness throughout the region, the KIPDA Regional Water Management Council requires all projects that are to be considered for Regional Prioritization to complete a Priority Ranking Scoresheet. The methodology for the scoresheet was established in 2007 by a group of Area Development Water Management Coordinators along with KIA staff. This is no longer required for all water and wastewater projects requesting State funding, but the KIPDA Council choice to continue using this method due to past success.

The scoresheet provides for a maximum of 100 points to be assigned to each project depending on how it scores according to the following criteria:

### **Type of Project (20 point Maximum)**

For unserved and underserved projects, households served are the basis for the priority scoring while jobs created are the consideration for economic development projects. Feasibility studies and other projects that don't involve unserved, underserved, commercial, or industrial development are assigned a specified score.

### **Project Delivery (20 point Maximum)**

Projects are scored on whether they are Regional or Non-Regional. For this purpose, regional is defined as projects involving two or more systems that, through shared or consolidated resources, improve services to consumers and achieve economy of scale.

### **Project Status (20 point Maximum)**

Projects are scored based on their status relative to the planning process, the status of the development of engineering plans and specifications, and the detail of the data used to develop the estimated cost of the project. Projects that are further along in the process will receive a higher priority score.

### **Funding Status (20 point Maximum)**

The projects are categorized based on their status relative its size and the funding needed to execute. Projects that are further along in the funding process will receive a higher priority as indicated below.

### **Local Importance (20 point Maximum)**

The projects are assigned priority points based on their importance to the county as determined by consensus during the County Water Management Councils.

With the intention of each county having equal representation on the priority ranking list, the top projects from each county are ranked against each other according to their priority ranking score. This method is continued for the second, third, fourth, etc projects until all submitted projects receive a ranking.



### Project Rankings For Kentuckiana Regional Planning and Development Agency

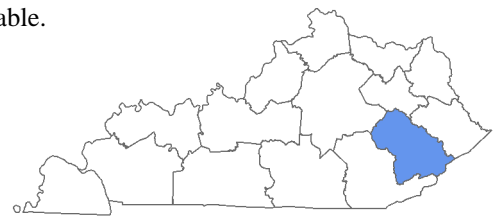
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21185013</a>	Halls Hill Road Extension	3-5 Years	Not Funded	\$360,000	Oldham	1	1
<a href="#">WX21111164</a>	Hardin County/FT Knox Transmission	3-5 Years	Partially Funded	\$19,492,000	Jefferson	2	1
<a href="#">WX21029280</a>	Halls Lane Water Main Extension	3-5 Years	Not Funded	\$262,000	Bullitt	3	1
<a href="#">WX21215003</a>	Kings Church Road/Dales Lane SR 1319	0-2 Years	Not Funded	\$525,000	Spencer	4	1
<a href="#">WX21103059</a>	New Castle Water Main Replacement (South Main St - KY 421)	3-5 Years	Not Funded	\$210,000	Henry	5	1
<a href="#">WX21211042</a>	North Shelby Water Tank	3-5 Years	Not Funded	\$1,100,000	Shelby	6	1
<a href="#">WX21223037</a>	System Reliability Upgrades	0-2 Years	Not Funded	\$480,000	Trimble	7	1
<a href="#">WX21211068</a>	I-64 Transmission Pipeline - Phase II	0-2 Years	Partially Funded	\$6,000,000	Shelby	8	2
<a href="#">WX21111168</a>	North Shelby Regional Storage	3-5 Years	Not Funded	\$2,500,000	Jefferson	9	2
<a href="#">WX21185030</a>	Storage Tank US 42 and Liberty Lane	0-2 Years	Partially Funded	\$2,200,000	Oldham	10	2
<a href="#">WX21103054</a>	Elm Street Water Main Extension	6-10 Years	Not Funded	\$159,826	Henry	11	2
<a href="#">WX21215005</a>	Bloomfield Road – South SR 55 Upgrade	6-10 Years	Not Funded	\$220,000	Spencer	12	2
<a href="#">WX21029166</a>	Roe Hill Road	6-10 Years	Not Funded	\$192,500	Bullitt	13	2
<a href="#">WX21029290</a>	New Water Tower at Armstrong Lane	0-2 Years	Over Funded	\$3,437,500	Bullitt	15	3
<a href="#">WX21223004</a>	Tilley Lane Ext.	3-5 Years	Not Funded	\$125,000	Trimble	16	3
<a href="#">WX21111163</a>	Water Main Rehabilitation	3-5 Years	Partially Funded	\$7,455,001	Jefferson	17	3
<a href="#">WX21185017</a>	South Highway 1694 Extension	3-5 Years	Not Funded	\$390,000	Oldham	18	3
<a href="#">WX21215006</a>	Bloomfield Road North SR 55 - Upgrade	3-5 Years	Not Funded	\$85,000	Spencer	19	3
<a href="#">WX21103052</a>	City of New Castle - East College St. Water Line Replacement	3-5 Years	Not Funded	\$89,000	Henry	20	3
<a href="#">WX21223031</a>	Barebone Rd Waterline Extension	3-5 Years	Not Funded	\$50,000	Trimble	21	4
<a href="#">WX21185050</a>	18-inch water main connecting Buckner Crossing with Quality Place	6-10 Years	Not Funded	\$1,600,000	Oldham	22	4
<a href="#">WX21029282</a>	Water Main - Kings Hollow Road	3-5 Years	Not Funded	\$288,000	Bullitt	23	4
<a href="#">WX21215002</a>	Mill Road Upgrade SR 1795	6-10 Years	Not Funded	\$330,000	Spencer	24	4
<a href="#">WX21111161</a>	Crittenden Drive, 5018 to 7800 Block	3-5 Years	Not Funded	\$700,000	Jefferson	25	4
<a href="#">WX21103057</a>	Turkey Run Waterline	3-5 Years	Not Funded	\$190,229	Henry	26	4
<a href="#">WX21223010</a>	S. Spillman Lane Ext.	6-10 Years	Not Funded	\$70,000	Trimble	27	5
<a href="#">WX21111169</a>	English Station Storage	3-5 Years	Not Funded	\$10,700,000	Jefferson	28	5
<a href="#">WX21215007</a>	Normandy Road – Upgrade	3-5 Years	Not Funded	\$225,000	Spencer	29	5
<a href="#">WX21029208</a>	Derby - Walnut - Bank Street Upgrades	3-5 Years	Not Funded	\$79,200	Bullitt	30	5
<a href="#">WX21103048</a>	City of New Castle - College St Water Line Replacement	3-5 Years	Not Funded	\$104,000	Henry	31	5
<a href="#">WX21111172</a>	Vernetta Way Water Main Extension	3-5 Years	Partially Funded	\$210,000	Jefferson	32	6
<a href="#">WX21215014</a>	Goose Creek Loop Line	3-5 Years	Not Funded	\$90,000	Spencer	33	6
<a href="#">WX21223028</a>	Watson Lane Waterline Extension	6-10 Years	Not Funded	\$100,000	Trimble	34	6
<a href="#">WX21029286</a>	Preston Hwy from Belmont Rd to Timber Ridge Ct Transmission Main	3-5 Years	Not Funded	\$926,000	Bullitt	35	6
<a href="#">WX21111173</a>	Buttermilk Ridge Rd Main Extension	3-5 Years	Partially Funded	\$165,000	Jefferson	36	7

### Project Rankings For Kentuckiana Regional Planning and Development Agency

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21223034</a>	Rowlett Lane Waterline Replacement	0-2 Years	Not Funded	\$20,000	Trimble	37	7
<a href="#">WX21029241</a>	Ramblin Road Water Main Extension	3-5 Years	Not Funded	\$86,000	Bullitt	38	7
<a href="#">WX21215008</a>	Town Hill Road – Upgrade	3-5 Years	Not Funded	\$80,000	Spencer	39	7
<a href="#">WX21111186</a>	Harrod's Old Trace Main Extension	6-10 Years	Partially Funded	\$362,000	Jefferson	40	8
<a href="#">WX21223035</a>	Sunnyside Dr Waterline Replacement	0-2 Years	Not Funded	\$30,000	Trimble	41	8
<a href="#">WX21215009</a>	Southville Pike – SR 44 Upgrade	3-5 Years	Not Funded	\$375,000	Spencer	42	8
<a href="#">WX21223033</a>	Milton-Bedford Pike Waterline Extension	3-5 Years	Not Funded	\$150,000	Trimble	43	9
<a href="#">WX21215011</a>	Plum Ridge Road Upgrade	6-10 Years	Not Funded	\$170,000	Spencer	44	9
<a href="#">WX21223032</a>	Cutshaw Lane Upgrade	3-5 Years	Not Funded	\$200,000	Trimble	45	10
<a href="#">WX21215004</a>	Elk Creek/Wilsonville Road Upgrade	6-10 Years	Not Funded	\$145,000	Spencer	46	10
<a href="#">WX21223029</a>	Lower Middle Creek Waterline Extension	6-10 Years	Not Funded	\$300,000	Trimble	47	11
<a href="#">WX21223021</a>	Trimble Area Optimization Plan	6-10 Years	Not Funded	\$2,000,000	Trimble	48	12
<b>Total Cost:</b>				<b>\$65,028,256</b>			

# Kentucky River Area Development District (KRADD)

- 2010 census population of 114,762 (52,786 households) with 86% serviceable.
- Projected 2020 population of 111,267 (change of -3,495).
- 2,389.24 miles of existing water lines.
- 333.00 miles of line extensions proposed in the next 10 years.
- 10.00 miles of line rehabilitation proposed in the next 10 years.
- 5.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$104,028,696.
- Estimated funding needs for projects from 6 to 10 years: \$8,196,414.
- Average age of structures: water treatment plants is 24 years; water tanks is 17 years.
- Total number of interconnected systems is 15.
- 44 miles of asbestos concrete pipe currently in use.
- 1,221 miles of water lines less than 15 years old.
- 682 miles of water lines between 15 and 30 years old.
- 438 miles of water lines between 31 and 50 years old.
- 15 miles of water lines between 51 and 70 years old.
- \$ 0 miles of water lines greater than 70 years old.



Kentucky River Area Development District has a 2010 census population count of 114,762 (52,786 households) with a projected 2020 population count of 111,267 (45,823 households). Public water is currently available to approximately 86 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,710 serviceable households will be added through the construction of 333.00 miles of water line extensions and approximately 41,732 instances of improved service through the rehabilitation of 10.00 miles of existing water lines and other appurtenances. 5.00 miles of transmission lines are also proposed within this district.

**County Summary for Kentucky River Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Breathitt	13,878	6,231	12,495	5,046	5,401	87%	\$ 16,966,027
Knott	16,346	7,461	15,635	6,332	6,902	93%	\$ 28,547,929
Lee	7,887	3,436	7,820	3,014	3,121	91%	\$ 1,354,036
Leslie	11,310	5,278	10,603	4,377	4,291	81%	\$ 9,740,000
Letcher	24,519	11,601	24,237	10,161	8,140	70%	\$ 36,743,948
Owsley	4,755	2,328	4,704	1,971	2,211	95%	\$ 9,177,019
Perry	28,712	12,791	28,137	11,637	11,789	92%	\$ 6,688,928
Wolfe	7,355	3,660	7,636	3,285	3,303	90%	\$ 3,007,223
<b>Totals</b>	<b>114,762</b>	<b>52,786</b>	<b>111,267</b>	<b>45,823</b>	<b>45,158</b>	<b>86%</b>	<b>\$ 112,225,110</b>

## Community Drinking Water Systems in Kentucky River Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0131012</a>	Breathitt County Water District	Breathitt	6,946	3,087
<a href="#">KY0130208</a>	Jackson Municipal Water Works	Breathitt	4,706	2,170
<a href="#">KY0600198</a>	Hindman Water Department	Knott	4,311	2,062
<a href="#">KY0600062</a>	Knott Co Water & Sewer District	Knott	9,506	4,224
<a href="#">KY0600129</a>	Phoenix Place Water System	Knott	243	109
<a href="#">KY0650024</a>	Beattyville Water Works	Lee	7,289	3,132
<a href="#">KY0660204</a>	Hyden Leslie Co Water District	Leslie	9,245	4,296
<a href="#">KY0670279</a>	Fleming-Neon Water Company	Letcher	3,233	1,610
<a href="#">KY0670213</a>	Jenkins Water System	Letcher	2,786	1,334
<a href="#">KY0670462</a>	Letcher County Water and Sewer District	Letcher	7,970	3,759
<a href="#">KY0670466</a>	Whitesburg Water System	Letcher	3,182	1,470
<a href="#">KY0950036</a>	Booneville Water and Sewer	Owsley	4,754	2,329
<a href="#">KY0970184</a>	Hazard Water Department	Perry	22,979	10,271
<a href="#">KY0970484</a>	Perry County Water & Sewer	Perry	2,904	1,274
<a href="#">KY0971007</a>	Village of Buckhorn	Perry	943	402
<a href="#">KY1190061</a>	Campton Water System	Wolfe	6,738	3,376
		<b>Totals:</b>	97,735	44,905

# Kentucky River Area Development District Regional Water Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Repair and Replace Existing Infrastructure**

## **Discussion of Area Development District Needs:**

The Kentucky River region's main concerns for water projects are those that address establishing new water service to areas that currently rely on failing or contaminated wells and areas that must haul water. The region is also faced with major rehab as most systems have lines that have been in place for 40+ years as well as rehabilitation of existing plants and in cases where rehab is too expensive then the construction of new plants.

## **Description and Determination of Planning Units:**

The Kentucky River Area Water Management Council reviewed the water systems and their service areas located within the Kentucky River Area Development District. The Council designated the Kentucky River Area Development District boundary as the regional management area. Within the Kentucky River Region, the following water systems and their respective water management planning areas were designated by the Council:

### **Kentucky River Area Water Management Planning Areas**

1. Breathitt County Water Management Planning Area
  - a) Breathitt County Water District
  - b) Jackson Municipal Water Works
  - c) Mount Carmel High Boarding School
2. Knott County Water Management Planning Area
  - a) Hindman Water Department
  - b) Knott Co. Water and Sewer District
  - c) Phoenix Place Water System
3. Lee County Water Management Planning Area
  - a) Beattyville Water Works
4. Leslie County Water Management Planning Area
  - a) Hyden/Leslie Co Water District
5. Letcher County Water Management Planning Area
  - a) Fleming-Neon Water Company
  - b) Jenkins Water System
  - c) Letcher County Water and Sewer District
  - d) Whitesburg Water System
6. Owsley County Water Management Planning Area
  - a) Booneville Water and Sewer
7. Perry County Water Management Planning Area
  - a) Hazard Water Department
  - b) Vicco Water Supply
  - c) Village of Buckhorn
8. Wolfe County Water Management Planning Area
  - a) Campton Water System

# Kentucky River Area Development District

## Project Ranking Methodology



The KRADD Water Management Council meets once a year to prioritize projects in our area. Our area's utility managers and chief executives begin the ranking by first reviewing the previous year's prioritization and then pair off by county to discuss their current projects. Each county is given a list of the profiles they have in the WRIS and then they rank their basic needs during this portion of the meeting. Once these are completed then the Council decides the projects that will be ranked for the region and prioritizes those projects.

During the county rankings, each respective planning unit begins the process of prioritizing the projects that are of the most concern to their area. This discussion is based on service population, violations each entity may have received, current funding, whether the project is for new or existing customers and the overall community need. Once all projects in each planning unit are ranked, the council votes to approve the planning unit rankings.

Next, the council begins the process of selecting the top regional projects based on the information presented. Typically, the county with the most critical overall need is the first ranked and then the other counties follow suit. For Fiscal Year 2016, the Council decided to rank projects by drawing numbers 1-8 to obtain the first 1-8 projects. The county selected as 1 also received the number 16, the county receiving number 2 also received the number 15 and so forth. However, there were a couple instances where a planning unit only had one project ranked. The Council decided that they would only rank the number one and two projects per unit and not base the rankings on a set 16 overall projects. Based on this, there were 14 regional water projects and 15 regional wastewater projects for this fiscal year. The Council has decided that next year it will base the regional rankings on a point system that the WMC Coordinator will create over the following year.

The Kentucky River region's main concerns for water projects are those that address establishing new water service to areas that currently rely on failing or contaminated wells and areas that must haul water. The region is also faced with major rehab as most systems have lines that have been in place for 40+ years as well as rehabilitation of existing plants and in cases where rehab is too expensive then the construction of new plants.

Wastewater concerns are focused on rehabilitation of lift stations and plants and when rehabilitation of the plants is not feasible construction of new ones. The majority of the area is now beginning to turn to wastewater service extensions as the past has mostly been focused on providing reliable and safe potable water to the residents. The majority of our counties are now reaching 80% served in potable water and some have even achieved 95-98% served. Our entities are now looking to improve the water quality and the environment by providing a reliable means of wastewater removal which will improve the streams that empty into the rivers most utilized for their water source.

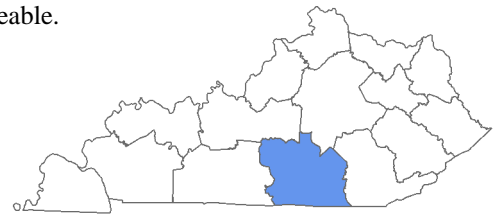
### Project Rankings For Kentucky River Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21193029</a>	Vicco Water System Emergency Repair	0-2 Years	Over Funded	\$192,000	Perry	1	1
<a href="#">WX21025040</a>	South Fork Elk View Waterline	3-5 Years	Not Funded	\$1,442,000	Breathitt	2	1
<a href="#">WX21133500</a>	Cumberland River Water Line Extension - Phase I	3-5 Years	Partially Funded	\$669,000	Letcher	3	1
<a href="#">WX21189007</a>	Booneville Pump Repairs	0-2 Years	Partially Funded	\$153,659	Owsley	4	1
<a href="#">WX21129004</a>	Beattyville - Bear Track Waterline Replacement	3-5 Years	Not Funded	\$612,000	Lee	5	1
<a href="#">WX21119022</a>	Logan Gap Master Meter Replacement Project	0-2 Years	Not Funded	\$5,874	Knott	6	1
<a href="#">WX21237012</a>	Trace Fork Waterline Project	3-5 Years	Not Funded	\$80,190	Wolfe	7	1
<a href="#">WX21131002</a>	Phase III Water System Improvements	3-5 Years	Partially Funded	\$6,430,000	Leslie	8	1
<a href="#">WX21131111</a>	Hyden/Leslie Water System Improvements Phase II	0-2 Years	Partially Funded	\$2,000,000	Leslie	9	2
<a href="#">WX21237746</a>	Campton South Valeria Water Extension Project	3-5 Years	Not Funded	\$1,142,400	Wolfe	10	2
<a href="#">WX21189506</a>	Booneville Pump Station Upgrade	3-5 Years	Not Funded	\$111,600	Owsley	11	2
<a href="#">WX21133018</a>	Cumberland River Waterline Extension Project - Phase II	3-5 Years	Partially Funded	\$1,070,000	Letcher	12	2
<a href="#">WX21025101</a>	Jackson - Hospital Water Tank Project	3-5 Years	Not Funded	\$1,210,000	Breathitt	13	2
<a href="#">WX21193030</a>	Water Distribution Rehabilitation Project - PCWS Phase II	0-2 Years	Not Funded	\$680,000	Perry	14	2
<b>Total Cost:</b>				<b>\$15,798,723</b>			



# Lake Cumberland Area Development District (LCADD)

- 2010 census population of 207,256 (101,129 households) with 95% serviceable.
- Projected 2020 population of 221,481 (change of 14,225).
- 5,525.11 miles of existing water lines.
- 303.00 miles of line extensions proposed in the next 10 years.
- 100.00 miles of line rehabilitation proposed in the next 10 years.
- 50.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$130,712,919.
- Estimated funding needs for projects from 6 to 10 years: \$20,540,917.
- Average age of structures: water treatment plants is 39 years; water tanks is 27 years.
- Total number of interconnected systems is 20.
- 56 miles of asbestos concrete pipe currently in use.
- 1,158 miles of water lines less than 15 years old.
- 2,267 miles of water lines between 15 and 30 years old.
- 1,898 miles of water lines between 31 and 50 years old.
- 128 miles of water lines between 51 and 70 years old.
- \$ 164 miles of water lines greater than 70 years old.



Lake Cumberland Area Development District has a 2010 census population count of 207,256 (101,129 households) with a projected 2020 population count of 221,481 (92,378 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 699 serviceable households will be added through the construction of 303.00 miles of water line extensions and approximately 35,744 instances of improved service through the rehabilitation of 100.00 miles of existing water lines and other appurtenances. 50.00 miles of transmission lines are also proposed within this district.

**County Summary for Lake Cumberland Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Adair	18,656	8,568	20,052	8,151	7,701	90%	\$ 16,743,815
Casey	15,955	7,487	16,433	6,791	7,326	98%	\$ 8,119,000
Clinton	10,272	5,311	10,896	4,755	5,181	98%	\$ 5,000,700
Cumberland	6,856	3,690	6,649	2,840	3,567	97%	\$ 3,557,000
Green	11,258	5,324	11,112	4,660	5,203	98%	\$ 14,261,900
McCreary	18,306	7,507	18,314	6,819	6,271	84%	\$ 28,817,727
Pulaski	63,063	31,443	71,036	29,901	30,558	97%	\$ 34,479,194
Russell	17,565	9,993	18,782	8,112	9,806	98%	\$ 5,585,885
Taylor	24,512	10,864	26,079	10,663	10,582	97%	\$ 18,376,115
Wayne	20,813	10,942	22,128	9,686	9,765	89%	\$ 16,312,500
<b>Totals</b>	<b>207,256</b>	<b>101,129</b>	<b>221,481</b>	<b>92,378</b>	<b>95,960</b>	<b>95%</b>	<b>\$ 151,253,836</b>

## Community Drinking Water Systems in Lake Cumberland Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0011016</a>	Columbia/Adair Utilities District	Adair	16,732	7,613
<a href="#">KY0230556</a>	East Casey County Water District	Casey	12,079	5,753
<a href="#">KY0230987</a>	Liberty Water & Gas	Casey	2,302	1,004
<a href="#">KY0270003</a>	Albany Municipal Water & Sewer	Clinton	9,908	5,112
<a href="#">KY0290049</a>	Burkesville Municipal Water Works	Cumberland	1,932	962
<a href="#">KY0290271</a>	Cumberland County Water District	Cumberland	4,786	2,618
<a href="#">KY0440167</a>	Green-Taylor Water District	Green	11,333	5,184
<a href="#">KY0440168</a>	Greensburg Water Department	Green	2,284	1,138
<a href="#">KY0740276</a>	McCreary County Water District	McCreary	14,877	6,267
<a href="#">KY1000043</a>	Bronston Water Association	Pulaski	3,127	1,979
<a href="#">KY1000050</a>	Burnside Municipal Water Works	Pulaski	1,165	677
<a href="#">KY1000124</a>	Eubank Water System	Pulaski	10,142	4,468
<a href="#">KY1000362</a>	Science Hill Water Works	Pulaski	4,756	2,055
<a href="#">KY1000403</a>	Somerset Utilities	Pulaski	17,104	8,273
<a href="#">KY1000311</a>	Southeastern Water Association	Pulaski	15,016	8,039
<a href="#">KY1000363</a>	Western Pulaski County Water District	Pulaski	16,902	8,917
<a href="#">KY1000973</a>	Woodson Bend Property Owners Association	Pulaski	137	356
<a href="#">KY1040210</a>	Jamestown Utilities	Russell	7,372	4,198
<a href="#">KY1040377</a>	Russell Springs Sewer & Water Works	Russell	9,412	4,889
<a href="#">KY1090060</a>	Campbellsville Municipal Water & Sewer System	Taylor	21,047	9,370
<a href="#">KY1160291</a>	Monticello Utility Commission	Wayne	17,509	8,641
		<b>Totals:</b>	199,922	97,513

# Lake Cumberland Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## **Discussion of Area Development District Needs:**

The Lake Cumberland Area Development District planning units are in need of repairing and replacing existing infrastructure. The systems in the Lake Cumberland Area need to repair and/or replace pump stations, water lines and tanks due to aging infrastructure. The some systems also need to upgrade the existing treatment plants with safer, more efficient methods of treatment.

The Lake Cumberland Area Development District planning units would like to provide service to more customers by extending service to unserved areas. Providing service to unserved areas will eliminate the use of contaminated individual wells in rural areas.

The needs of the Lake Cumberland Regional Water Management Council are a very diverse collection. Other needs of the area include meeting regulatory requirements, increasing storage capacity, and regionalization.

## **Description and Determination of Planning Units:**

The Lake Cumberland Area Development District is made up of fifteen planning units. The planning units were determined by the Lake Cumberland Regional Water Management Council based on local issues in the area such as location, size of area, number of customers, number of systems, and need and ability of systems to plan together. The planning units are Adair (Columbia/Adair County Water Commission and Columbia/Adair Utilities District), Bronston/Burnside (Bronston Water Association and Burnside Municipal Water Works), Campbellsville (Campbellsville Municipal Water & Sewer System), Casey (East Casey County Water District and Liberty Water & Gas), Clinton (Albany Municipal Water & Sewer), Cumberland (Burkesville Municipal Water Works and Cumberland County Water District), Eubank/Science Hill (City of Eubank Water System and Science Hill Water Works), Green-Taylor (Green-Taylor Water District), Greensburg (Greensburg Water Department), McCreary (McCreary County Water District), Russell (Jamestown Utilities and Russell Springs Sewer & Water Works), Somerset (Somerset Utilities), Southeastern (Southeastern Water Association), Wayne (Monticello Utility Commission), and Western (Western Pulaski County Water District).

# Lake Cumberland Area Development District

## Project Ranking Methodology



The Lake Cumberland Regional Water Management Council uses a point based ranking system to rank the needs of the area. Each local system was asked to submit their most needed projects to the Council for ranking. Projects were scored on a series of criteria including Type of Project, Regionalism, Shovel Readiness, Funding Status, and Local Need. Additional bonus points were assigned at the discretion of the Council for projects deemed most deserving. In the event of a tie, the project's Cost per Connection was used as the deciding factor.

The following point criterion was approved by the Lake Cumberland Regional Water Management Council on September 3, 2015 and will be used to rank projects on December 3, 2015:

### Type of Project (up to 20 points assigned)

#### Unserved – Points based on number of households served per mile

- Average 9 or greater households per mile - 20
- Average 5-6 households per mile - 18
- Average 3-4 households per mile - 15
- Average 1-2 households per mile - 10
- Average of less than 1 household per mile – 5

#### Underserved – Points based on percentage of total customer base impacted

- 80-100% of total customer base impacted - 20
- 60-79% of total customer base impacted - 19
- 40-59% of total customer base impacted - 18
- 20-39% of total customer base impacted- 15
- 10-19% of total customer base impacted - 10
- Less than 10% of total customer base impacted - 5

#### Industrial/Commercial – Points based on number of jobs created/retained

- 100 or more new jobs created or jobs retained - 20
- 75-99 new jobs created or jobs retained - 19
- 50-74 new jobs created or jobs retained - 18
- 20-49 new jobs created or jobs retained - 15
- 10-19 new jobs created or jobs retained - 10
- Less than 10 new jobs created or jobs retained - 5
- Other – 3 points assigned for projects not meeting the above types
- Combination – Most favorable listed category plus an additional 3 points

### Project Delivery (up to 20 points assigned)

- Regional - 20 points
- Non-Regional – 5 points

### Project Status (up to 20 points assigned)

- Engineering Plans and specs submitted to DOW - 20 points
- Preliminary Engineering Report completed - 15 points
- Engineering procurement completed – 10 points
- Preliminary planning by system - 5 points

Funding Status (up to 20 points assigned)

- Projects with estimated costs greater than \$100,000
- Funding committed for 50% or more - 20 points
- Funding committed for 25-49% or more - 15 points
- Funding committed for 1-24% - 10 points
- Pending applications - 3 points
- Projects with estimated costs of \$100,000 or less - 10 points

Local Need (up to 20 points assigned)

Points assigned based on the planning unit ranking

- 1st – 20 points
- 2nd – 16 points
- 3rd – 13 points
- 4th – 11 points
- 5th – 9 points
- 6th – 7 points
- 7th – 6 points
- 8th – 5 points
- 9th – 4 points
- 10th – 3 points
- 11th – 2 points
- 12th – 1 points
- 13th or higher – 0 points

Council Input (up to 10 points assigned)

- Council assigns 10 bonus points to 15% of projects
- Special consideration is given to any project that addresses an agreed order, tap-on-ban, NOV, or other specific violation from the Kentucky Division of Water.

Tie Breaker (no points assigned)

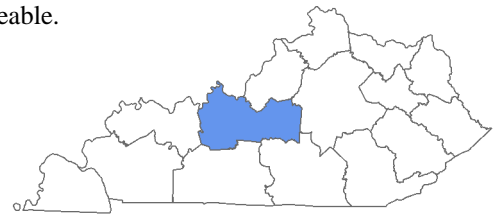
- Cost per connection - only used to break point based ties
- Lowest cost per connection is ranked highest

### Project Rankings For Lake Cumberland Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21217025</a>	2017 Water System Improvements	3-5 Years	Not Funded	\$2,735,000	Taylor	1	1
<a href="#">WX21147033</a>	MCWD - Marshes Siding 1.0 MG Storage Tank	3-5 Years	Not Funded	\$2,800,000	McCreary	2	1
<a href="#">WX21147028</a>	Stearns to Smithtown Phase 1 - Water Line Replacements	3-5 Years	Not Funded	\$1,139,000	McCreary	3	2
<a href="#">WX21147015</a>	Stearns to Smithtown Phase 2 - Water Line Replacements	3-5 Years	Not Funded	\$964,000	McCreary	4	3
<b>Total Cost:</b>				<b>\$7,638,000</b>			

# Lincoln Trail Area Development District (LTADD)

- 2010 census population of 269,117 (116,687 households) with 95% serviceable.
- Projected 2020 population of 295,040 (change of 25,923).
- 5,074.67 miles of existing water lines.
- 364.00 miles of line extensions proposed in the next 10 years.
- 37.00 miles of line rehabilitation proposed in the next 10 years.
- 42.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$172,770,263.
- Estimated funding needs for projects from 6 to 10 years: \$290,400.
- Average age of structures: water treatment plants is 47 years; water tanks is 26 years.
- Total number of interconnected systems is 26.
- 101 miles of asbestos concrete pipe currently in use.
- 1,590 miles of water lines less than 15 years old.
- 496 miles of water lines between 15 and 30 years old.
- 1,047 miles of water lines between 31 and 50 years old.
- 1,382 miles of water lines between 51 and 70 years old.
- \$ 71 miles of water lines greater than 70 years old.



Lincoln Trail Area Development District has a 2010 census population count of 269,117 (116,687 households) with a projected 2020 population count of 295,040 (117,392 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 2,500 serviceable households will be added through the construction of 364.00 miles of water line extensions and approximately 110,797 instances of improved service through the rehabilitation of 37.00 miles of existing water lines and other appurtenances. 42.00 miles of transmission lines are also proposed within this district.

**County Summary for Lincoln Trail Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Breckinridge	20,059	10,630	21,489	8,788	7,904	74%	\$ 35,051,422
Grayson	25,746	13,561	27,048	11,007	13,358	99%	\$ 17,203,038
Hardin	105,543	43,261	116,612	46,055	42,646	99%	\$ 77,071,485
Larue	14,193	6,172	14,961	6,069	6,138	99%	\$ 9,446,000
Marion	19,820	8,182	21,424	8,332	8,093	99%	\$ 6,363,260
Meade	28,602	11,762	30,901	11,964	10,390	88%	\$ 14,104,858
Nelson	43,437	18,075	50,119	20,219	17,832	99%	\$ 8,530,600
Washington	11,717	5,044	12,486	4,958	4,944	98%	\$ 5,290,000
<b>Totals</b>	<b>269,117</b>	<b>116,687</b>	<b>295,040</b>	<b>117,392</b>	<b>111,305</b>	<b>95%</b>	<b>\$ 173,060,663</b>



## Community Drinking Water Systems in Lincoln Trail Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0140079</a>	Cloverport Water & Sewer System	Breckinridge	1,112	552
<a href="#">KY0140966</a>	Hardinsburg Water Department	Breckinridge	11,494	6,482
<a href="#">KY0140206</a>	Irvington Water System	Breckinridge	1,419	655
<a href="#">KY0430063</a>	Caneyville Municipal Water Works	Grayson	1,667	816
<a href="#">KY0430616</a>	Grayson County Water District	Grayson	14,122	6,997
<a href="#">KY0430244</a>	Leitchfield Utilities	Grayson	6,534	2,902
<a href="#">KY0470990</a>	Hardin Co. Water District No. 1 Fort Knox System	Hardin	10,069	2,948
<a href="#">KY0470175</a>	Hardin County Water District #2	Hardin	66,757	28,086
<a href="#">KY0470393</a>	Hardin County Water District No. 1	Hardin	26,846	11,470
<a href="#">KY0470440</a>	Vine Grove Water Department	Hardin	4,344	1,823
<a href="#">KY0470455</a>	West Point Water Department	Hardin	898	473
<a href="#">KY0620200</a>	Hodgenville Water Works	Larue	4,045	1,746
<a href="#">KY0620237</a>	Larue County Water District #1	Larue	9,062	3,865
<a href="#">KY0780241</a>	Lebanon Water Works Co Inc	Marion	6,115	2,840
<a href="#">KY0780268</a>	Marion County Water District	Marion	14,705	5,775
<a href="#">KY0820041</a>	Brandenburg Water Works	Meade	3,318	1,420
<a href="#">KY0820369</a>	Meade County Water District	Meade	15,936	6,188
<a href="#">KY0820481</a>	Muldraugh Water Department	Meade	941	537
<a href="#">KY0900017</a>	Bardstown Municipal Water Department	Nelson	25,496	10,790
<a href="#">KY0900031</a>	Bloomfield Water & Sewer Department	Nelson	4,372	1,871
<a href="#">KY0900312</a>	New Haven Municipal Water Works	Nelson	1,357	581
<a href="#">KY0900323</a>	North Nelson Water District	Nelson	10,926	4,333
<a href="#">KY1150415</a>	Springfield Water & Sewer Commission	Washington	10,414	4,499
		<b>Totals:</b>	251,949	107,649

# Lincoln Trail Area Development District Regional Water Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Increase Storage Capacity**

## **Discussion of Area Development District Needs:**

The Lincoln Trail ADD region has experienced moderate growth in the more urban areas and urban fringes and slow to stagnant growth in the small, rural communities. This has presented different challenges to each area. The concentrations of population in Hardin and Nelson Counties has focused attention on meeting growing demand needs with upgraded facilities (greater capacities).

The least densely populated areas of the region in Breckinridge and Meade Counties still have large geographic areas without potable water but they have made significant progress in reaching areas expressing interest in public water. There is still some need to meet isolated unserved populations; however, the remaining unserved households are very sparsely settled and the cost per household and potential maintenance and water quality issues will be difficult to overcome.

The smaller, more rural communities have seen slow to negative growth and face increasing pressure to repair and replace aging lines and facilities. Many lines in downtown areas were constructed in the 1940's and 1950's and are nearing their life expectancy and their capacities. Treatment facilities in those communities are also facing outdated technologies, difficulty in meeting new regulatory requirements and, high cost of operation (inefficiency). The smaller systems also face unique challenges in keeping qualified personnel as their populations age and decline. They find it difficult to compete financially for experienced personnel or to train new personnel.

Area systems that serve rural or wide geographic populations have difficulties in maintaining water quality in the face of increasing regulations and limitations, particularly those associated with disinfection by-products. A balance between adequate storage and frequent turnover of water supplies is difficult to meet. Projects that aid in reducing disinfection by-product development (tank mixing, automatic flushing, etc.) may become increasingly important.

Overall, the district's utilities have done well in adjusting to new demands but on the horizon, financial burdens may prevent many smaller systems from making necessary repairs and upgrades.

## **Description and Determination of Planning Units:**

Planning units in the Lincoln Trail Region are primarily set by county boundaries. They generally compose a large enough geographic area and small enough grouping of utilities to provide reasonable interaction, feedback, and information to be a useful planning unit. Two Counties do not have a "County Water District" that is responsible for unserved rural populations - Breckinridge and Washington. The City of Hardinsburg in Breckinridge County has taken on the challenge of serving the rural population while Washington County has formed the Springfield Water Commission that has county responsibility.

## Lincoln Trail Area Development District Project Ranking Methodology



The Lincoln Trail Area Water Management Planning Council will be meeting on December 3rd to do our yearly water and wastewater project prioritization. Our prioritization process is adapted from an outline previously developed by KIA and Senate Bill 409. The process is hopefully inclusive and allows for discussion at the local level to improve understanding of a project's intent and impact.

In the past month we've held a County Advisory Committee meeting in each County. Those meetings are hosted by each County Judge/Executive (as the Advisory chairperson) with each local utility, Mayor, and local Health Department invited to participate. All proposed projects are reviewed by the committee and given an initial score based upon how the project meets five criteria (project type, regional connections, design status, funding status, and local need). Most of the discussion by each County committee is centered on how projects address the greatest local needs. Since there can be diverse interests represented, committee members must work together to determine what needs are most important in their community and what projects will meet them. Discussions, while lively in some cases, also serve as a forum to hear about important things affecting local utilities and share information that impacts all of our communities.

After all the County Advisory meetings have taken place, the Area Water Management Council meets to finalize the priorities and adopt the regional list. ADD Staff provides a summary tabulation of profile points based upon the Advisory Committee recommendations. The Council then reviews the list and discusses any changes. In the past two years, the Council has only included the top five projects from each County Advisory group to be ranked in the prioritization list.

Project prioritization is provided to the KY Infrastructure Authority and to LRC. In the past, the prioritization list has been utilized by the General Assembly for KIA line item funding; but given the current budget situation, we are not optimistic for that happening. Although no federal funding pools use our prioritization list, nearly all the funding programs are using portions of the WRIS project profile to feed information for their applications and funding decisions so it is important that we continue the process to help our region produce good infrastructure projects that meet locally expressed needs.

If you would like more information on the process or if you have further questions, please feel free to contact Aaron Hawkins or me at the ADD.

### Profile Scoring Criteria for ranked projects:

Project type [20 points max to 5 points min.]: matched to the primary project activities

Unserved (customers / mile): 7+ /mile=20 pts, 5-6 /mile=15 pts, 3-4 /mile=10 pts, 2 < /mile=5 pts;

Underserved/Improved Service (% of system improved): 75-100%=20 pts, 50-75%=15 pts, 25-49%=10 pts, <25% / maintenance = 5 pts;

Economic Development (# of jobs assisted) 25+ committed= 20pts, 15-24 committed= 15pts, less than 15 committed= 10pts, no quantified jobs= 5 pts;

Other (technical improvements, feasibility studies, etc.) = 10 points

Regional Connection

Regional [20 points] project that connects or merges 2 or more systems for the sale or production of water or wastewater treatment;

Increased connectivity [10 points]: improved existing connection or emergency connection;

Non-regional [5 points]

Design Status: Division of Water approved plans (20 pts.); Preliminary Engineering Report completed (15 pts.); Engineer procured for final design (10 pts.); Engineer developed profile (5 pts.)

Funding Status: The percentage of cost committed from local sources

50% or more from local sources= 20pts,

25-49% from local sources= 15pts,

less than 25% from local or submitted applications (CDBG, RD, KIA, etc)= 10pts,

other= 5pts.

Local Need:

Most important project within the planning unit (20 pts);

2nd most important project (16 pts);

3rd most important project (13 pts);

4th most important project (11 pts);

5th most important project (9 pts).

Only the top five in each planning unit are generally scored for local need.

### Project Rankings For Lincoln Trail Area Development District

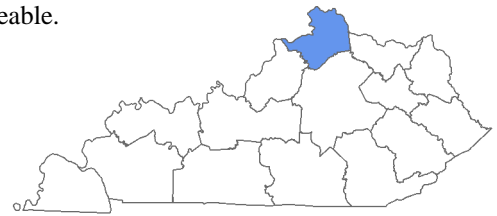
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21093044</a>	Hardin Co. Water District No. 1 Hwy 313 & 1882 Transmission Main	0-2 Years	Not Funded	\$1,570,000	Hardin	1	3
<a href="#">WX21163016</a>	Phase VIII Water System Improvements/ Meade Co. Water District	3-5 Years	Not Funded	\$2,000,000	Meade	2	2
<a href="#">WX21229013</a>	SWSC / Marion Co. W.D. Interconnection	3-5 Years	Not Funded	\$1,000,000	Washington	3	2
<a href="#">WX21027028</a>	City of Hardinsburg - Extension Area A	3-5 Years	Not Funded	\$1,243,180	Breckinridge	4	1
<a href="#">WX21155034</a>	Marion Co. Water District Tank Improvements Phase II	6-10 Years	Not Funded	\$290,400	Marion	5	1
<a href="#">WX21085033</a>	Leitchfield WTP Upgrade and Expansion	3-5 Years	Not Funded	\$7,500,000	Grayson	6	1
<a href="#">WX21229012</a>	Beech Fork Raw Water Intake	3-5 Years	Not Funded	\$500,000	Washington	7	1
<a href="#">WX21155036</a>	Marion County Water District Lebanon Bypass Elevated Tank	3-5 Years	Not Funded	\$2,055,000	Marion	8	2
<a href="#">WX21027046</a>	Cloverport Service Line Replacement & Extension	3-5 Years	Not Funded	\$430,810	Breckinridge	9	2
<a href="#">WX21093039</a>	HCWD #1 - New Elevated Storage Tank	3-5 Years	Not Funded	\$4,000,000	Hardin	10	1
<a href="#">WX21163007</a>	Brandenburg Old State Road Replacement	3-5 Years	Not Funded	\$300,000	Meade	11	1
<a href="#">WX21179014</a>	Bloomfield Water System Improvements	3-5 Years	Not Funded	\$800,000	Nelson	12	1
<a href="#">WX21123025</a>	Larue Co. W.D. - Hwy 84 Pump Station	3-5 Years	Not Funded	\$250,000	Larue	13	1
<a href="#">WX21163022</a>	Flaherty Water Transmission Main	0-2 Years	Not Funded	\$1,999,175	Meade	14	3
<a href="#">WX21027008</a>	Rehabilitation of Irvington Water System	3-5 Years	Not Funded	\$1,004,055	Breckinridge	15	3
<a href="#">WX21155023</a>	Lebanon Water Works Co. Calvary Rd Waterline Replacement	3-5 Years	Not Funded	\$1,200,000	Marion	16	3
<a href="#">WX21093009</a>	HCWD #2 New Elevated Tank	3-5 Years	Not Funded	\$2,500,000	Hardin	17	2
<a href="#">WX21027029</a>	City of Hardinsburg - Extension Area B	3-5 Years	Not Funded	\$837,180	Breckinridge	18	4
<a href="#">WX21155035</a>	Marion County Water District Telemetry Project	0-2 Years	Not Funded	\$265,200	Marion	19	4
<a href="#">WX21229010</a>	Springfield - Willisburg Lake Improvements	3-5 Years	Not Funded	\$1,500,000	Washington	20	3
<a href="#">WX21179024</a>	New Haven Downtown Waterline Replacement	3-5 Years	Not Funded	\$250,000	Nelson	21	2
<a href="#">WX21123021</a>	Hodgenville Shepherdsville Road Line Extension Project	3-5 Years	Not Funded	\$250,000	Larue	23	3
<a href="#">WX21179010</a>	North Nelson Hwy 245 Replacement	3-5 Years	Not Funded	\$450,500	Nelson	24	4
<a href="#">WX21163023</a>	Muldraugh Finished Water Connection	3-5 Years	Not Funded	\$455,000	Meade	25	4
<a href="#">WX21027030</a>	City of Hardinsburg - Extension Area C	3-5 Years	Not Funded	\$1,299,020	Breckinridge	26	5
<a href="#">WX21123024</a>	Larue Co. Water District #1 GIS Technology	0-2 Years	Not Funded	\$85,000	Larue	27	4
<a href="#">WX21085007</a>	City of Leitchfield-Water Tower	3-5 Years	Not Funded	\$1,325,000	Grayson	28	3
<a href="#">WX21179015</a>	Bloomfield Water Line Extensions and Telemetry	3-5 Years	Not Funded	\$675,000	Nelson	29	3
<a href="#">WX21123020</a>	Hodgenville Smith Plaza Tower Replacement/Upgrade	3-5 Years	Not Funded	\$300,000	Larue	30	2
<a href="#">WX21229005</a>	City of Springfield Waterline Replacement/Upgrade	3-5 Years	Not Funded	\$1,000,000	Washington	31	4
<a href="#">WX21093018</a>	HCWD No. 2, 2020 Project Phase VI	3-5 Years	Not Funded	\$4,800,000	Hardin	32	4
<a href="#">WX21155022</a>	Marion County Water District McElroy Phase 2 Water System Extens	3-5 Years	Not Funded	\$660,000	Marion	33	5
<a href="#">WX21085023</a>	Grayson Co. Water District - Tank Mixing Upgrades	3-5 Years	Not Funded	\$250,000	Grayson	34	4
<a href="#">WX21093034</a>	HCWD#2 Cecilia Pump Station Emergency Power	3-5 Years	Not Funded	\$500,000	Hardin	35	5
<a href="#">WX21085024</a>	City of Caneyville- Tank Mixing Upgrade	3-5 Years	Not Funded	\$250,000	Grayson	36	5
<a href="#">WX21179009</a>	North Nelson KY 48 / Murrays Run & Samuels Upgrade	0-2 Years	Not Funded	\$398,100	Nelson	37	5

### Project Rankings For Lincoln Trail Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21229006</a>	Springfield New Raw Water Pump	3-5 Years	Not Funded	\$750,000	Washington	38	5
<b>Total Cost:</b>				<b>\$44,942,620</b>			

# Northern Kentucky Area Development District (NKADD)

- 2010 census population of 438,647 (185,049 households) with 97% serviceable.
- Projected 2020 population of 488,377 (change of 49,730).
- 3,568.20 miles of existing water lines.
- 437.00 miles of line extensions proposed in the next 10 years.
- 52.00 miles of line rehabilitation proposed in the next 10 years.
- 3.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$204,251,725.
- Estimated funding needs for projects from 6 to 10 years: \$40,140,592.
- Average age of structures: water treatment plants is 39 years; water tanks is 10 years.
- Total number of interconnected systems is 24.
- 45 miles of asbestos concrete pipe currently in use.
- 692 miles of water lines less than 15 years old.
- 804 miles of water lines between 15 and 30 years old.
- 1,561 miles of water lines between 31 and 50 years old.
- 215 miles of water lines between 51 and 70 years old.
- \$ 265 miles of water lines greater than 70 years old.



Northern Kentucky Area Development District has a 2010 census population count of 438,647 (185,049 households) with a projected 2020 population count of 488,377 (194,345 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,025 serviceable households will be added through the construction of 437.00 miles of water line extensions and approximately 294,371 instances of improved service through the rehabilitation of 52.00 miles of existing water lines and other appurtenances. 3.00 miles of transmission lines are also proposed within this district.

**County Summary for Northern Kentucky Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Boone	118,811	46,154	153,933	59,951	44,336	96%	\$ 36,337,457
Campbell	90,336	39,523	91,642	37,713	38,588	98%	\$ 53,396,668
Carroll	10,811	4,696	11,440	4,408	4,619	98%	\$ 4,359,376
Gallatin	8,589	3,786	9,264	3,592	3,711	98%	\$ 661,500
Grant	24,662	9,942	26,917	9,870	9,798	99%	\$ 62,365,063
Kenton	159,720	68,975	168,458	68,111	67,766	98%	\$ 48,523,240
Owen	10,841	5,634	11,336	4,713	4,849	86%	\$ 13,893,318
Pendleton	14,877	6,339	15,387	5,987	5,810	92%	\$ 24,855,695
<b>Totals</b>	<b>438,647</b>	<b>185,049</b>	<b>488,377</b>	<b>194,345</b>	<b>179,477</b>	<b>97%</b>	<b>\$ 244,392,317</b>



## Community Drinking Water Systems in Northern Kentucky Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0080034</a>	Boone County Water District	Boone	75,972	27,865
<a href="#">KY0081013</a>	Boone-Florence Water Commission	Boone	91	57
<a href="#">KY0080135</a>	Florence Water & Sewer Commission	Boone	30,736	13,441
<a href="#">KY0080442</a>	Walton Waterworks Department	Boone	3,902	1,556
<a href="#">KY0210066</a>	Carroll County Water District #1	Carroll	5,930	2,863
<a href="#">KY0210067</a>	Carrollton Utilities	Carroll	4,695	1,999
<a href="#">KY0210008</a>	West Carroll Water District - Carrollton	Carroll	2,375	1,047
<a href="#">KY0210637</a>	West Carroll Water District - Milton	Carroll	95	50
<a href="#">KY0390130</a>	Gallatin County Water District	Gallatin	5,292	2,228
<a href="#">KY0390444</a>	Warsaw Water Works	Gallatin	1,988	948
<a href="#">KY0410047</a>	Bullock Pen Water District	Grant	19,247	7,409
<a href="#">KY0410662</a>	Corinth Water District	Grant	2,964	1,310
<a href="#">KY0410107</a>	Dry Ridge Water Works Commission	Grant	2,042	813
<a href="#">KY0410472</a>	Williamstown Municipal Water Department	Grant	4,622	1,978
<a href="#">KY0590220</a>	Northern Kentucky Water District	Kenton	242,881	105,597
<a href="#">KY0960051</a>	Butler Water Works	Pendleton	617	284
<a href="#">KY0960112</a>	East Pendleton Water District	Pendleton	5,123	2,178
<a href="#">KY0960126</a>	Falmouth Water Department	Pendleton	2,568	1,179
<a href="#">KY0960348</a>	Pendleton County Water District #1 North	Pendleton	4,844	1,975
<a href="#">KY0960499</a>	Pendleton County Water District #1 South	Pendleton	1,392	569
		<b>Totals:</b>	417,376	175,346

# Northern Kentucky Area Development District Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Repair and Replace Existing Infrastructure**

## Discussion of Area Development District Needs:

The Northern Kentucky Area Development District's eight counties each have unique challenges. The urban counties have issues with aging infrastructure in the cities in the northern parts, population growth in the suburbs in the middle, and unserved, low density population areas in the south. The rural counties have areas of low density that are a challenge to serve in an economically viable manner, aging infrastructure in the cities, and in some cases, water plants that are at or near capacity.

## Description and Determination of Planning Units:

The Northern Kentucky Area Development District is composed of the eight counties of Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, and Pendleton.

### Regional Overview - Northern Kentucky ADD

The Northern Kentucky Development District region had an estimated population of 185,000 households in 2012 with a projected population of 194,000 households in 2020. There are approximately 3000 miles of water lines in the region serving about 178,000 households, or about 96% of the region's population. 465 miles of proposed water line extensions for the period 2012-2020 would provide service to an additional 3500 households. About 17,500 people in the region rely on private domestic water systems: 1,500 on wells and 16,000 on hauled water and other sources.

There are 35 public and semi-public water systems serve the region: 19 community systems, 6 non-community systems and 2 non-transient non-community systems.

The NKADD Water Management Council reviewed the water systems and their service areas located within the Northern Kentucky Area Development District. The Council designated the Northern Kentucky Area Development District boundary as the regional management area. Within NKADD, the following water systems and their respective water management planning areas were designated by the Council:

1. Boone County Water Management Planning Area
  - Boone County Water District
  - Florence Water & Sewer Commission
  - Walton Waterworks Department
2. Kenton/Campbell Water Management Planning Area
  - Northern Kentucky Water District
3. Carroll County Water Management Planning Area
  - Carrollton Utilities
  - West Carroll Water District
  - Carroll County Water District #1
4. Gallatin County Water Management Planning Area
  - Gallatin County Water District
  - Warsaw Water Works
5. Grant County Water Management Planning Area
  - Bullock Pen Water District
  - Corinth Water District
  - Dry Ridge Water Works Commission
  - Williamstown Municipal Water Department
6. Owen County Water Management Planning Area
  - Kentucky American Water Company
7. Pendleton County Water Management Planning Area
  - Pendleton County Water District #1
  - East Pendleton Water District
  - Butler Water Works
  - Falmouth Water Department

# **Northern Kentucky Area Development District Project Ranking Methodology**



The Water Management Council created a subcommittee to develop a ranking methodology for NKADD. This was based on the methodology created by KIA along with modifications instituted by other ADDs. A point system was developed that looked at several aspects of the projects based on the following criteria:

- Consolidation or regionalization of systems
- Local rankings
- Number of unserved/underserved customers affected
- Cost per household
- Amount of planning and development work completed
- Capacity to provide wastewater service (for waterline extensions)
- Local funding

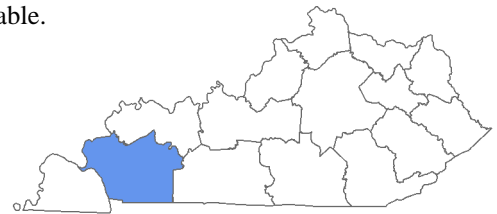
A meeting is held with each Planning Unit to rank their projects. The projects are scored using a matrix developed from the established criteria. At the Water Management Council meeting, these scores are used to rank the projects for the whole ADD. NKADD uses a tiered system so that each Planning Unit's number one project is in the top 8: the highest number one project is first, the second highest number one project is second, the third highest number one project is third ... until all of the projects ranked by the Planning Units are ranked for the whole ADD.

### Project Rankings For Northern Kentucky Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21191005</a>	Butler Water and Sewer Rehabilitation Project	0-2 Years	Not Funded	\$927,382	Pendleton	1	1
<a href="#">WX21081007</a>	Bullock Pen Improvements Phase 15	0-2 Years	Not Funded	\$3,121,000	Grant	2	1
<a href="#">WX21041005</a>	Carroll County Regional Nexus Project	0-2 Years	Not Funded	\$3,889,376	Carroll	3	1
<a href="#">WX21037310</a>	NKWD - Campbell County Unserved and Underserved Project 2012 - Subdistrict J	0-2 Years	Not Funded	\$5,202,600	Campbell	4	11
<a href="#">WX21015400</a>	Boone County Rural Water Project - Phase II	0-2 Years	Partially Funded	\$9,910,000	Boone	5	1
<a href="#">WX21117212</a>	NKWD - Covington Water Main Replacement Project	0-2 Years	Not Funded	\$5,000,000	Kenton	6	1
<a href="#">WX21081204</a>	City of Dry Ridge - 2008 Water System Improvements	3-5 Years	Not Funded	\$267,000	Grant	7	2
<a href="#">WX21015301</a>	Boone-Florence Water Commission - Northwest Water Storage Tank	0-2 Years	Not Funded	\$5,000,000	Boone	8	2
<a href="#">WX21117303</a>	NKWD - Kenton County Unserved Water Project 2013 (Subdistrict O)	0-2 Years	Not Funded	\$3,965,808	Kenton	9	2
<a href="#">WX21037311</a>	NKWD - Newport/Bellevue/Dayton Water Main Replacement Project	0-2 Years	Not Funded	\$5,000,000	Campbell	10	22
<a href="#">WX21015510</a>	Goodridge Avenue Water Main Relining	0-2 Years	Not Funded	\$600,000	Boone	11	3
<a href="#">WX21081005</a>	City of Dry Ridge 200,000 Gallon Elevated Tank	0-2 Years	Not Funded	\$785,735	Grant	12	3
<a href="#">WX21117210</a>	Taylor Mill Treatment Plant Emergency Generator	0-2 Years	Not Funded	\$4,800,000	Kenton	13	3
<a href="#">WX21081006</a>	BPWD Looped Water Lines, Phase 14	0-2 Years	Fully Funded	\$869,600	Grant	14	4
<b>Total Cost:</b>				<b>\$49,338,501</b>			

# Pennyriple Area Development District (PEADD)

- 2010 census population of 219,305 (97,910 households) with 95% serviceable.
- Projected 2020 population of 226,580 (change of 7,275).
- 5,158.36 miles of existing water lines.
- 172.00 miles of line extensions proposed in the next 10 years.
- 122.00 miles of line rehabilitation proposed in the next 10 years.
- 11.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$196,543,890.
- Estimated funding needs for projects from 6 to 10 years: \$37,198,908.
- Average age of structures: water treatment plants is 43 years; water tanks is 28 years.
- Total number of interconnected systems is 55.
- 844 miles of asbestos concrete pipe currently in use.
- 1,017 miles of water lines less than 15 years old.
- 386 miles of water lines between 15 and 30 years old.
- 1,970 miles of water lines between 31 and 50 years old.
- 1,319 miles of water lines between 51 and 70 years old.
- \$ 531 miles of water lines greater than 70 years old.



Pennyriple Area Development District has a 2010 census population count of 219,305 (97,910 households) with a projected 2020 population count of 226,580 (89,133 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 996 serviceable households will be added through the construction of 172.00 miles of water line extensions and approximately 99,012 instances of improved service through the rehabilitation of 122.00 miles of existing water lines and other appurtenances. 11.00 miles of transmission lines are also proposed within this district.

**County Summary for Pennyriple Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Caldwell	12,984	6,292	12,948	5,518	6,219	99%	\$ 10,481,433
Christian	73,955	29,459	77,840	28,340	26,626	90%	\$ 60,469,873
Crittenden	9,315	4,569	9,156	3,775	4,334	95%	\$ 3,010,000
Hopkins	46,920	21,180	48,007	19,684	20,677	98%	\$ 11,963,959
Livingston	9,519	4,824	9,438	4,074	4,651	96%	\$ 5,056,000
Lyon	8,314	4,791	8,523	3,430	4,671	98%	\$ 2,878,000
Muhlenberg	31,499	13,699	31,466	12,337	13,255	97%	\$ 15,362,632
Todd	12,460	5,286	12,958	4,989	5,053	96%	\$ 110,445,500
Trigg	14,339	7,810	16,244	6,986	7,633	98%	\$ 14,075,401
<b>Totals</b>	<b>219,305</b>	<b>97,910</b>	<b>226,580</b>	<b>89,133</b>	<b>93,119</b>	<b>95%</b>	<b>\$ 233,742,798</b>

## Community Drinking Water Systems in Pennyriple Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0170528</a>	Caldwell County Water District	Caldwell	5,105	2,449
<a href="#">KY0170146</a>	Fredonia Water Department	Caldwell	721	327
<a href="#">KY0170360</a>	Princeton Water & Wastewater Commission	Caldwell	7,008	3,442
<a href="#">KY0240521</a>	Christian County Water District	Christian	15,760	6,641
<a href="#">KY0240201</a>	Hopkinsville Water Environment Authority	Christian	36,222	16,439
<a href="#">KY0240329</a>	Oak Grove Water Department	Christian	8,049	3,555
<a href="#">KY0280267</a>	Marion Water Department	Crittenden	3,034	1,489
<a href="#">KY0540958</a>	Dawson Springs Water & Sewer System	Hopkins	2,641	1,253
<a href="#">KY0540108</a>	Earlington Water & Sewer Department	Hopkins	1,452	727
<a href="#">KY0540656</a>	Hanson Water System	Hopkins	1,149	452
<a href="#">KY0540936</a>	Madisonville Municipal Utilities	Hopkins	21,931	10,223
<a href="#">KY0540269</a>	Mortons Gap Water Department	Hopkins	866	402
<a href="#">KY0540977</a>	Nebo Water District	Hopkins	3,769	1,552
<a href="#">KY0540138</a>	North Hopkins Water District	Hopkins	3,096	1,307
<a href="#">KY0540328</a>	Nortonville Water Department	Hopkins	2,144	918
<a href="#">KY0540406</a>	South Hopkins Water District	Hopkins	6,970	3,130
<a href="#">KY0540465</a>	White Plains Water Department	Hopkins	1,552	667
<a href="#">KY0700532</a>	Crittenden-Livingston County Water District	Livingston	9,039	4,512
<a href="#">KY0700162</a>	Grand Rivers Water System	Livingston	2,000	1,154
<a href="#">KY0700243</a>	Ledbetter Water District	Livingston	2,725	1,210
<a href="#">KY0700380</a>	Salem Municipal Water System	Livingston	750	360
<a href="#">KY0700401</a>	Smithland Water & Sewer System	Livingston	497	261
<a href="#">KY0720113</a>	Eddyville Water Department	Lyon	2,893	1,121
<a href="#">KY0720227</a>	Kuttawa Water Department	Lyon	764	407
<a href="#">KY0720933</a>	Lyon County Water District	Lyon	4,032	2,917
<a href="#">KY0890071</a>	Central City Municipal Water & Sewer System	Muhlenberg	4,787	2,217
<a href="#">KY0890106</a>	Drakesboro Water & Sewer	Muhlenberg	665	308
<a href="#">KY0890170</a>	Greenville Utilities Commission	Muhlenberg	4,728	2,131
<a href="#">KY0890302</a>	Muhlenberg County Water District #1	Muhlenberg	14,013	6,161
<a href="#">KY0890304</a>	Muhlenberg County Water District #3	Muhlenberg	4,968	2,227
<a href="#">KY1100121</a>	Elkton Utilities	Todd	2,167	957
<a href="#">KY1100171</a>	Guthrie Water Works	Todd	1,399	639
<a href="#">KY1100944</a>	Todd County Water District	Todd	8,467	3,760
<a href="#">KY1100428</a>	Trenton Water Works	Todd	584	269
<a href="#">KY1110019</a>	Barkley Lake Water District	Trigg	10,254	5,934
<a href="#">KY1110054</a>	Cadiz Water & Sewer Commission	Trigg	3,940	1,818
		<b>Totals:</b>	200,141	93,336

# **Pennyrile Area Development District Regional Water Needs Assessment**



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Increase Storage Capacity**

## **Discussion of Area Development District Needs:**

The Pennyrile Area has a lot of varied projects but at this time the majority of our needs fall under the heading of replacing aging infrastructure. This category ranges from replacing aging lines and pumps to replacing tanks and plants. At this time, a large majority of the lines and infrastructure in the Pennyrile region is approaching its designed lifespan. Each system is unique and has different needs but the overall trend is to replace aging cast iron pipe, aging AC (asbestos concrete) lines, and aging pvc lines with newer pvc and ductile iron. One of the problems that we are running into is the sheer scope of the replacement projects. In many situations we find that a system needs to replace large sections of their lines or infrastructure. The reason for these large scale replacement projects is that whole sections of the systems were installed during one large project. In the cases of some small municipalities these older projects can cover most of the city. Why do these projects need to be addressed? It is because an aging system costs money. These aging systems are inefficient and expensive to maintain. As an area ages it takes more time and resources to address the problems that arise. When a problem area is fixed it frees up manpower and resources which can be used for system maintenance, expansion, and rate stabilization.

The secondary need in the Pennyrile region is an offshoot of the primary need. In many cases the systems do not need to just replace an aging tank but increase the amount of available storage and lines feeding the new structure. Tanks in general are a long term investment for a system. These structures provide the backbone of the system providing pressure and short term storage to the customers. As water systems grow and expand an undersized tank can become a large problem. These undersized tanks can create low pressure zones, bottle necks in the system, and increased pumping and production times at the water treatment plants.

## **Description and Determination of Planning Units:**

The planning units in the Pennyrile region are based on the existing county boundaries. By keeping the planning units based on the county boundaries the systems are familiar with the political structure and the current relationship between them and their neighbors. Currently the Pennyrile region has nine planning units (Caldwell County, Christian County, Crittenden County, Hopkins County, Livingston County, Lyon County, Muhlenberg County, Todd County, and Trigg County). These planning units vary in number of systems from as little as two to as many as ten. In each of these instances the county based planning units seem to work well for the Pennyrile region. Many of the counties systems have grown interconnected and interdependent over the last several years. These relationships help foster cooperation and county/regional planning.



## **Pennyrile Area Development District Project Ranking Methodology**



Each year, the Water Management Council of the Pennyrile Area Development District (PADD) completes a ranking process of water and wastewater projects in the region. This is a “grassroots” process as it begins at the local (system) level and ends with all projects being ranked on a regional basis.

We begin the process with county-wide ranking meetings during which all water/wastewater systems meet with the PADD Water Management Coordinator and their respective County Judge Executive. We discuss the individual projects from each system and rank them according to the priorities within the county. These rankings are then used in the overall regional ranking process.

The PADD Water Management Council has elected to use a point system to determine the overall regional ranking of each project. Projects are ranked based on five categories; Project Type (Unserved Customers, Underserved Customers, and Aging Infrastructure), Regionalization, Level of Engineering/Project Status, Funding Status, and Local Importance. Projects may receive up to 20 points in each category except for regionalization. The Water Management Council recognizes the increasing importance of regionalization and has weighted this category heavier. Overall, a project can achieve 110 points. In the instances where two project score the same numerical value the Water Council has elected to use a simple cost analysis to break the tie. The system that is serving the most people with the least amount of money receives the higher ranking (cost of the project/number of customers served).

### Project Rankings For Pennyrile Area Development District

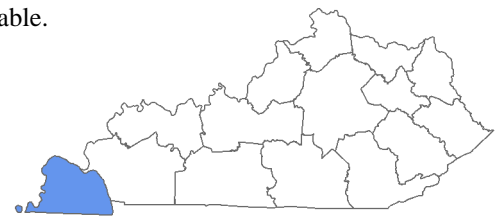
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21221015</a>	Cadiz Water Treatment Plant Project	0-2 Years	Not Funded	\$5,562,500	Trigg	1	1
<a href="#">WX21107034</a>	South Hopkins Water District - Waterline Extension & Tank	3-5 Years	Not Funded	\$1,224,004	Hopkins	2	1
<a href="#">WX21143006</a>	City of Kuttawa - Water Quality Project	3-5 Years	Partially Funded	\$200,000	Lyon	3	1
<a href="#">WX21219032</a>	Logan/Todd - 12" Waterline Upgrade (Elkton to Allender's Hill)	3-5 Years	Unknown	\$0	Todd	4	1
<a href="#">WX21047019</a>	Oak Grove - Hugh Hunter Road Waterline Replacement	0-2 Years	Not Funded	\$865,000	Christian	5	1
<a href="#">WX21055013</a>	Marion - Sludge Basin Rehabilitation	3-5 Years	Not Funded	\$375,000	Crittenden	6	1
<a href="#">WX21139013</a>	Grand Rivers - Waterline Replacement Project	3-5 Years	Not Funded	\$850,000	Livingston	7	1
<a href="#">WX21177033</a>	MCWD #3 - Pump Station Efficiency Upgrade	0-2 Years	Not Funded	\$47,250	Muhlenberg	8	1
<a href="#">WX21033019</a>	Caldwell County Water District - U.S. Hwy 62 Area Water System Improvements	3-5 Years	Not Funded	\$1,456,561	Caldwell	9	1
<a href="#">WX21143011</a>	City of Kuttawa - I-24 Water Storage Tank	3-5 Years	Not Funded	\$700,000	Lyon	10	2
<a href="#">WX21107041</a>	Nebo - Water System Improvements	3-5 Years	Partially Funded	\$106,282	Hopkins	11	2
<a href="#">WX21047038</a>	Christian Count Water District - Phase VIII Upgrade Project	3-5 Years	Partially Funded	\$2,500,000	Christian	12	2
<a href="#">WX21177036</a>	Central City - Tank Rehabilitation	0-2 Years	Not Funded	\$500,000	Muhlenberg	13	3
<a href="#">WX21055011</a>	CLWD - Line Extensions (Crittenden)	3-5 Years	Not Funded	\$975,000	Crittenden	14	2
<a href="#">WX21219033</a>	Elkton - Water System Rehabilitation and Upgrade project	3-5 Years	Unknown	\$0	Todd	15	2
<a href="#">WX21221014</a>	Barkley Lake Water District - Sludge Storage Lagoon Improvements	3-5 Years	Not Funded	\$349,901	Trigg	16	2
<a href="#">WX21047035</a>	Christian County Water District - Waterline Replacement & Extension	3-5 Years	Not Funded	\$3,818,000	Christian	17	5
<a href="#">WX21177037</a>	MCWD #1 - Cornett Road Replacement	3-5 Years	Not Funded	\$100,000	Muhlenberg	18	2
<a href="#">WX21033018</a>	Princeton - Tank Rehabilitation	3-5 Years	Not Funded	\$300,000	Caldwell	19	2
<a href="#">WX21221013</a>	Cadiz - Line Rehabilitation - Will Jackson Road Hwy 778	3-5 Years	Not Funded	\$962,500	Trigg	20	3
<a href="#">WX21221008</a>	Barkley Lake Water District - Water Line Extension	3-5 Years	Not Funded	\$3,850,000	Trigg	21	4
<a href="#">WX21047036</a>	Christian County Water District Princeton Road Tank & System Upgrade	3-5 Years	Not Funded	\$1,750,000	Christian	22	3
<a href="#">WX21107008</a>	Madisonville Noel Av Line Replacement	3-5 Years	Not Funded	\$587,600	Hopkins	23	3
<a href="#">WX21047027</a>	HWEA - Crofton Water Line Replacement	6-10 Years	Not Funded	\$4,060,995	Christian	24	7
<a href="#">WX21219023</a>	Logan-Todd Rwc/Guthrie - Clarksville, Tn Interconnection	6-10 Years	Not Funded	\$13,000,000	Todd	25	8
<a href="#">WX21047004</a>	HWEA - Crofton Water Main Extension Project	6-10 Years	Not Funded	\$6,165,541	Christian	26	8
<a href="#">WX21219014</a>	Trenton - Water System Improvements	3-5 Years	Not Funded	\$400,000	Todd	27	3
<a href="#">WX21107044</a>	White Plains - Red Hill Road Ph. III Christian County Interconne	3-5 Years	Not Funded	\$155,000	Hopkins	28	4
<a href="#">WX21143012</a>	City of Eddyville - Automated Meter Reading	3-5 Years	Not Funded	\$260,000	Lyon	29	3
<a href="#">WX21143013</a>	City of Kuttawa - Automated Meter Reading System	3-5 Years	Not Funded	\$150,000	Lyon	30	4
<a href="#">WX21139018</a>	Grand Rivers - Newbern Road Water Line Extension	3-5 Years	Not Funded	\$175,000	Livingston	31	3
<a href="#">WX21219008</a>	Guthrie Water System Rehabilitation Project	0-2 Years	Not Funded	\$1,300,000	Todd	32	4
<a href="#">WX21033017</a>	Fredonia - Tank Rehabilitation	3-5 Years	Not Funded	\$200,000	Caldwell	33	3
<a href="#">WX21177023</a>	Muhlenberg County Water District #1 - System Rehabilitation	3-5 Years	Not Funded	\$584,397	Muhlenberg	34	4

### Project Rankings For Pennyrile Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21107025</a>	White Plains - Phase 2 Red Hill Tank, Pump Station and Waterline Extension	3-5 Years	Not Funded	\$670,000	Hopkins	35	5
<a href="#">WX21139022</a>	Ledbetter - Holland Road Main Extension	3-5 Years	Not Funded	\$300,000	Livingston	36	5
<a href="#">WX21219024</a>	Elkton - Water Storage Tank Improvements	3-5 Years	Not Funded	\$200,000	Todd	37	5
<a href="#">WX21107029</a>	White Plains - Concord Tank & Pump Station	3-5 Years	Not Funded	\$770,000	Hopkins	38	6
<a href="#">WX21047003</a>	HWEA Hopkinsville Water Main Extension Project	3-5 Years	Not Funded	\$8,163,337	Christian	39	9
<a href="#">WX21033013</a>	Caldwell County Water District - Emergency Standby Generators	3-5 Years	Not Funded	\$100,000	Caldwell	40	4
<a href="#">WX21221010</a>	Barkley Lake Water District - Emergency Standby Generators	3-5 Years	Not Funded	\$643,500	Trigg	41	5
<a href="#">WX21177028</a>	Greenville - AMR Project	3-5 Years	Not Funded	\$335,000	Muhlenberg	42	5
<a href="#">WX21047031</a>	Christian County Water District - Waterline Extensions (10)	3-5 Years	Not Funded	\$1,800,000	Christian	43	6
<a href="#">WX21143004</a>	Lyon County Water District - Emergency Standby Generators	3-5 Years	Not Funded	\$100,000	Lyon	44	5
<a href="#">WX21143005</a>	Kuttawa - Emergency Standby Generators	3-5 Years	Not Funded	\$100,000	Lyon	45	6
<a href="#">WX21107009</a>	Madisonville Dozier Heights Waterline Replacement	3-5 Years	Not Funded	\$354,413	Hopkins	46	7
<a href="#">WX21177018</a>	Muhlenberg County Water District Nebo Pump Station, Watermain & Tank	3-5 Years	Not Funded	\$1,175,985	Muhlenberg	47	6
<a href="#">WX21139025</a>	CLWD - Line Extensions (Livingston)	3-5 Years	Not Funded	\$565,000	Livingston	48	7
<a href="#">WX21219019</a>	Logan-Todd Regional Water Commission - WTP Debt Reduction	3-5 Years	Not Funded	\$59,120,000	Todd	49	6
<a href="#">WX21033012</a>	Caldwell County Water District - Rd Debt Reduction	3-5 Years	Not Funded	\$500,000	Caldwell	50	6
<a href="#">WX21219029</a>	Guthrie - Emergency Standby Generators	3-5 Years	Not Funded	\$60,000	Todd	51	7
<a href="#">WX21107021</a>	White Plains - US 62/Concord Ch. Rd. - MG Int. (P2)	6-10 Years	Not Funded	\$210,000	Hopkins	52	8
<a href="#">WX21107031</a>	Dawson Springs - Emergency Standby Generators	3-5 Years	Not Funded	\$438,099	Hopkins	53	9
<a href="#">WX21047029</a>	HWEA - Hopkinsville Industrial Foundation Commerce Park West Loop	3-5 Years	Not Funded	\$210,000	Christian	54	10
<a href="#">WX21107033</a>	South Hopkins Water District - Emergency Standby Generators	3-5 Years	Not Funded	\$566,989	Hopkins	55	10
<a href="#">WX21047002</a>	HWEA - Crofton 750K Tank & Water Main Replacement	6-10 Years	Not Funded	\$2,545,000	Christian	56	11
<a href="#">WX21047032</a>	HWEA Water Meter Replacement and AMR	6-10 Years	Not Funded	\$6,000,000	Christian	57	12
<b>Total Cost:</b>				<b>\$138,457,854</b>			

# Purchase Area Development District (PUADD)

- 2010 census population of 196,393 (93,709 households) with 79% serviceable.
- Projected 2020 population of 201,697 (change of 5,304).
- 2,180.30 miles of existing water lines.
- 15.00 miles of line extensions proposed in the next 10 years.
- 476.00 miles of line rehabilitation proposed in the next 10 years.
- 10.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$102,766,029.
- Estimated funding needs for projects from 6 to 10 years: \$7,326,440.
- Average age of structures: water treatment plants is 35 years; water tanks is 39 years.
- Total number of interconnected systems is 20.
- 642 miles of asbestos concrete pipe currently in use.
- 258 miles of water lines less than 15 years old.
- 158 miles of water lines between 15 and 30 years old.
- 822 miles of water lines between 31 and 50 years old.
- 552 miles of water lines between 51 and 70 years old.
- \$ 391 miles of water lines greater than 70 years old.



Purchase Area Development District has a 2010 census population count of 196,393 (93,709 households) with a projected 2020 population count of 201,697 (86,121 households). Public water is currently available to approximately 79 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,042 serviceable households will be added through the construction of 15.00 miles of water line extensions and approximately 34,858 instances of improved service through the rehabilitation of 476.00 miles of existing water lines and other appurtenances. 10.00 miles of transmission lines are also proposed within this district.

**County Summary for Purchase Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Ballard	8,249	3,885	8,217	3,484	1,856	48%	\$ 2,465,050
Calloway	37,191	18,065	40,411	17,019	12,195	68%	\$ 6,190,100
Carlisle	5,104	2,441	4,947	2,093	951	39%	\$ 11,889,978
Fulton	6,813	3,372	6,223	2,728	2,955	88%	\$ 2,201,523
Graves	37,121	16,777	37,630	15,459	11,469	68%	\$ 24,592,282
Hickman	4,902	2,342	4,625	1,938	904	39%	\$ 410,176
McCracken	65,565	31,079	66,621	29,278	29,480	95%	\$ 28,881,180
Marshall	31,448	15,748	33,023	14,122	14,275	91%	\$ 33,462,180
<b>Totals</b>	<b>196,393</b>	<b>93,709</b>	<b>201,697</b>	<b>86,121</b>	<b>74,085</b>	<b>79%</b>	<b>\$ 110,092,469</b>

## Community Drinking Water Systems in Purchase Area Development District County

Note: Serviceable counts include households outside the area development district.

PWSID	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0040020</a>	Barlow Water System	Ballard	741	385
<a href="#">KY0040223</a>	Kevil Water Department	Ballard	1,413	668
<a href="#">KY0040228</a>	LaCenter Municipal Water Company	Ballard	1,065	499
<a href="#">KY0040469</a>	Wickliffe Municipal Water System	Ballard	1,001	466
<a href="#">KY0180509</a>	Center Ridge #2	Calloway	116	119
<a href="#">KY0180502</a>	Center Ridge #3	Calloway	87	59
<a href="#">KY0180549</a>	Center Ridge Water District	Calloway	36	54
<a href="#">KY0180102</a>	Dexter Almo Heights Water District	Calloway	2,128	922
<a href="#">KY0180308</a>	Murray Water District #2	Calloway	725	331
<a href="#">KY0180306</a>	Murray Water System	Calloway	21,763	10,301
<a href="#">KY0180185</a>	South 641 Water District	Calloway	725	357
<a href="#">KY0180914</a>	Stella Trailer Park	Calloway	45	23
<a href="#">KY0200009</a>	Arlington Water Department	Carlisle	387	197
<a href="#">KY0200018</a>	Bardwell City Utilities	Carlisle	796	430
<a href="#">KY0200095</a>	Cunningham Water District	Carlisle	306	147
<a href="#">KY0200284</a>	Milburn Water District	Carlisle	311	144
<a href="#">KY0380149</a>	Fulton Municipal Water System	Fulton	3,283	1,763
<a href="#">KY0380193</a>	Hickman Water Department	Fulton	2,867	1,298
<a href="#">KY0420084</a>	Graves County Water District (Consumers)	Graves	4,882	2,133
<a href="#">KY0420027</a>	Graves County Water District (Fancy Farm)	Graves	1,216	528
<a href="#">KY0420172</a>	Graves County Water District (Hardeman)	Graves	873	405
<a href="#">KY0420194</a>	Graves County Water District (Hickory)	Graves	3,303	1,503
<a href="#">KY0420534</a>	Graves County Water District (Sedalia)	Graves	281	129
<a href="#">KY0420405</a>	Graves County Water District (South Graves)	Graves	2,333	1,059
<a href="#">KY0420274</a>	Mayfield Electric & Water System	Graves	10,710	5,015
<a href="#">KY0420423</a>	Symsonia Water District	Graves	703	362
<a href="#">KY0420475</a>	Wingo Water & Sewer Department	Graves	704	308
<a href="#">KY0530083</a>	Columbus Water Works	Hickman	193	96
<a href="#">KY0530077</a>	Utilities Inc.	Hickman	1,510	705
<a href="#">KY0790029</a>	Benton Water & Sewer System	Marshall	6,560	2,961
<a href="#">KY0790056</a>	Calvert City Municipal Water Department	Marshall	3,564	1,606
<a href="#">KY0790173</a>	Hardin Water Department	Marshall	1,724	779
<a href="#">KY0790216</a>	Jonathan Creek Water District	Marshall	4,525	2,728
<a href="#">KY0790319</a>	North Marshall Water District	Marshall	10,946	5,706
<a href="#">KY0730533</a>	Paducah Water Works	McCracken	59,157	28,243
<a href="#">KY0730454</a>	West McCracken County Water District	McCracken	3,757	1,622
		<b>Totals:</b>	154,736	74,051

# Purchase Area Development District Regional Water Needs Assessment



Primary Need: **Develop Long-term Planning That Allows for Sustainability**

Secondary Need: **Extend Services to Unserved Areas**

## **Discussion of Area Development District Needs:**

The majority of systems within the Purchase Area are smaller and have different needs than the larger, more self-sustaining systems. Long-term planning needs to be a major focus within these systems. The fallacy some systems fall into is being too focused on the short-term (day-to-day operations) and fail to acknowledge their Long-term needs and goals. A major issue for these smaller systems are their rate structure. Current rate structures must be updated to not only reflect a systems short-term priorities but allow for Long-term sustainability that will permit them to replace or repair the existing infrastructure.

The Purchase Area like the rest of the state has the majority of its area is covered as far as access to public water. There are a few areas that can still be reached with public water which is the secondary need for this area. The unserved areas that are still in need of public water are the rural areas. For the utilities to extend new service is very cost prohibitive since the areas are not heavily populated. Also the groundwater in the Purchase Area is very good and a lot of the unserved customers are not having problems with their private wells and there has not been a huge need to extend service to this areas.

## **Description and Determination of Planning Units:**

The Purchase Area Development District is divided into eight separate planning units, which are based on the eight counties in the Purchase Area. The planning units are: Ballard County planning unit, Calloway County planning unit, Carlisle County planning unit, Fulton County planning unit, Graves County planning unit, Hickman County planning unit, Marshall County planning unit, and McCracken County planning unit.

In the Ballard County planning unit there are four water systems (City of Barlow, City of Kevil, City of Lacercenter and City of Wickliffe) that serve approximately 1,936 serviceable households in Ballard County.

The Center Ridge Water District, Center Ridge Water District #2, Center Ridge Water District #3, Dexter-Almo Heights Water District, the City of Murray, Murray Water District #2, Murray Water District #3, South 641 Water District, and the Stella Trailer Park water system make up the seven water systems in the Calloway County planning unit and serve approximately 12,190 serviceable households.

The Carlisle County planning unit is comprised of four water systems (City of Arlington, City of Bardwell, Cunningham Water District, and the Milburn Water District) that serve approximately 951 serviceable households.

The Fulton County planning unit has two water systems (City of Fulton and City of Hickman) that serve approximately 2,955 serviceable households.

The Graves County planning unit also has nine water systems (Graves County Water District (Consumers), Graves County Water District (Fancy Farm), Graves County Water District (Hardeman), Graves County Water District (South Graves), Hickory Water District, Mayfield Electric & Water System, Sedalia Water District, Symsonia Water District, and the City of Wingo) that serve approximately 11,469 serviceable households in Graves County.

The Water Service Corporation of Kentucky and the City of Columbus are the two water systems in the Hickman County planning unit and serves approximately 906 serviceable households.

The Marshall County planning unit has five water systems. With those systems being the City of Benton, Calvert City, City of Hardin, Jonathan Creek Water District, and the North Marshall Water District. Together these systems serve approximately 14,267 serviceable households.

Paducah Water Works along with the West McCracken County Water District make up the McCracken County planning unit. These two systems serve approximately 29,458 serviceable households of McCracken County.

# Purchase Area Development District

## Project Ranking Methodology



The Purchase Area Water Management Council uses a drinking water ranking criteria to establish a regional priority list for water projects in the Purchase Area.

The drinking water ranking criteria consists of five separate categories.

### Project Type:

1. Elimination of a Public Water System through a merger- project will receive 25 points if a public water system is being eliminated by merging with other system.
2. Elimination of a water treatment plant through an interconnection- projects will receive 23 points if system is eliminated their WTP and setting up an interconnection with another system to purchase water and will still be a separate system after the interconnection is complete.
3. Rehabilitation and/or replacing aging infrastructure- projects will receive 20 points if an utility is rehabbing any infrastructure within their system.
4. Construction of supplemental potable or raw water supply- projects will receive 17 points if an utility is constructing a new well to supplement their existing supply or an utility is constructing a new interconnect to supplement their existing interconnections.
5. Construction of a new WTP or expansion- projects will receive 15 points if an utility is constructing a new WTP, either to replace the old WTP or a secondary WTP, or if the utility is expanding the capacity of the existing WTP.
6. Construction of new water storage tank- projects will receive 10 points if an utility is constructing a water storage tank to supplement their existing tanks.
7. Extension of service to unserved households- project will receive 20 points if the proposed project will add an average of 9 or more new customers per mile, 19 points for an average of 7-8 new customers per mile, 18 points for an average of 5-6 new customers per mile, 15 points for an average of 3-4 new customers per mile, and 10 points for an average of 1-2 new customers per mile.

### Compliance and Enforcement:

A project will receive 5 points if the utility is using this project to achieve full or partial compliance with a court or agreed order.

### Funding Status

Projects that are 50%-99% funded and they receive 10 points, the second section is for projects that are 1%-49% funded and they receive 5 points. Any projects that are not funded receive zero points for this category.

### Project Status

This category has three sections and a project can receive points in all sections if the utility has completed them. The first section is Engineering plans and specs submitted to DOW, a project will receive 15 points if this step has been completed. The second section is Preliminary engineering report complete, a project will receive 10 points if this step is completed. The third section is Estimated engineer's budget complete, a project will receive 5 points if this step is complete.

### County Ranking

In this category, projects will receive points based on their county ranking. A number one ranked project in the county will receive 24 points, a number two ranked project in the county will receive 20 points, a number three ranked project in the county will receive 16 points, a number four ranked project in the county will receive 14 points, and a number five ranked project in the county will receive 12 points. Only the top 5 projects in each county will be ranked regionally. In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

In the event of a tie-breaker between projects, the cost per household will be used to break the tie.



### Project Rankings For Purchase Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">WX21157007</a>	City of Benton-Line Replacement Along Main Street	0-2 Years	Not Funded	\$1,255,500	Marshall	1	1
<a href="#">WX21035037</a>	Clearwell at Water Treatment Plant	0-2 Years	Not Funded	\$2,000,000	Calloway	2	1
<a href="#">WX21083016</a>	Douthitt Street 6in Water Line Extension	0-2 Years	Not Funded	\$68,135	Graves	3	1
<a href="#">WX21145014</a>	West McCracken County Water District- Tank Mixers	3-5 Years	Not Funded	\$65,000	McCracken	4	1
<a href="#">WX21083021</a>	Water Line Extension to Wildwood Subdivision	0-2 Years	Not Funded	\$296,270	Graves	5	2
<b>Total Cost:</b>				<b>\$3,684,905</b>			



# Wastewater



# Kentucky

- 2010 census population of 4,339,367 (1,927,164 households) with 61% serviceable.
- Projected 2020 population of 4,672,754 (change of 333,387).
- 20,880 miles of existing sewer lines.
- 18 new sewage treatment plants proposed in the next 10 years.
- 1,837 miles of line extensions proposed in the next 10 years.
- 431 miles of line rehabilitation proposed in the next 10 years.
- 389 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$1,723,945,266.
- Estimated funding needs for projects from 6 to 10 years: \$366,522,071.
- Average age of wastewater treatment plants is 30 years.
- Total number of interconnected systems is 44.
- 2,647 miles of sewer lines less than 15 years old.
- 4,247 miles of sewer lines between 15 and 30 years old.
- 4,791 miles of sewer lines between 31 and 50 years old.
- 3,335 miles of sewer lines between 51 and 70 years old.
- 2,157 miles of sewer lines greater than 70 years old.



## Area Development District Demographic and Asset Condition Summary

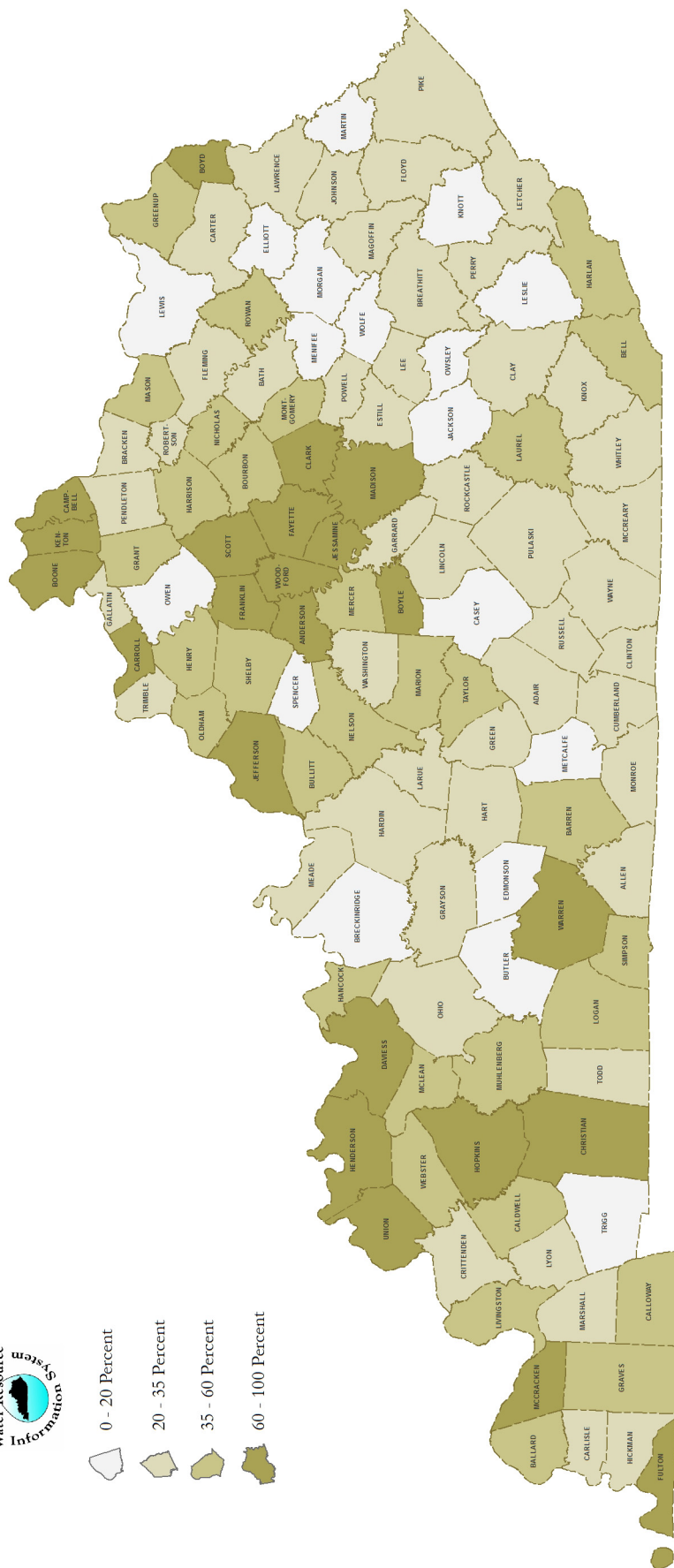
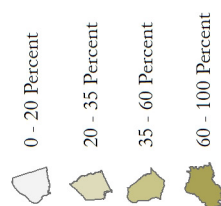
Area Development District	2010 Population	2020 Population	Serviceable Population	Percent Serviceable	Planned Cost 0 to 10 Years		
Bluegrass Area Development District	770,404	862,521	564,801	74%	\$ 561,203,875		
Barren River Area Development District	284,195	316,297	125,399	44%	\$ 155,809,034		
Big Sandy Area Development District	154,093	148,051	36,386	24%	\$ 151,039,300		
Buffalo Trace Area Development District	56,478	58,306	19,013	35%	\$ 32,300,050		
Cumberland Valley Area Development District	236,618	237,501	77,102	33%	\$ 215,805,615		
Five County Area Development District	137,884	139,098	71,478	53%	\$ 132,037,650		
Green River Area Development District	213,472	220,544	134,465	64%	\$ 78,604,112		
Gateway Area Development District	81,652	87,651	36,052	41%	\$ 23,090,458		
Kentuckiana Regional Planning and Development Agency	959,091	1,058,343	827,416	88%	\$ 155,557,038		
Kentucky River Area Development District	114,762	111,267	26,397	23%	\$ 84,770,361		
Lake Cumberland Area Development District	207,256	221,481	56,374	27%	\$ 93,323,151		
Lincoln Trail Area Development District	269,117	295,040	107,181	41%	\$ 92,510,583		
Northern Kentucky Area Development District	438,647	488,377	354,423	81%	\$ 47,607,511		
Pennyryle Area Development District	219,305	226,580	109,243	51%	\$ 138,013,842		
Purchase Area Development District	196,393	201,697	95,409	49%	\$ 128,794,757		
Demographic Totals	4,339,367	4,672,754	2,641,139	61%	\$ 2,090,467,337		
Area Development District	Average WWTP Age (yrs)	KISOPs	Lines < 15 yrs (mi)	Lines 15 to 30 yrs (mi)	Lines 31 to 50 yrs (mi)	Lines 51 to 70 yrs (mi)	Lines > 70 yrs (mi)
Bluegrass Area Development District	27	4	472	738	1,052	609	411
Barren River Area Development District	35	1	209	210	490	60	8
Big Sandy Area Development District	23	1	102	197	14	57	2
Buffalo Trace Area Development District	31	1	97	34	64	58	0
Cumberland Valley Area Development District	33	2	165	112	239	141	37
Five County Area Development District	36	8	57	235	196	92	6
Green River Area Development District	39	7	171	189	284	159	220
Gateway Area Development District	24	0	67	209	70	19	0
Kentuckiana Regional Planning and Development Agency	32	1	564	1,157	1,048	708	514
Kentucky River Area Development District	23	1	109	51	84	24	0
Lake Cumberland Area Development District	24	3	132	119	182	37	81
Lincoln Trail Area Development District	32	3	159	152	93	341	6
Northern Kentucky Area Development District	22	3	108	676	683	411	219
Pennyryle Area Development District	38	7	132	131	160	200	402
Purchase Area Development District	31	2	103	37	132	419	251
Asset Condition Averages and Totals:	30	44	2,647	4,247	4,791	3,335	2,157

# Percent of Households Serviceable by Public Wastewater Systems in 2010

Prepared By:  
Kentucky Infrastructure Authority

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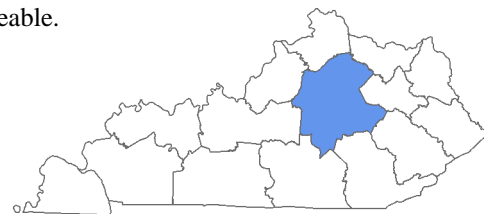
February, 2015





# Bluegrass Area Development District (BGADD)

- 2010 census population of 770,404 (340,939 households) with 74% serviceable.
- Projected 2020 population of 862,521 (change of 92,117).
- 3,282.06 miles of existing sewer lines.
- 261.00 miles of line extensions proposed in the next 10 years.
- 72.00 miles of line rehabilitation proposed in the next 10 years.
- 110.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$435,182,625.
- Estimated funding needs for projects from 6 to 10 years: \$126,021,250.
- Average age of wastewater treatment plants is 27 years.
- Total number of interconnected systems is 4.
- 472 miles of sewer lines less than 15 years old.
- 738 miles of sewer lines between 15 and 30 years old.
- 1,052 miles of sewer lines between 31 and 50 years old.
- 609 miles of sewer lines between 51 and 70 years old.
- 411 miles of sewer lines greater than 70 years old.



Bluegrass Area Development District has a 2010 census population count of 770,404 (340,939 households) with a projected 2020 population count of 862,521 (355,488 households). Public sewer is currently available to approximately 74 percent of the district's households based on 2010 census counts. Over the next ten years approximately 7,428 serviceable households will be added through the construction of 261.00 miles of sewer line extensions and approximately 98,886 instances of improved service through the rehabilitation of 72.00 miles of existing sewer lines and other appurtenances. 110.00 miles of interceptor lines are also proposed within this district.

**County Summary for Bluegrass Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Anderson	21,421	9,127	23,555	9,582	5,749	63%	\$ 4,205,000
Bourbon	19,985	8,927	20,530	8,478	5,312	60%	\$ 16,554,000
Boyle	28,432	12,312	29,048	11,782	8,643	70%	\$ 15,299,676
Clark	35,613	15,706	37,985	15,800	11,106	71%	\$ 38,433,250
Estill	14,672	6,865	14,359	6,115	2,280	33%	\$ 47,873,000
Fayette	295,803	135,160	334,733	141,152	131,252	97%	\$ 109,698,885
Franklin	49,285	23,164	50,777	21,761	17,084	74%	\$ 66,096,005
Garrard	16,912	7,463	19,122	7,917	1,854	25%	\$ 5,023,288
Harrison	18,846	8,208	19,640	8,006	3,189	39%	\$ 5,432,400
Jessamine	48,586	19,331	58,928	22,184	14,439	75%	\$ 93,672,742
Lincoln	24,742	10,819	26,170	10,762	2,692	25%	\$ 10,545,420
Madison	82,916	35,043	95,333	38,093	21,955	63%	\$ 71,643,854
Mercer	21,331	9,941	21,810	9,299	4,349	44%	\$ 33,763,226
Nicholas	7,135	3,261	7,411	3,012	1,262	39%	\$ 2,330,000
Powell	12,613	5,598	12,319	4,860	1,924	34%	\$ 5,991,139
Scott	47,173	19,303	63,984	25,538	13,093	68%	\$ 3,170,000
Woodford	24,939	10,711	26,817	11,147	7,309	68%	\$ 31,471,990
<b>Totals</b>	<b>770,404</b>	<b>340,939</b>	<b>862,521</b>	<b>355,488</b>	<b>253,492</b>	<b>74%</b>	<b>\$ 561,203,875</b>



## Public Sewer Systems in the Bluegrass Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0021067</a>	Lawrenceburg Water and Sewer	Anderson	13,344	5,749
<a href="#">KY0020940</a>	Millersburg Sewer Department	Bourbon	831	430
<a href="#">KY0031836</a>	North Middletown Sewer Treatment Plant	Bourbon	664	279
<a href="#">KY0090654</a>	Paris Sewer Department	Bourbon	10,102	4,610
<a href="#">KY0028355</a>	Danville - Perryville WWTP	Boyle	866	407
<a href="#">KY0057193</a>	Danville Municipal Sewer System	Boyle	19,226	8,339
<a href="#">KY0037991</a>	Winchester Municipal Utilities	Clark	25,141	11,106
<a href="#">KY0025909</a>	Irvine Municipal Utilities	Estill	4,656	2,280
<a href="#">KY0021491</a>	LFUCG - Town Branch	Fayette	121,836	54,556
<a href="#">KY0022861</a>	Frankfort Sewer Department	Franklin	34,505	17,094
<a href="#">KY0020974</a>	Lancaster Wastewater Treatment Plant and Sewer Department	Garrard	3,991	1,854
<a href="#">05011006</a>	Berry Sewer System	Harrison	288	118
<a href="#">KY0076635</a>	Cedarbrook Subdivision	Harrison	131	45
<a href="#">KY0105856</a>	Cynthiana Sewer Department	Harrison	6,537	3,023
<a href="#">KYP000072</a>	Jessamine South Elkhorn Water District	Jessamine	1,667	741
<a href="#">KY0021504</a>	LFUCG - West Hickman	Jessamine	164,940	76,737
<a href="#">KY0100404</a>	Nicholasville Sewer Department	Jessamine	29,008	11,814
<a href="#">KY0028428</a>	Wilmore Sewer Department	Jessamine	5,243	1,843
<a href="#">KY0065897</a>	Crab Orchard Sewer Department	Lincoln	894	447
<a href="#">KY0024619</a>	Stanford Sewer Department	Lincoln	4,851	2,142
<a href="#">KY0079898</a>	Berea Sewer Department	Madison	13,846	5,735
<a href="#">KY0102971</a>	Northern Madison County Sanitation District - Battlefield Estates	Madison	1,313	563
<a href="#">KY0056561</a>	Northern Madison County Sanitation District - Executive Park Subdivision	Madison	195	89
<a href="#">KYP000071</a>	Northern Madison County Sanitation District - Greens Crossing	Madison	790	362
<a href="#">KY0105376</a>	Northern Madison County Sanitation District - Regional Plant	Madison	2,662	1,028
<a href="#">KY0107107</a>	Richmond Utilities - Otter Creek	Madison	31,848	13,957
<a href="#">KY0103357</a>	Richmond Utilities - Silver Creek	Madison	378	215
<a href="#">KY0027421</a>	Harrodsburg Sewer Department	Mercer	8,778	4,126
<a href="#">KYP000080</a>	Mercer County Sanitation District	Mercer	402	211
<a href="#">KY0020923</a>	Carlisle Sewer Department	Nicholas	2,253	1,148
<a href="#">KIA181001</a>	Nicholas County Sanitation District #2	Nicholas	183	107
<a href="#">KYP000084</a>	Clay City WWTP	Powell	1,213	585
<a href="#">KY0104078</a>	Powells Valley Water District Sewer Division	Powell	71	59
<a href="#">KY0034428</a>	Red River Wastewater Authority	Powell	2,921	1,280
<a href="#">KY0020150</a>	GMWSS STP #1	Scott	28,330	11,731
<a href="#">KY0082007</a>	GMWSS STP #2	Scott	2,712	1,001
<a href="#">KY0050512</a>	GMWSS STP #3 - Stamping Ground	Scott	803	359
<a href="#">KY0028410</a>	Midway Sewer Department	Woodford	1,723	752
<a href="#">KY0020621</a>	Versailles Municipal Wastewater	Woodford	15,614	6,547
		<b>Totals:</b>	564,756	253,469

# Bluegrass Area Development District Regional Wastewater Needs Assessment



Primary Need: **Extend Services to Unserved**

Secondary Need: **Repair and Replace Existing Infrastructure Areas**

## **Discussion of Area Development District Needs:**

The Bluegrass Area Development District (BGADD) estimates that approximately 946 persons do not have access to a community water supply out of a 2010 population of 770,404 people. This is consistent with a water-unserved population of about 0.13 percent and a water-served population of about 99.87 percent. The high percentage of access to public water within the BGADD has resulted in an increased need to access to public sewer service. The highest ranking projects in many of the planning units (Lincoln County Phase 1 Sewer Project, Georgetown/Scott County South Sewer Extension, Wisemantown Sewer Extensions, etc.) recognized the need to extend service to previously unserved populations. Extending service to unserved populations will also have positive side effects on public health, the environment and compliance with the Clean Water Act.

The secondary need is to repair and replace existing infrastructure. As new infrastructure is constructed, old and failing septic systems, straight pipes, etc. can be replaced with new and more efficient equipment. Upgrading old and failing infrastructure will also help meet the needs of growing communities.

## **Description and Determination of Planning Units:**

The seventeen counties within our district are split up into seven (7) groups of two (2) to three (3) counties. These counties are adjacent to each other and have the potential to work on regional projects together. The Planning Units are designated as follows:

Planning Unit 1 Meeting - Estill and Powell

Planning Unit 2 Meeting – Bourbon, Harrison and Nicholas

Planning Unit 3 Meeting – Boyle, Garrard and Lincoln

Planning Unit 4 Meeting – Anderson and Mercer

Planning Unit 5 Meeting – Franklin, Scott and Woodford

Planning Unit 6 Meeting – Fayette and Jessamine

Planning Unit 7 Meeting – Clark and Madison

# Bluegrass Area Development District

## Project Ranking Methodology



The Bluegrass Area Water Management Council will examine the following criteria in the ranking of water and wastewater projects for 2015:

To that end, a scoring matrix will be developed with an available score between zero and 20 for the following seven categories:

1. **Project Type:** This category was broken down into three sections. More credit was given for projects that required new capital infrastructure. Less credit was given for projects that are considered improvement or replacement capital infrastructure. Projects that were considered to be maintenance were given the least amount of credit. The maximum possible score for this category is 20 points.

New Capital: 14-20 points

Improvement/Replacement Capital: 7-13 points

Maintenance: 0-6 points

2. **Threshold:** The size of the utility should be taken into account when considering the content/cost of the project. The maximum score for this category is 20 points.

Small Utilities (Less than 3,300 connections): \$50,000 Minimum Threshold

Medium Utilities (3,301 – 10,000 connections): \$250,000 Minimum Threshold

Large Utilities (Greater than 10,001 connections): \$500,000 Minimum Threshold

Does not meet threshold: 0 points

Meets threshold: 20 points

3. **Cost Effectiveness:** Is this project cost effective? What is the cost per household for this project? The maximum possible score for this category is 20 points.

Cost per Household

Less than \$5,000: 16-20 points

\$5,001 – \$10,000: 11-15 points

\$10,001 – \$15,000: 6-10 points

Greater than \$15,001: 0-5 points

4. **Regionalization:** Projects in which inter-local cooperation could in some way be demonstrated would receive more consideration than projects that were simply local in nature. Regional projects in general, tend to promote efficiency and effectiveness in utility delivery service. Projects that satisfy the following categories will score points accordingly. The maximum possible score for this category is 10 points.

This project eliminates existing facilities or redundancy: 2 points

This project serves more than one system/city/county: 2 points

This project is for new construction: 2 points

This project will replace/rehab existing facilities: 2 points

This project has an MOU or inter-local agreement in place: 2 points

5. **Local Rankings:** Planning units are the first step in the project ranking process. These smaller meetings composed of two and three county groups are able to identify local priorities better than the region as a whole. Things to consider during the local ranking meeting should include but are not limited to: Is the project construction ready? Have other funding sources already been committed? Is utility or community currently under any kind of enforcement actions? A project that was first-ranked at its local ranking would

receive 30 points in the scoring category; a second-ranked project, 28 points; a third-ranked project, 26 points, etc, and finally a tenth ranked project, 12 points.

6. Executive Council Ranking: The Water Management Executive Council will review submitted projects. Prior to submission to the Executive Council all projects will have been scored based on the above criteria.

A given project, if top-ranked in every category, could score 120 points.

Executive Council recommendations to the full Bluegrass Water Management Council can be modified by the full Council.

### Project Rankings For Bluegrass Area Development District

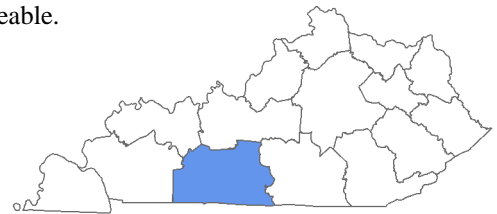
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21209012</a>	Georgetown/Scott County South Sewer Extension	0-2 Years	Partially Funded	\$2,820,000	Scott	1	1
<a href="#">SX21049028</a>	Hampton Manor Outfall Sewer	0-2 Years	Not Funded	\$1,404,000	Clark	2	1
<a href="#">SX21113025</a>	Wilmore WWTP Sludge Handling Improvements	0-2 Years	Partially Funded	\$3,710,000	Jessamine	3	1
<a href="#">SX21067048</a>	West Hickman WWTP Wet Weather Storage Tanks - Phase I	0-2 Years	Partially Funded	\$71,303,742	Fayette	4	3
<a href="#">SX21073029</a>	Phase I Collection System & 0.75 MGD WWTP	0-2 Years	Partially Funded	\$12,250,000	Franklin	5	2
<a href="#">SX21005006</a>	Lawrenceburg - Alton Vacuum Sewer System Replacement Phase 4	0-2 Years	Not Funded	\$1,670,000	Anderson	6	1
<a href="#">SX21065002</a>	Wisemantown Sewer Extensions	0-2 Years	Partially Funded	\$3,800,000	Estill	7	1
<a href="#">SX21017004</a>	City of Paris - Claysville Trunk Sewer Replacement Project, Phase II	0-2 Years	Not Funded	\$1,825,000	Bourbon	8	1
<a href="#">SX21067057</a>	Town Branch Commons - Phase I/Midland Avenue Trunk Sewer Replace	0-2 Years	Not Funded	\$9,969,585	Fayette	9	2
<a href="#">SX21017010</a>	City of Paris-Southern Hills Sanitary Sewer Collection Project	3-5 Years	Not Funded	\$1,820,000	Bourbon	10	4
<a href="#">SX21137020</a>	Crab Orchard UV Replacement	0-2 Years	Not Funded	\$275,000	Lincoln	11	1
<a href="#">SX21017013</a>	City of Paris - Bedford Acres Sanitary Sewer Project Phase 2	0-2 Years	Not Funded	\$1,850,000	Bourbon	12	2
<a href="#">SX21151048</a>	Walnut Street Stormwater Improvement	0-2 Years	Not Funded	\$1,800,000	Madison	13	3
<a href="#">SX21137019</a>	Lincoln County Fiscal Court - Rowland Sanitary Sewer Extension	0-2 Years	Not Funded	\$130,000	Lincoln	14	2
<a href="#">SX21021015</a>	East Danville/Horkey	3-5 Years	Not Funded	\$350,000	Boyle	15	3
<a href="#">SX21017019</a>	City of Paris - Pump Station Elimination and Rehabilitation	3-5 Years	Not Funded	\$6,500,000	Bourbon	16	5
<a href="#">SX21005008</a>	Lawrenceburg - Four Roses Sewer Extension	0-2 Years	Not Funded	\$535,000	Anderson	17	4
<a href="#">SX21073069</a>	Frankfort Sewer Department WWTP Headworks Replacement	0-2 Years	Not Funded	\$5,900,000	Franklin	18	5
<a href="#">SX21151045</a>	Berea Gravity Sewer Rehabilitation	0-2 Years	Not Funded	\$1,600,000	Madison	19	2
<a href="#">SX21079015</a>	Lancaster Sewer Line Extension to Industrial Park	0-2 Years	Not Funded	\$403,550	Garrard	20	5
<a href="#">SX21065008</a>	Kelly Pump Station 6-Inch Force Main Replacement - Imu	0-2 Years	Not Funded	\$250,000	Estill	21	4
<a href="#">SX21167019</a>	M C S D - Gwinn Island Road Sanitary Sewer Extension	0-2 Years	Not Funded	\$1,525,676	Boyle	22	2
<a href="#">SX21151039</a>	NMCSD - Madison Village Collection System Rehab	0-2 Years	Not Funded	\$1,275,000	Madison	23	4
<a href="#">SX21197004</a>	Clay City - Phase II Sewer System Rehab	0-2 Years	Partially Funded	\$332,308	Powell	24	3
<a href="#">SX21197006</a>	Stanton-Sanitary Sewer Service Area Expansion, Phase I	0-2 Years	Not Funded	\$1,954,200	Powell	25	2
<a href="#">SX21167022</a>	Sanitary Sewer Rehabilitation 2015	0-2 Years	Partially Funded	\$1,569,300	Mercer	26	3
<a href="#">SX21073070</a>	Frankfort Sewer Department Capital Avenue River Interceptor	0-2 Years	Not Funded	\$1,750,000	Franklin	27	4
<a href="#">SX21017005</a>	City of Paris-Mill Run Road & Cathy Drive Sanitary Sewer Project	3-5 Years	Not Funded	\$900,000	Bourbon	28	6
<a href="#">SX21017015</a>	City of Paris Rehab Sanitary Sewer Mains	0-2 Years	Not Funded	\$250,000	Bourbon	29	3
<a href="#">SX21017009</a>	Bourbon County Fiscal Court - Centerville Sewer Project	0-2 Years	Partially Funded	\$2,500,000	Bourbon	30	7
<a href="#">SX21073073</a>	FSD - Collins Lane I/I Reduction and Cloverdale/Cougar Lane Stormwater Management	0-2 Years	Not Funded	\$2,041,000	Franklin	31	9
<a href="#">SX21239003</a>	Midway Brand Street Sewer Rehab Project	0-2 Years	Not Funded	\$670,000	Woodford	32	12

### Project Rankings For Bluegrass Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21065006</a>	Wall Street Sewer Extension - Irvine Municipal Utilities	0-2 Years	Not Funded	\$309,000	Estill	33	5
<a href="#">SX21021004</a>	Danville Major Sewer System Rehabilitation	3-5 Years	Not Funded	\$1,740,000	Boyle	34	4
<a href="#">SX21065007</a>	Covey Road Sewer Extension - Irvine Municipal Utilities	0-2 Years	Not Funded	\$201,000	Estill	35	6
<a href="#">SX21239010</a>	Versailles Wastewater Treatment Plant Expansion	0-2 Years	Not Funded	\$20,911,190	Woodford	36	3
<a href="#">SX21073072</a>	Frankfort Sewer Department Buffalo Alley Pump Station Replacemen	0-2 Years	Not Funded	\$1,300,000	Franklin	37	8
<a href="#">SX21073071</a>	FSD - Franklin Ave. and Meagher Ave. Sanitary Sewer Rehab and Willow Street Storm Water Maangement	0-2 Years	Not Funded	\$1,853,750	Franklin	38	6
<a href="#">SX21073075</a>	FSD - Two Creeks Upper & Blanton Acres I&I Reduction and Stormwater Management	0-2 Years	Not Funded	\$2,175,965	Franklin	39	7
<a href="#">SX21073068</a>	FSD - East Main Interceptor Project and Linden Stormwater Management	0-2 Years	Not Funded	\$1,664,000	Franklin	40	11
<a href="#">SX21073047</a>	Frankfort Sewer Department FSD Prevention Park Pump Station Replacement	0-2 Years	Not Funded	\$1,500,000	Franklin	41	10
<b>Total Cost:</b>				<b>\$176,588,266</b>			

# Barren River Area Development District (BRADD)

- 2010 census population of 284,195 (126,280 households) with 44% serviceable.
- Projected 2020 population of 316,297 (change of 32,102).
- 979.40 miles of existing sewer lines.
- 148.00 miles of line extensions proposed in the next 10 years.
- 36.00 miles of line rehabilitation proposed in the next 10 years.
- 9.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$143,731,034.
- Estimated funding needs for projects from 6 to 10 years: \$12,078,000.
- Average age of wastewater treatment plants is 35 years.
- Total number of interconnected systems is 1.
- 209 miles of sewer lines less than 15 years old.
- 210 miles of sewer lines between 15 and 30 years old.
- 490 miles of sewer lines between 31 and 50 years old.
- 60 miles of sewer lines between 51 and 70 years old.
- 8 miles of sewer lines greater than 70 years old.



Barren River Area Development District has a 2010 census population count of 284,195 (126,280 households) with a projected 2020 population count of 316,297 (128,239 households). Public sewer is currently available to approximately 44 percent of the district's households based on 2010 census counts. Over the next ten years approximately 2,920 serviceable households will be added through the construction of 148.00 miles of sewer line extensions and approximately 21,124 instances of improved service through the rehabilitation of 36.00 miles of existing sewer lines and other appurtenances. 9.00 miles of interceptor lines are also proposed within this district.

**County Summary for Barren River Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Allen	19,956	9,307	22,366	9,171	2,043	22%	\$ 9,400,000
Barren	42,173	19,188	46,361	19,245	8,862	46%	\$ 27,151,500
Butler	12,690	5,877	12,544	5,178	1,096	19%	\$ 5,611,940
Edmonson	12,161	6,467	12,628	5,283	636	10%	\$ 11,158,771
Hart	18,199	8,559	18,690	7,604	2,369	28%	\$ 8,442,620
Logan	26,835	12,339	27,382	11,301	4,859	39%	\$ 40,037,759
Metcalfe	10,099	4,681	10,329	4,306	810	17%	\$ 1,375,000
Monroe	10,963	5,204	10,405	4,423	1,537	30%	\$ 2,013,000
Simpson	17,327	7,435	18,342	7,429	4,437	60%	\$ 29,757,444
Warren	113,792	47,223	137,250	54,299	29,328	62%	\$ 20,861,000
<b>Totals</b>	<b>284,195</b>	<b>126,280</b>	<b>316,297</b>	<b>128,239</b>	<b>55,977</b>	<b>44%</b>	<b>\$ 155,809,034</b>

## Public Sewer Systems in the Barren River Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0024783</a>	Scottsville Municipal Water & Sewer Department	Allen	4,154	2,043
<a href="#">KY0021164</a>	Glasgow Water Company	Barren	15,071	7,238
<a href="#">KY0021024</a>	Morgantown Utilities	Butler	2,394	1,096
<a href="#">KY0023396</a>	Brownsville Municipal Water & Sewer	Edmonson	813	409
<a href="#">KY0091561</a>	Caveland Environmental Authority	Hart	7,130	3,422
<a href="#">KY0031755</a>	Munfordville Municipal Water/Sewer Commission	Hart	1,585	781
<a href="#">KY0020885</a>	Adairville Sewer Department	Logan	890	432
<a href="#">KY0021202</a>	Auburn Sewer Department	Logan	1,413	662
<a href="#">KY0024881</a>	Lewisburg Municipal Water & Sewer Department	Logan	853	458
<a href="#">KY0020877</a>	Russellville Municipal Sewer Department	Logan	6,821	3,307
<a href="#">KY0028100</a>	Edmonton Water Works	Metcalfe	1,597	810
<a href="#">KIA171001</a>	Fountain Run Water District #1	Monroe	228	134
<a href="#">KY0095257</a>	Gamaliel Municipal Water & Wastewater Department	Monroe	469	221
<a href="#">KY0020702</a>	Tompkinsville Sewer Department	Monroe	2,375	1,184
<a href="#">KY0027456</a>	Franklin Sewer Department	Simpson	10,083	4,437
<a href="#">KY0022403</a>	Bowling Green Municipal Utilities	Warren	54,421	23,172
<a href="#">KYP000032</a>	Warren County Water District	Warren	15,078	6,156
		<b>Totals:</b>	125,375	55,962



# Barren River Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## Discussion of Area Development District Needs:

The majority of planning units within the BRADD region have identified the repair and replacement of existing infrastructure as the primary need within their respective county. Evidence of this need is reflected by the types of projects currently on record as well as the overall regional priority rankings submitted by each planning unit. Many planning units within the region have identified aging and/or failing existing infrastructure as a major obstacle to improving water service quality and have developed projects to combat this issue. Planning units also indicated that addressing the primary need of repair and replacement will also aid in the pursuit of extending services to unserved areas which, represents the secondary need most identified most frequently within the BRADD region.

## Description and Determination of Planning Units:

Planning units within the BRADD region are determined by county and are comprised of all wastewater systems located within county boundaries. In addition, wastewater systems that operate on a regional level within multiple counties are included in each planning unit in which they operate. Wastewater planning units within the BRADD region:

### Allen:

- Scottsville Municipal Water & Sewer Department

### Barren:

- Glasgow Water Company

### Butler:

- Morgantown Utilities

### Edmonson:

- Brownsville Municipal Water & Sewer
- Edmonson County Water District

### Hart:

- Caveland Environmental Authority
- Munfordville Municipal Water/Sewer Commission

### Logan:

- Adairville Sewer Department
- Auburn Sewer Department
- Lewisburg Municipal Water & Sewer Department
- Russellville Municipal Sewer Department

### Metcalf:

- Edmonton Water Works

### Monroe:

- Fountain Run Water District #1
- Gamaliel Municipal Water & Wastewater Department
- Tompkinsville Sewer Department.

### Simpson:

- Franklin Sewer Department.

### Warren:

- Bowling Green Municipal Utilities
- Warren County Water District.

# Barren River Area Development District Project Ranking Methodology



The Barren River Water Management Council utilizes the following criteria for the prioritization of water and wastewater projects on a regional scale. The criteria has been adapted from previous versions used by the BRADD combined with examples from other ADDs resulting in a 5 tiered ranking criteria to determine a numerical point value for each project. This process provides for increased collaboration on a local level to increase awareness on the impacts (locally and regionally) of proposed projects.

County Planning Unit Councils meet at least once locally to discuss and rank potential projects. These meetings are hosted by the County Judge/Executive with each local utility, mayor and other officials invited to attend. All proposed projects are reviewed by the council and given a numerical score based on a five tiered ranking criteria including: (1. Project Type 2. Compliance with Enforcement Action 3. Funding Status 4. Project Status and 5. County Ranking). Due to the diverse composition of each planning unit, a wide variety of interests are represented and therefore collaboration and compromise are key factors throughout the ranking process. This also provides for an increased level of understanding regarding the needs of planning unit as a whole and ensures that projects providing the most benefit (both locally and regionally) receive priority.

After all Planning Unit Council meetings have been completed, a summary tabulation of project scores is created and the Area Water Management Council meets to vote and finalize the regional ranking priorities. The top five scoring projects for each county are selected for ranking, resulting in a total of 50 ranked projects each for both water and wastewater. In addition, the top 10 overall projects are comprised of those projects identified as the #1 overall priority for each county (as indicated by each planning unit during regional ranking meetings). In this way each county is assured to have one project appear in the top 10 regional ranking, thus ensuring equal opportunity throughout the region. After the top 10 the projects are ranked based on overall score. The following criteria are used to score projects:

## Clean Water Ranking Criteria

### I. Project Type

- A. Will this project provide or continue regionalization and/or consolidation of wastewater treatment systems? (Proposed project reduces the number of NPDES discharges by regionalization) = 25 points
- B. Elimination of sewage treatment plant through an interconnection = 23 points
- C. New Treatment Plant/Expanding Existing Plant = 20 points
- D. Replacement and /or rehabilitation of aging infrastructure = 17 points
- E. Economic Development
  - 100+ jobs created or maintained - 20 points
  - 75-99 jobs created or maintained - 19 points
  - 50-74 jobs created or maintained - 18 points
  - 20-49 jobs created or maintained - 15 points
  - 10-19 jobs created or maintained - 10 points
  - less than 10 jobs created or maintained - 5 points
- G. Extension of Service to Unserved Households
  - 9+ households per mile - 20 points
  - 7-8 households per mile - 19 points
  - 5-6 households per mile - 18 points
  - 3-4 households per mile - 15 points
  - 1-2 households per mile - 10 points
- H. Underserved Customers
  - 80-100+ households per mile - 20 points
  - 60-80 households per mile - 19 points
  - 40-60 households per mile - 18 points

20-40 households per mile - 15 points

0-20 households per mile - 10 points

**II. Compliance with Enforcement Action (Receive points in either A or B)**

- A. Does the project address correction of a documented health threat? = 10 Points
- B. Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? = 5 Points

**III. Funding Status (Receive points in either A, B, or C)**

- A. Funds committed for 50-99% of total project cost = 10 points
- B. Funds committed for 1-49% of total project cost = 5 points
- C. No funds committed for project = 0 points

**IV. Project Status (Can receive points in multiple categories)**

- A. All necessary approvals obtained to start construction (including rights-of-way) = 20 points
- B. Engineering plans & specs submitted to DOW = 15 points
- C. Preliminary engineering report complete = 10 points
- D. Estimated engineer's budget complete = 5 points

**V. County Ranking (Receive points in either A, B, C, or D)**

- A. Number one ranked project = 24 points
- B. Number two ranked project = 18 points
- C. Number three ranked project = 14 points
- D. Number four ranked project = 10 points
- E. Number five ranked project = 8 Points

### Project Rankings For Barren River Area Development District

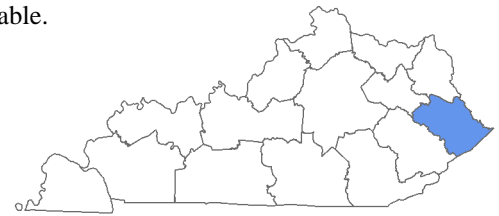
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21213028</a>	City of Franklin - Sewer Upgrades to Ky Downs	3-5 Years	Partially Funded	\$9,650,000	Simpson	1	1
<a href="#">SX21171014</a>	Fountain Run Water District #1 - Sewer System Improvements	0-2 Years	Partially Funded	\$370,000	Monroe	2	1
<a href="#">SX21141048</a>	City of Auburn - Upgrade of Existing Wastewater Treatment Plant	3-5 Years	Partially Funded	\$4,000,000	Logan	3	1
<a href="#">SX21099023</a>	Horse Cave Regional Water Replacement Facility Expansion Project	0-2 Years	Not Funded	\$5,342,000	Hart	4	1
<a href="#">SX21061005</a>	ECWD - Phase II Collection System	0-2 Years	Fully Funded	\$1,710,000	Edmonson	5	1
<a href="#">SX21009034</a>	Glasgow Wastewater Improvement - Gravity Sewer Gorin Park to East Brook Trailer Park	3-5 Years	Not Funded	\$750,000	Barren	6	1
<a href="#">SX21031009</a>	Morgantown - Sewer Main Infrastructure Replacement/Repair to Sewer Main	3-5 Years	Not Funded	\$500,000	Butler	7	1
<a href="#">SX21169007</a>	Edmonton - Cumberland Parkway Area Extension	3-5 Years	Not Funded	\$400,000	Metcalfe	8	1
<a href="#">SX21227030</a>	WCWD - Hwy 68 West Lift Station Upgrade	0-2 Years	Not Funded	\$500,000	Warren	9	1
<a href="#">SX21003036</a>	City of Scottsville - Inflow and Infiltration Project, Phase I	0-2 Years	Not Funded	\$400,000	Allen	10	1
<a href="#">SX21213032</a>	City of Franklin - Sunset Circle Sewer Project	0-2 Years	Not Funded	\$400,000	Simpson	11	2
<a href="#">SX21009044</a>	Caveland Environmental - Hiseville School Sewer Project	3-5 Years	Not Funded	\$1,000,000	Barren	12	2
<a href="#">SX21031010</a>	Morgantown - Sanitary Sewer Infiltration Project-Phase I	3-5 Years	Not Funded	\$300,000	Butler	13	3
<a href="#">SX21099021</a>	City of Munfordville - SSES and Stormwater Inflow Removal Project	3-5 Years	Not Funded	\$1,450,000	Hart	14	2
<a href="#">SX21141035</a>	Russellville - Hwy 431 South Sewer Project	3-5 Years	Not Funded	\$4,150,000	Logan	15	2
<a href="#">SX21171003</a>	City of Tompkinsville - Collection System Extensions to Unserved Areas	3-5 Years	Not Funded	\$1,000,000	Monroe	16	2
<a href="#">SX21169011</a>	Edmonton - Harvey Hurt Rd. Area Extension	3-5 Years	Not Funded	\$350,000	Metcalfe	17	2
<a href="#">SX21061007</a>	Edmonson County Water District - KY 259 Wastewater Collection System	3-5 Years	Not Funded	\$3,315,000	Edmonson	18	2
<a href="#">SX21003022</a>	City of Scottsville - Pump Station Replacement Project	3-5 Years	Not Funded	\$1,250,000	Allen	19	2
<a href="#">SX21227074</a>	BGMU - Industrial Dr Interceptor	3-5 Years	Not Funded	\$8,000,000	Warren	20	2
<a href="#">SX21141045</a>	Adairville Wastewater System Improvements	3-5 Years	Partially Funded	\$733,759	Logan	21	3
<a href="#">SX21099022</a>	City of Munfordville - Sewer Extensions and Pump Station Rehabilitations	3-5 Years	Not Funded	\$1,250,620	Hart	22	3
<a href="#">SX21213031</a>	City of Franklin - High St Sewer Project	0-2 Years	Not Funded	\$1,133,750	Simpson	23	3
<a href="#">SX21009024</a>	Glasgow Wastewater Improvement - Gravity Sewer Line Shane Drive/Rogers Road	0-2 Years	Not Funded	\$425,000	Barren	24	3
<a href="#">SX21171018</a>	Fountain Run Water District #1 - SCADA control system for the sewer system	3-5 Years	Not Funded	\$193,000	Monroe	25	3
<a href="#">SX21061009</a>	Edmonson County Water District - Collection System Phase III	3-5 Years	Not Funded	\$7,843,771	Edmonson	26	3
<a href="#">SX21169005</a>	Edmonton - Wastewater Facility Plan	0-2 Years	Not Funded	\$25,000	Metcalfe	27	3
<a href="#">SX21003021</a>	Scottsville - 980 & US231 Sewer Line Connection	0-2 Years	Not Funded	\$500,000	Allen	28	3
<a href="#">SX21031008</a>	BCWS - Needmore Area Sewers	0-2 Years	Not Funded	\$1,200,000	Butler	29	2
<a href="#">SX21227027</a>	WCWD - Skip Lift Station Upgrade	3-5 Years	Not Funded	\$125,000	Warren	30	3
<a href="#">SX21171013</a>	City of Tompkinsville - East Industrial Park Sewer Improvements	3-5 Years	Fully Funded	\$100,000	Monroe	31	4
<a href="#">SX21213035</a>	City of Franklin - Morgantown Rd Sewer Project	0-2 Years	Not Funded	\$4,045,000	Simpson	32	4
<a href="#">SX21141042</a>	City of Lewisburg - Line C Collection System Replacement	3-5 Years	Not Funded	\$62,000	Logan	33	4

### Project Rankings For Barren River Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21009049</a>	CEA - Cave City WWTP Improvements	3-5 Years	Not Funded	\$505,000	Barren	34	4
<a href="#">SX21003024</a>	Scottsville - 231 Sewer Extension	0-2 Years	Not Funded	\$3,000,000	Allen	35	4
<a href="#">SX21099006</a>	Caveland Environmental - Sewer Service to Rolling Hills Community	3-5 Years	Not Funded	\$400,000	Hart	36	4
<a href="#">SX21169012</a>	Edmonton - Old Glasgow Street Area Extension	3-5 Years	Not Funded	\$300,000	Metcalf	37	4
<a href="#">SX21031006</a>	Morgantown - Sawmill Road Sewer Extension	3-5 Years	Not Funded	\$80,000	Butler	38	5
<a href="#">SX21227081</a>	Patton Drive and Lost River Cove Pump Station Renovation	0-2 Years	Not Funded	\$250,000	Warren	39	4
<a href="#">SX21141036</a>	Russellville - Franklin Road Sewer Project	3-5 Years	Not Funded	\$1,020,000	Logan	40	5
<a href="#">SX21009048</a>	Glasgow WWTP Improvement - Upgrade Plant From 4Mgd to 6Mgd	3-5 Years	Not Funded	\$9,994,000	Barren	41	5
<a href="#">SX21171008</a>	City of Tompkinsville - Sewer Extension to Joe Harrison Carter School	3-5 Years	Not Funded	\$450,000	Monroe	42	5
<a href="#">SX21003035</a>	City of Scottsville - Cherokee Drive Sewerline Relocation Project	0-2 Years	Not Funded	\$200,000	Allen	43	5
<a href="#">SX21031003</a>	Hwy 231/Hwy 79S Area Sewer	3-5 Years	Not Funded	\$1,611,500	Butler	44	4
<a href="#">SX21213017</a>	City of Franklin - North Franklin Sewer Line Extensions	0-2 Years	Not Funded	\$6,074,462	Simpson	45	5
<a href="#">SX21169008</a>	Edmonton - River Road Project Extension	3-5 Years	Not Funded	\$300,000	Metcalf	46	5
<a href="#">SX21227059</a>	WCWD - Memphis Junction Lift Station Upgrade	3-5 Years	Not Funded	\$1,243,000	Warren	47	5
<b>Total Cost:</b>				<b>\$87,901,862</b>			

# Big Sandy Area Development District (BSADD)

- 2010 census population of 154,093 (70,217 households) with 24% serviceable.
- Projected 2020 population of 148,051 (change of -6,042).
- 370.30 miles of existing sewer lines.
- 116.00 miles of line extensions proposed in the next 10 years.
- 21.00 miles of line rehabilitation proposed in the next 10 years.
- 8.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$135,058,840.
- Estimated funding needs for projects from 6 to 10 years: \$15,980,460.
- Average age of wastewater treatment plants is 23 years.
- Total number of interconnected systems is 1.
- 102 miles of sewer lines less than 15 years old.
- 197 miles of sewer lines between 15 and 30 years old.
- 14 miles of sewer lines between 31 and 50 years old.
- 57 miles of sewer lines between 51 and 70 years old.
- 2 miles of sewer lines greater than 70 years old.



Big Sandy Area Development District has a 2010 census population count of 154,093 (70,217 households) with a projected 2020 population count of 148,051 (61,704 households). Public sewer is currently available to approximately 24 percent of the district's households based on 2010 census counts. Over the next ten years approximately 5,778 serviceable households will be added through the construction of 116.00 miles of sewer line extensions and approximately 17,448 instances of improved service through the rehabilitation of 21.00 miles of existing sewer lines and other appurtenances. 8.00 miles of interceptor lines are also proposed within this district.

County Summary for Big Sandy Area Development District							
County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Floyd	39,451	18,175	37,153	15,594	5,530	30%	\$ 38,143,142
Johnson	23,356	10,624	23,265	9,647	3,084	29%	\$ 35,375,930
Magoffin	13,333	5,950	13,587	5,696	1,340	23%	\$ 8,510,930
Martin	12,929	5,164	12,055	4,410	565	11%	\$ 2,722,366
Pike	65,024	30,304	61,991	26,357	6,575	22%	\$ 66,286,932
<b>Totals</b>	<b>154,093</b>	<b>70,217</b>	<b>148,051</b>	<b>61,704</b>	<b>17,094</b>	<b>24%</b>	<b>\$ 151,039,300</b>

## Public Sewer Systems in the Big Sandy Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0026921</a>	Martin Water Works	Floyd	915	500
<a href="#">KY0027413</a>	Prestonsburg City's Utilities Commission	Floyd	7,689	3,571
<a href="#">KY0107051</a>	Southern Water & Sewer District - Eastern	Floyd	136	60
<a href="#">KY0109258</a>	Southern Water & Sewer District - Harold	Floyd	800	377
<a href="#">KY0105228</a>	Southern Water & Sewer District - Wayland	Floyd	473	235
<a href="#">KY0028789</a>	Wheelwright Utilities Commission	Floyd	923	373
<a href="#">KY0103578</a>	Paintsville Utilities Commission - Honey Branch	Johnson	2,437	1,091
<a href="#">KY0020630</a>	Paintsville Utilities Commission - Paintsville STP	Johnson	4,981	2,407
<a href="#">KY0104540</a>	Salyersville Water Works	Magoffin	2,989	1,340
<a href="#">KY0079316</a>	Martin County Sanitation District	Martin	1,189	565
<a href="#">KY0025291</a>	City of Pikeville	Pike	11,065	5,196
<a href="#">KY0020958</a>	Elkhorn City Water Department	Pike	1,050	521
<a href="#">KY0042811</a>	Mountain Water District - Douglas	Pike	1,722	850
		<b>Totals:</b>	36,369	17,086

# Big Sandy Area Development District Regional Wastewater Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Economic Stimulation**

## **Discussion of Area Development District Needs:**

In the Big Sandy Area wastewater infrastructure is limited outside of corporate boundaries. Current infrastructure does not effectively protect public health, environmental quality or add value to current living conditions and does not accommodate future economic growth. Big Sandy Area infrastructure needs include new developments, expansion of existing community wastewater systems, construction of individual wastewater treatment systems, or the construction of a new community wastewater collection and treatment facilities. Extending current services to residential areas would be beneficial to adequately meet the sewage needs of the current population and eliminate straight pipes and failing septic systems.

Big Sandy's primary clean water need is to extend services to unserved areas. The major projects underway include the Harold Sewer Project located along the US 23 corridor in Floyd County which will result in having public wastewater system availability in this high traffic/high growth area. Project funding for a major wastewater project serving Warfield in Martin County has been secured and is expected to be underway in 2012. Each of these projects will impact hundreds of customers that have never had access to public wastewater systems resulting in a cleaner environment eliminating small package treatment plants and furthering potential for economic development. The secondary need in the Big Sandy Area is for economic simulation.

The systems in the Big Sandy Area lack the capacity to pay for capital improvements and cost associated with operation and maintenance of wastewater system.

## **Description and Determination of Planning Units:**

Big Sandy has five wastewater planning areas, Floyd, Johnson, Magoffin, Martin, and Pike Counties. The planning group is made up of Judge Executives, Mayors, and Utilities within the planning area. The water suppliers in the planning groups are as follows:

- Floyd County Utilities – Prestonsburg City's, Martin Water Works, Wheelwright Utilities, Southern Water and Sewer District
- Johnson County - Paintsville Utilities
- Magoffin County- Magoffin County Water District, Salyersville Water Works
- Martin County- Martin County Water District
- Pike County-Mountain Water District, Pikeville Water Department, and Elkhorn City Water Department.

The planning areas follow the county boundary of the respective planning unit.



# Big Sandy Area Development District

## Project Ranking Methodology



The Big Sandy Area Water Management Council prioritizes projects based on points. Points are given under the following categories: Project Impact and Project Status.

### Project Impact

Under this category, points are awarded based on the regional needs met by the project, the scope of impact, and the delivery of the project.

Regional needs are awarded points based upon which regional need is met. Each regional need is determined by the Water Management Council and an established point value.

The scope of impact includes the impact of the project to un-served households, underserved households, and economic stimulation. Un-served households are homes that currently do not have public water/wastewater service available to them. Underserved households are homes that have public water/wastewater service, but the completion of the proposed project will improve service and/or quality to said areas in the utility's system. Points are allocated to the economic stimulation group based on the number of jobs the completed project will create. The more households and jobs that a project affects/creates, the more points the project is given. Projects that have more than one scope can receive an additional 5 points and other unlisted project scopes can receive 5 points - maximum points possible for project scope is 20 points.

Project Delivery is allotted 20 points for a regional project and 5 points for a non-regional project.

### Project Status

Under this category, points are awarded based on project development and commitment of funds.

For project development, projects are given 5 points for preliminary planning, 10 points for attaining a cost estimate from a project engineer or for procuring an engineer for the project, 15 points if a preliminary engineering report is completed, or 20 points if engineering plans and specs have been completed and submitted to Division of Water.

The maximum value of point awarded for commitment of funds is 20 points for projects with more than 50% of the total project cost committed - projects with 25-49% of project funds receive 10 points and projects with less than 25% of project funds committed or with pending applications receive 5 points.

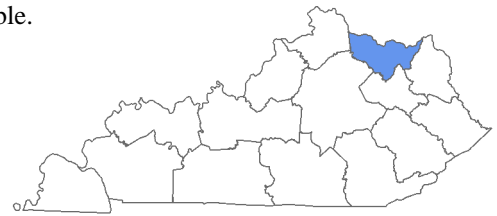
The category totals are added together for a maximum of 100 points possible. The higher the cumulative total, the higher the project is ranked. For projects with the same overall point total, a cost per connection tie breaker is utilized. The cost per connection tie breaker is calculated using the estimated project cost divided by the total number of households the project will affect. The lower the cost per connection, the higher ranking the project receives.

### Project Rankings For Big Sandy Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21195018</a>	Elkhorn City Wastewater Treatment Plant Project	0-2 Years	Partially Funded	\$3,815,000	Pike	1	1
<a href="#">SX21115502</a>	Paintsville Utility Commission Van Lear Waste Water Project	0-2 Years	Not Funded	\$4,640,000	Johnson	2	2
<a href="#">SX21071007</a>	Big Sandy Regional Waste Water Treatment Plant	0-2 Years	Not Funded	\$10,770,430	Floyd	3	2
<a href="#">SX21159007</a>	Martin County Sanitation District - Belt Press and Sludge Handling	0-2 Years	Not Funded	\$2,000,000	Martin	4	1
<a href="#">SX21115510</a>	Paintsville Utilities Powell Addition Sewer Project	3-5 Years	Not Funded	\$2,750,000	Johnson	5	3
<a href="#">SX21153522</a>	Magoffin County Industrial Park Sewer Extension	3-5 Years	Partially Funded	\$2,900,000	Magoffin	6	2
<a href="#">SX21195692</a>	MWD - Belfry-Pond Sewer Project	0-2 Years	Partially Funded	\$8,120,000	Pike	7	2
<a href="#">SX21115008</a>	Paintsville WWTP I & I Removal Project Phase I & III	0-2 Years	Not Funded	\$7,148,900	Johnson	8	1
<a href="#">SX21071011</a>	Wayland Wastewater Treatment Plant Rehabilitation Project	0-2 Years	Not Funded	\$759,271	Floyd	9	1
<a href="#">SX21195696</a>	MWD - Forest Hills Phase III	3-5 Years	Not Funded	\$1,050,000	Pike	10	8
<a href="#">SX21195020</a>	Elkhorn City Upper Branch Sewer Project	3-5 Years	Not Funded	\$605,000	Pike	11	10
<a href="#">SX21195107</a>	Pikeville #7 Lift Station Replacement	0-2 Years	Not Funded	\$102,000	Pike	12	3
<a href="#">SX21153003</a>	Grinder Pump Replacement, Line Extension and Equipment Purchase Project	0-2 Years	Not Funded	\$615,230	Magoffin	13	1
<a href="#">SX21071012</a>	Garth Hollow Sewerline Extension	0-2 Years	Not Funded	\$429,938	Floyd	14	4
<a href="#">SX21071009</a>	Harold Sewer Line Extension to Mellow Brook	3-5 Years	Not Funded	\$967,056	Floyd	15	3
<a href="#">SX21195026</a>	Phelps Sanitary Sewer System Upgrades and Hydrology Study	0-2 Years	Not Funded	\$1,225,000	Pike	16	4
<a href="#">SX21153004</a>	Magoffin County Garage Lift Station and Line Replacement Project	3-5 Years	Not Funded	\$735,000	Magoffin	17	3
<a href="#">SX21195009</a>	Elhorn City - Centerville Sewer Line	3-5 Years	Not Funded	\$650,000	Pike	18	5
<a href="#">SX21195105</a>	Pikeville Cedar Creek Sewer Extension	0-2 Years	Not Funded	\$550,000	Pike	19	6
<a href="#">SX21195027</a>	John Moore's Branch Industrial Park Sewerline Extension	3-5 Years	Not Funded	\$2,050,000	Pike	20	9
<a href="#">SX21195120</a>	Pikeville Sewer Telemetry Project	0-2 Years	Partially Funded	\$375,000	Pike	21	7
<a href="#">SX21115011</a>	Pack Hill - Teay's Branch Wastewater line extension	3-5 Years	Not Funded	\$319,000	Johnson	22	4
<b>Total Cost:</b>				<b>\$52,576,825</b>			

# Buffalo Trace Area Development District (BTADD)

- 2010 census population of 56,478 (26,144 households) with 36% serviceable.
- Projected 2020 population of 58,306 (change of 1,828).
- 256.16 miles of existing sewer lines.
- 12.00 miles of line extensions proposed in the next 10 years.
- 1.00 miles of line rehabilitation proposed in the next 10 years.
- 39.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$26,037,050.
- Estimated funding needs for projects from 6 to 10 years: \$6,263,000.
- Average age of wastewater treatment plants is 31 years.
- Total number of interconnected systems is 1.
- 97 miles of sewer lines less than 15 years old.
- 34 miles of sewer lines between 15 and 30 years old.
- 64 miles of sewer lines between 31 and 50 years old.
- 58 miles of sewer lines between 51 and 70 years old.
- 0 miles of sewer lines greater than 70 years old.



Buffalo Trace Area Development District has a 2010 census population count of 56,478 (26,144 households) with a projected 2020 population count of 58,306 (24,059 households). Public sewer is currently available to approximately 36 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,205 serviceable households will be added through the construction of 12.00 miles of sewer line extensions and approximately 4,370 instances of improved service through the rehabilitation of 1.00 miles of existing sewer lines and other appurtenances. 39.00 miles of interceptor lines are also proposed within this district.

**County Summary for Buffalo Trace Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bracken	8,488	3,840	8,744	3,538	956	25%	\$ 13,335,050
Fleming	14,348	6,623	14,880	6,231	1,808	27%	\$ 735,000
Lewis	13,870	6,481	13,899	5,717	1,587	25%	\$ 6,530,500
Mason	17,490	8,105	18,419	7,608	4,633	57%	\$ 9,040,500
Robertson	2,282	1,095	2,364	965	291	27%	\$ 2,659,000
<b>Totals</b>	<b>56,478</b>	<b>26,144</b>	<b>58,306</b>	<b>24,059</b>	<b>9,275</b>	<b>35%</b>	<b>\$ 32,300,050</b>

## Public Sewer Systems in the Buffalo Trace Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0021261</a>	Augusta Sewer	Bracken	1,154	564
<a href="#">KY0025232</a>	Brooksville Sewer	Bracken	653	298
<a href="#">KY0021229</a>	Flemingsburg Sewer	Fleming	3,419	1,742
<a href="#">KY0105422</a>	Garrison Sewer	Lewis	808	373
<a href="#">KY0102601</a>	Lewis County Sanitation District #1	Lewis	844	389
<a href="#">KY0078123</a>	Meadowbrook Subdivision	Lewis	261	104
<a href="#">KY0021512</a>	Vanceburg Sewer	Lewis	1,471	713
<a href="#">KY0020257</a>	Maysville Sewer	Mason	8,568	4,272
<a href="#">KYP000081</a>	Western Mason Sanitation District	Mason	1,021	455
<a href="#">KY0104299</a>	Mount Olivet Sewer	Robertson	638	289
		<b>Totals:</b>	18,837	9,199

# Buffalo Trace Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Sanitary Sewer Overflow Correction**

## Discussion of Area Development District Needs:

Buffalo Trace Area Development District (BTADD) is comprised of Bracken, Fleming, Lewis, Mason and Robertson Counties. Nine (9) wastewater systems currently provide sanitary service to the residents of the area. During a Regional Water Management Council meeting, the systems were given the opportunity to meet with the other systems in their respective county to discuss the needs for their system and determine the needs that were most prevalent in the county. The needs identified were used in the determination of the primary and secondary of the Buffalo Trace Area Development District.

The District's primary Clean Water need is to Repair and Replace Existing Infrastructure. This was identified as the primary or secondary need in four of the five planning units. Aging and undersized lines, along with treatment plants being insufficient to handle KY Division of Water limits, were primary reasons cited for determining Repair and Replace Existing Infrastructure as the primary need.

There was a tie to identify the secondary need for the region with Meet Regulatory Requirements and Extend Services to Unserved Areas. Meet Regulatory Requirements is directly related to the primary need. Two planning units have systems that are currently unable to meet regulatory requirements regarding ammonia and phosphorous limits that are required by KY Division of Water. Extend Services to Unserved Areas is also a critical need of the area. Wastewater systems provide service to only about 40% of the households in the Buffalo Trace region.

Additional needs identified as Clean Water needs for the region include Regionalization and Sanitary Sewer Overflow Correction.

## Description and Determination of Planning Units:

The Buffalo Trace Area Development covers five planning units, each encompassing a political county boundary. The five planning units are: Bracken County, Fleming County, Lewis County, Mason County and Robertson County.

There are currently three (3) wastewater utilities in the Bracken County Planning Unit: Augusta Sewer, Brooksville Sewer and a portion of Western Mason Sanitation District. Also, the Augusta Regional Sewer Authority has been formed. This Authority will regionalize sewer in Bracken County by eliminating the Augusta and Brooksville WWTPs and will construct a corridor between the systems and provide service along this area.

One (1) wastewater utility, Flemingsburg Utility, provides service in Fleming County Planning Unit.

Lewis County Planning Unit is served by three (3) wastewater systems - Garrison Sewer, Lewis County Sanitation District #1 and Vanceburg Electric Plant Board.

Mason County Planning Unit is served by two (2) wastewater systems. They include: Maysville Utility System and Western Mason Sanitation District.

Mt. Olivet Utilities provides service in the Robertson County Planning Unit.

# Buffalo Trace Area Development District Project Ranking Methodology



The project ranking process in Buffalo Trace Area Development District is a two-part ranking system that allows projects to be ranked in each county (Bracken County, Fleming County, Lewis County, Mason County, and Robertson County) prior to being ranked regionally by the Water Management Council. Water and wastewater projects are ranked separately in both the county and regional rankings.

## County Ranking Meetings

1. Buffalo Trace Area Development District facilitates a meeting in each county to discuss and rank project profile(s) in the WRIS Portal that utilities request to be ranked.
2. Individuals on the Water Management Council mailing list (water and wastewater systems, Judge-Executives, Mayors, engineers, Health Departments, DOW, etc.) are notified and invited to the county ranking meeting.
3. The projects are discussed and considered for county rankings using the following criteria: (1) meeting regulatory requirements, (2) funding status, (3) regionalization, (4) source water protection, (5) readiness of the project to move forward, (6) source water protection (water projects only), and (7) CSO/SSO elimination projects (wastewater projects only).
4. Water Management Council members present at their respective county ranking meeting rank the projects based on a consensus of what is determined to be most important and beneficial for the county. (Engineers do not participate in project ranking.)
5. Project rankings are sorted by priority and the project with the highest priority is given a value of “1” – all subsequent projects are given values accordingly.

## Water Management Council Regional Rankings

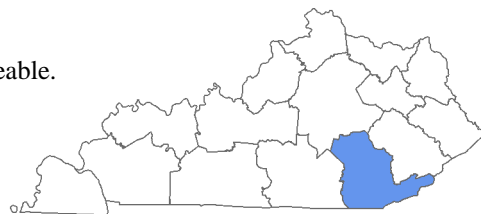
1. The Water Management Council ranks projects on a regional basis after each county has had the opportunity to complete county project rankings.
2. Projects are grouped for regional ranking based on the county rankings. Each project that is the highest priority (or ranked “1”) in each county is presented to the Council. A representative of the respective utility or county is given an opportunity to present the project.
3. The Council members discuss the highest priority projects from each county to determine the most important and beneficial projects for the region by reviewing the following criteria: (1) meeting regulatory requirements, (2) funding status, (3) regionalization, (4) source water protection, (5) readiness of the project to move forward, (6) source water protection (water projects only), and (7) CSO/SSO elimination projects (wastewater projects only).
4. The highest priority projects for each county are ranked “1”, “2”, “3”, “4,” or “5” regionally based on the Council’s determination of each project’s regional priority.
5. This process continues for each subsequent group of county rankings until all projects have been given a regional ranking.

### Project Rankings For Buffalo Trace Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21023005</a>	Augusta/Brooksville Regional Sewer Project	0-2 Years	Partially Funded	\$12,208,500	Bracken	1	1
<a href="#">SX21201008</a>	Mt. Olivet Phase 2 - Wastewater Treatment Plant Upgrade	3-5 Years	Not Funded	\$2,000,000	Robertson	2	1
<a href="#">SX21069019</a>	Flemingsburg Circle Drive & Textron Drive Sewer Line Replacement	3-5 Years	Not Funded	\$210,000	Fleming	3	1
<a href="#">SX21135022</a>	Tollesboro Industrial Park (Sewer)	3-5 Years	Not Funded	\$270,000	Lewis	4	1
<a href="#">SX21161022</a>	Maysville-Mason County Landfill	0-2 Years	Not Funded	\$2,000,000	Mason	5	1
<a href="#">SX21161006</a>	Pinewood Subdivision Sewer	3-5 Years	Not Funded	\$650,000	Mason	6	2
<a href="#">SX21135002</a>	Garrison Sewer Phase II	3-5 Years	Not Funded	\$2,000,000	Lewis	7	2
<a href="#">SX21069020</a>	Phase 2 - Flemingsburg Bypass Sewer Line	3-5 Years	Partially Funded	\$525,000	Fleming	8	2
<a href="#">SX21201005</a>	Mt. Olivet Phase III Sewer Line Extension	6-10 Years	Not Funded	\$659,000	Robertson	9	2
<a href="#">SX21023011</a>	Augusta Hamilton Avenue Upgrade	3-5 Years	Not Funded	\$136,550	Bracken	10	2
<a href="#">SX21023007</a>	Augusta-2nd Street Sewer Relinement	3-5 Years	Not Funded	\$150,000	Bracken	11	3
<a href="#">SX21135010</a>	Vanceburg - Meadowbrook & Black Oak Sewer Consolidation	3-5 Years	Not Funded	\$1,386,500	Lewis	12	3
<a href="#">SX21161004</a>	Maysville Utility Wastewater Dump Station	6-10 Years	Not Funded	\$100,000	Mason	13	3
<a href="#">SX21023008</a>	WMSD-Jett Estates Sewer	6-10 Years	Not Funded	\$840,000	Bracken	14	4
<a href="#">SX21135013</a>	3037 Collection	6-10 Years	Not Funded	\$1,000,000	Lewis	15	4
<a href="#">SX21161024</a>	WMSD Barrett Pike-Clarks Run Expansion	6-10 Years	Not Funded	\$950,000	Mason	16	4
<a href="#">SX21135003</a>	Garrison Sewer Phase III	11-20 Years	Not Funded	\$1,500,000	Lewis	17	5
<a href="#">SX21135020</a>	LCSD Sewer Extension to Burtonville	6-10 Years	Not Funded	\$1,080,000	Lewis	18	6
<a href="#">SX21135007</a>	LCSD-Ribolt Area	6-10 Years	Not Funded	\$794,000	Lewis	19	7
<b>Total Cost:</b>				<b>\$28,459,550</b>			

# Cumberland Valley Area Development District (CVADD)

- 2010 census population of 236,618 (104,865 households) with 33% serviceable.
- Projected 2020 population of 237,501 (change of 883).
- 696.77 miles of existing sewer lines.
- 580.00 miles of line extensions proposed in the next 10 years.
- 35.00 miles of line rehabilitation proposed in the next 10 years.
- 46.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$122,733,246.
- Estimated funding needs for projects from 6 to 10 years: \$93,072,369.
- Average age of wastewater treatment plants is 33 years.
- Total number of interconnected systems is 2.
- 165 miles of sewer lines less than 15 years old.
- 112 miles of sewer lines between 15 and 30 years old.
- 239 miles of sewer lines between 31 and 50 years old.
- 141 miles of sewer lines between 51 and 70 years old.
- 37 miles of sewer lines greater than 70 years old.



Cumberland Valley Area Development District has a 2010 census population count of 236,618 (104,865 households) with a projected 2020 population count of 237,501 (97,085 households). Public sewer is currently available to approximately 33 percent of the district's households based on 2010 census counts. Over the next ten years approximately 19,933 serviceable households will be added through the construction of 580.00 miles of sewer line extensions and approximately 16,105 instances of improved service through the rehabilitation of 35.00 miles of existing sewer lines and other appurtenances. 46.00 miles of interceptor lines are also proposed within this district.

**County Summary for Cumberland Valley Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bell	28,691	13,154	27,648	11,714	6,308	48%	\$ 25,068,348
Clay	21,730	8,875	20,289	7,421	1,834	21%	\$ 17,086,503
Harlan	29,278	13,513	26,099	10,856	5,556	41%	\$ 26,733,802
Jackson	13,494	6,523	13,771	5,961	482	7%	\$ 1,400,000
Knox	31,883	14,485	32,132	13,362	4,632	32%	\$ 6,835,362
Laurel	58,849	25,446	64,713	26,415	9,281	37%	\$ 88,584,785
Rockcastle	17,056	7,703	17,593	7,308	2,061	27%	\$ 25,649,110
Whitley	35,637	15,166	35,256	14,048	4,917	32%	\$ 24,447,705
<b>Totals</b>	<b>236,618</b>	<b>104,865</b>	<b>237,501</b>	<b>97,085</b>	<b>35,071</b>	<b>33%</b>	<b>\$ 215,805,615</b>



## Public Sewer Systems in the Cumberland Valley Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0072885</a>	City of Middlesboro	Bell	10,364	4,971
<a href="#">KY0024058</a>	Pineville Utility Commission	Bell	3,106	1,329
<a href="#">KY0029122</a>	City of Manchester	Clay	4,514	1,814
<a href="#">KY0025755</a>	City of Benham	Harlan	778	406
<a href="#">KY0021571</a>	City of Cumberland	Harlan	2,198	1,047
<a href="#">KY0073091</a>	City of Evarts	Harlan	1,307	482
<a href="#">KY0077615</a>	City of Evarts Turner Trailer Park	Harlan	81	43
<a href="#">KY0026093</a>	City of Harlan	Harlan	5,785	2,677
<a href="#">KY0026115</a>	City of Loyall	Harlan	788	393
<a href="#">KY0024279</a>	City of Lynch	Harlan	839	499
<a href="#">KY0034444</a>	City of McKee	Jackson	878	482
<a href="#">KY0024082</a>	Barbourville Utility Commission	Knox	5,604	2,546
<a href="#">KYP000074</a>	Knox County Utility Commission	Knox	113	60
<a href="#">KY0020133</a>	Corbin City Utilities Commission	Laurel	13,022	6,129
<a href="#">KY0021270</a>	London Utility Commission	Laurel	12,410	5,604
<a href="#">KYP000063</a>	Wood Creek Water District	Laurel	4,908	2,227
<a href="#">KY0047431</a>	City of Brodhead	Rockcastle	1,187	535
<a href="#">KY0040703</a>	City of Livingston	Rockcastle	198	105
<a href="#">KY0024694</a>	City of Mount Vernon	Rockcastle	3,009	1,421
<a href="#">KY0028347</a>	City of Williamsburg	Whitley	5,633	2,165
		<b>Totals:</b>	76,722	34,935

# Cumberland Valley Area Development District Regional Wastewater Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Repair and Replace Existing Infrastructure**

## **Discussion of Area Development District Needs:**

The Cumberland Valley ADD wastewater planning needs include extending lines to unserved areas, repairing and replacing existing infrastructure, new collector sewer and appurtenances, sanitary sewer overflow correction, meeting regulatory requirements, ground water protection, regionalization and improving security.

Extending wastewater services to unserved areas, repair and replacing aging infrastructure is a great need in the Cumberland Valley Planning Unit. Each County has identifies wastewater needs and proposed projects to meet those needs. Those projects are listed in the planning unit section.

Lack of wastewater services in rural areas of the Cumberland Valley ADD is a major challenge. A lot of time and effort has been devoted to planning for wastewater services but that has not brought change to many communities in the area. County by county has cluster of communities that could benefit from some on site treatment method, but funding and management issues have held the process. The situation could be improved if more water districts and associations could provide services in their respective service areas. Laurel and Whitley Counties have shown leadership in wastewater planning at the grass root level, but implementation has been held back by lack of funding.

## **Description and Determination of Planning Units:**

The Cumberland Valley Area Development District is divided into eight planning units that are based on the eight counties in the Cumberland Valley Area. The planning units are: Bell County, Clay County, Harlan County, Jackson County, Knox County, Laurel County, Rockcastle County, and Whitley County.

In the Bell County planning unit there are two wastewater utilities (City of Middlesboro and City of Pineville) that serve approximately 6,308 households.

The City of Manchester is the only wastewater utility in the Clay County planning unit and serves approximately 1,834 households.

The Harlan County planning unit is comprised of seven utilities (City of Benham, City of Cumberland, City of Evarts, City of Harlan, City of Loyall, City of Lynch, and Black Mountain Utility District) that serve approximately 5,544 households.

The City of McKee is the only wastewater utility in the Jackson County planning unit and serves approximately 483 households.

The Knox County planning unit has two wastewater utilities (Barbourville Utility Commission and Knox county Utility Commission) that serve approximately 4,632 households.

The Laurel County planning unit has three wastewater utilities (London Utility Commission, Corbin Utilities Commission, and Wood Creek Water District) that serve approximately 9,281 households.

The Rockcastle County planning unit serves approximately 2,061 households with three wastewater utilities (City of Brodhead, City of Livingston, and the City of Mount Vernon).

The City of Williamsburg is the only wastewater utility in the Whitley County planning unit and serves approximately 5,633 households.

# Cumberland Valley Area Development District

## Project Ranking Methodology



The annual ranking in the Cumberland Valley area begins with a series of county-wide meetings comprised of all the water and sewer utilities in the county where the meeting is taking place. Each utility present decides which of their projects is to be ranked and determines the importance of those for themselves. The county ranking process is based on a consensus decision by the members present at the meeting.

While the county rankings are based on a consensus, the regional ranking process uses a quantitative points system to determine the importance of each project ranked at the county level. The points given to each project fall within 7 categories: Project Type, Compliance, Financial, Project Status, County Ranking, Water Loss, and Regional Importance.

### Project Type

- |  |    |
|--|----|
| A. Will this project provide or continue regionalization and/or consolidation of wastewater treatment systems? Proposed project reduces the number of NPDES discharges by regionalization. | 25 |
| B. Combined Sewer Overflow (CSO) Correction  | 25 |
| C. Elimination of sewage treatment plant through an interconnection.   | 23 |
| D. Sanitary Sewer Overflow (SSO) Correction  | 20 |
| E. Construction of a new wastewater treatment plant for a regional provider.   | 20 |
| F. Replacement and/or rehabilitation of aging infrastructure   | 17 |
| G. New Treatment Plant/Expanding Existing Plant  | 15 |
| H. Extension of Service to Unserved Households   |    |
| a. 9+ households per mile  | 20 |
| b. 7-8 households per mile   | 19 |
| c. 5-6 households per mile   | 18 |
| d. 3-4 households per mile   | 15 |
| e. 1-2 households per mile   | 10 |

### Compliance with Enforcement Action

- |  |    |
|--|----|
| Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? | 20 |
|--|----|

### Financial

- |  |    |
|--|----|
| A. Documented financing plan in Project Profile                  | 10 |
| B. Utility service area has a MHI less than \$32,958             | 20 |
| C. Utility service area with a MHI between \$41,197 and \$32,959 | 10 |

### Project Status

- |   |   |
|---|---|
| A. Estimated engineer's budget complete           | 5 |
| B. Estimated bid date and construction start date | 5 |

### County Ranking

- |                                |    |
|--------------------------------|----|
| A. Number one ranked project   | 24 |
| B. Number two ranked project   | 20 |
| C. Number three ranked project | 16 |
| D. Number four ranked project  | 14 |
| E. Number five ranked project  | 12 |

### Water Loss

- |   |    |
|---|----|
| A. Utility has a water loss percentage less than 15%      | 20 |
| B. Utility has a water loss percentage between 15% to 25% | 15 |
| C. Utility has a water loss percentage between 25% to 35% | 10 |

### Regional Importance

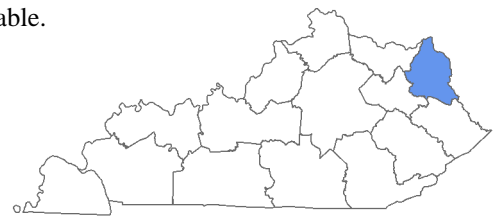
A project can be awarded points at the discretion of the regional water management council. No more than thirty points can be awarded by the council to water projects in the regional ranking.

### Project Rankings For Cumberland Valley Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21095050</a>	Harlan: Sanitary Sewer - Combined Sewer Rehabilitation	0-2 Years	Partially Funded	\$1,368,490	Harlan	1	3
<a href="#">SX21203001</a>	Wastewater Collection System Improvement Project	0-2 Years	Not Funded	\$293,110	Rockcastle	2	1
<a href="#">SX21013003</a>	Courthouse Square Utility Replacement	0-2 Years	Not Funded	\$2,255,948	Bell	3	2
<a href="#">SX21013005</a>	Middlesboro WWTP UV Disinfection Addition	0-2 Years	Not Funded	\$950,000	Bell	4	1
<a href="#">SX21109001</a>	Phase 1 - Wastewater System Rehabilitation	3-5 Years	Not Funded	\$1,400,000	Jackson	5	1
<a href="#">SX21095003</a>	Tri Cities Sewer Interconnect Phase 1	0-2 Years	Not Funded	\$3,085,000	Harlan	6	5
<a href="#">SX21121001</a>	Sewer Extension to Grace Community Health Facility1	0-2 Years	Not Funded	\$354,025	Knox	7	1
<a href="#">SX21235006</a>	Tattersall Subdivision Sanitary Sewer Extension	3-5 Years	Not Funded	\$4,732,000	Whitley	8	3
<a href="#">SX21013006</a>	Pineville WWTP Expansion	0-2 Years	Not Funded	\$9,500,000	Bell	9	3
<a href="#">SX21125322</a>	WCWD - Unserved Customers In Lake Watershed	3-5 Years	Not Funded	\$10,150,000	Laurel	10	1
<a href="#">SX21013148</a>	Middlesboro: Noetown Sewer Rehab/Binghamtown PS Rehab	0-2 Years	Partially Funded	\$2,550,000	Bell	11	6
<a href="#">SX21125115</a>	Sanitary Sewer Collection System to Serve Sandy Hills Subdivision	3-5 Years	Not Funded	\$231,475	Laurel	12	2
<a href="#">SX21013142</a>	Middlesboro - "y" Road Sewer Extension/Whitmer Industrial Park	3-5 Years	Not Funded	\$1,097,000	Bell	13	7
<a href="#">SX21095004</a>	City of Loyall - wastewater Line Replacement Project Phase 3	3-5 Years	Not Funded	\$1,284,500	Harlan	14	7
<a href="#">SX21095008</a>	U.S. 119 Fourmile - Wallins Sanitary Sewer Extension	0-2 Years	Partially Funded	\$3,031,578	Harlan	15	4
<a href="#">SX21051007</a>	Beech Creek Recreational Center Wastewater Package Plant Replacement	3-5 Years	Not Funded	\$425,000	Clay	16	1
<a href="#">SX21235005</a>	Ball Park Pump Station/ Force Main - Phase II	0-2 Years	Not Funded	\$1,599,411	Whitley	17	2
<a href="#">SX21235004</a>	Sanitary Sewer Rehabilitation and I&I Removal Project	0-2 Years	Partially Funded	\$2,516,489	Whitley	18	1
<a href="#">SX21095009</a>	City of Cumberland Waste Water Treatment Plant Rehabilitation	0-2 Years	Not Funded	\$555,000	Harlan	19	1
<a href="#">SX21203192</a>	Mount Vernon Wastewater Gravity Force Main and Lift Station Hwy 25 South From Mt. Vernon to Burr Area	3-5 Years	Not Funded	\$5,385,000	Rockcastle	20	3
<a href="#">SX21051048</a>	Red Bird Mission Wastewater Plant Replacement	3-5 Years	Not Funded	\$900,000	Clay	21	2
<a href="#">SX21125002</a>	South US 25 Force Main Sewer	0-2 Years	Not Funded	\$588,132	Laurel	22	3
<a href="#">SX21203191</a>	City of Mount Vernon -WWTP and Pump Station off Richmond Street	3-5 Years	Not Funded	\$5,500,000	Rockcastle	23	2
<a href="#">SX21125318</a>	East Laurel Water District - Wastewater Line Extensions #18	3-5 Years	Not Funded	\$1,199,266	Laurel	24	5
<a href="#">SX21253111</a>	Corbin - Sanitary Sewer Extension Along Boone Avenue and Greendale Street	3-5 Years	Not Funded	\$248,020	Laurel	25	6
<a href="#">SX21095055</a>	Evarts Pride Wastewater Sewer Extension	3-5 Years	Not Funded	\$600,000	Harlan	26	8
<a href="#">SX21125005</a>	Fariston Road Sanitary Sewer Extension	0-2 Years	Unknown	\$0	Laurel	27	4
<a href="#">SX21013144</a>	Pineville - PMRIDA Sewer Ext to Industrial Park	0-2 Years	Partially Funded	\$4,994,000	Bell	28	4
<a href="#">SX21095509</a>	City of Benham Rehabilitation	3-5 Years	Not Funded	\$450,000	Harlan	29	2
<a href="#">SX21103156</a>	US 119 Sewer Line Extension	3-5 Years	Not Funded	\$3,300,000	Bell	30	5
<a href="#">SX21125151</a>	Wood Creek Wastewater Treatment Facilities	3-5 Years	Not Funded	\$4,000,000	Laurel	31	7
<b>Total Cost:</b>				<b>\$74,543,444</b>			

# Five County Area Development District (FIVCO)

- 2010 census population of 137,884 (61,101 households) with 53% serviceable.
- Projected 2020 population of 139,098 (change of 1,214).
- 587.24 miles of existing sewer lines.
- 72.00 miles of line extensions proposed in the next 10 years.
- 27.00 miles of line rehabilitation proposed in the next 10 years.
- 9.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$126,113,090.
- Estimated funding needs for projects from 6 to 10 years: \$5,924,560.
- Average age of wastewater treatment plants is 36 years.
- Total number of interconnected systems is 8.
- 57 miles of sewer lines less than 15 years old.
- 235 miles of sewer lines between 15 and 30 years old.
- 196 miles of sewer lines between 31 and 50 years old.
- 92 miles of sewer lines between 51 and 70 years old.
- 6 miles of sewer lines greater than 70 years old.



Five County Area Development District has a 2010 census population count of 137,884 (61,101 households) with a projected 2020 population count of 139,098 (56,252 households). Public sewer is currently available to approximately 53 percent of the district's households based on 2010 census counts. Over the next ten years approximately 2,579 serviceable households will be added through the construction of 72.00 miles of sewer line extensions and approximately 68,439 instances of improved service through the rehabilitation of 27.00 miles of existing sewer lines and other appurtenances. 9.00 miles of interceptor lines are also proposed within this district.

**County Summary for Five County Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Boyd	49,542	21,803	49,446	20,040	17,663	81%	\$ 61,213,780
Carter	27,720	12,311	28,459	11,508	2,917	24%	\$ 8,785,000
Elliott	7,852	3,371	8,078	3,011	374	11%	-
Greenup	36,910	16,330	36,923	15,046	9,285	57%	\$ 28,430,610
Lawrence	15,860	7,286	16,192	6,647	1,944	27%	\$ 33,608,260
<b>Totals</b>	<b>137,884</b>	<b>61,101</b>	<b>139,098</b>	<b>56,252</b>	<b>32,183</b>	<b>53%</b>	<b>\$ 132,037,650</b>

## Public Sewer Systems in the Five County Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KYP000035</a>	Boyd County Sanitation District #2	Boyd	4,149	1,839
<a href="#">KYP000044</a>	Boyd County Sanitation District #4	Boyd	10,722	4,119
<a href="#">KY0022373</a>	City of Ashland	Boyd	21,646	10,527
<a href="#">KY0035467</a>	City of Catlettsburg	Boyd	2,428	1,136
<a href="#">KY0025925</a>	City of Olive Hill	Carter	1,924	944
<a href="#">KY0020931</a>	Grayson Utility Commission	Carter	4,637	1,957
<a href="#">KY0052264</a>	City of Sandy Hook	Elliott	700	374
<a href="#">KYP000040</a>	Boyd & Greenup County Sanitation District #1	Greenup	3,347	1,399
<a href="#">KYP000039</a>	City of Flatwoods	Greenup	7,719	3,442
<a href="#">KY0026450</a>	City of Greenup	Greenup	1,268	539
<a href="#">KYP000038</a>	City of Raceland	Greenup	2,388	1,109
<a href="#">KYP000037</a>	City of Russell	Greenup	854	420
<a href="#">KY0026131</a>	City of South Shore	Greenup	2,278	1,100
<a href="#">KY0022926</a>	City of Worthington	Greenup	1,611	682
<a href="#">KY0033553</a>	Greenup Joint Sewer Agency	Greenup	1,450	615
<a href="#">KY0027961</a>	City of Louisa	Lawrence	3,433	1,588
<a href="#">KYP000061</a>	Lawrence County Fiscal Court	Lawrence	822	353
		<b>Totals:</b>	71,376	32,143

# Five County Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Meet Regulatory Requirements**

## **Discussion of Area Development District Needs:**

Aging infrastructure is the primary need across all five counties of the ADD: In Worthington, for example, some collection lines were installed during the 1930's and 1940's, while the City of Ashland has many large brick sewers deeply buried and still in use. With all the maintenance needs of our communities, replacement of older parts of a collection system generally occurs when a failure or collapse focuses the repair crew's attention into that area.

Money. There is a limit to the number of rate hikes the customer base can absorb to keep the system working and still allow the utility to replace/upgrade the older sections. Loans work for a time, but the rebuilt section addressed by a loan ages 30 years during the terms of the loan along with all the other sections of the system.

Extensions: Listing "extend services into unserved areas" should not be limited to municipal gravity lines. The "services" may well be mandatory inspection and repair (by the utility) of on-site systems required per County ordinance. Payment for such a program could come from modest utility bills to fund a responsible entity (such as a municipal system) to perform the function on a three year rotation to different of the county. Such an approach to wastewater treatment in the County surrounding any municipal system could only work if proper ordinances were in place and enforced. Gravity lines or low pressure systems should not be ruled out but may be prohibitively expensive. Satellite treatment that rely on gravity collection systems rather than expensive pump stations may also be an option.

Several utilities expressed a desire for the Fiscal Court of each county to invest in backup generators that could be trucked to areas of need during a crisis that disables part of a utility's system.

## **Description and Determination of Planning Units:**

The Planning Units for the FIVCO ADD follow the county boundaries. This was necessary because of the small, unconnected nature of a collection system. Rarely does one utility's line come within several miles of the neighboring system and the concerns of one county do not carry over into the next county.

Boyd County is effectively covered throughout the county because of a county ordinance making hook-up to collection system mandatory. Though there are uncovered areas, the collection systems are growing.

Carter County has two municipalities separated by more than 10 miles that do not approach their neighboring counties. Elliott County and Lawrence County each have a municipal system with little extension beyond the cities. Without a mandatory hookup ordinance, extension of service outside city limits is difficult if not impossible for all these counties.

Fully half of the wastewater systems in the FIVCO ADD are in Greenup County. The Greenup County Environmental Commission is a regional treatment plant serving three cities and two sanitation districts. The other communities have their own treatment plants with the remainder of the county covered by on-site systems.



# Five County Area Development District Project Ranking Methodology



The annual ranking in the FIVCO area begins with a series of county-wide meetings comprised of all the water and sewer utilities in the county where the meeting is taking place. Each utility present decides which of their projects is to be ranked and determines the importance of those for themselves. The county ranking process is based on a consensus decision by the members present at the meeting.

While the county rankings are based on a consensus, the regional ranking process uses a quantitative points system to determine the importance of each project ranked at the county level. The points given to each project fall within 6 categories: Project Type, Compliance, Financial, Project Status, County Ranking, and Regional Importance.

## Project Type

- |  |    |
|--|----|
| A. Will this project provide or continue regionalization and/or consolidation of wastewater treatment systems? Proposed project reduces the number of NPDES discharges by regionalization. | 25 |
| B. Combined Sewer Overflow (CSO) Correction  | 25 |
| C. Elimination of sewage treatment plant through an interconnection.   | 23 |
| D. Sanitary Sewer Overflow (SSO) Correction  | 20 |
| E. Construction of a new wastewater treatment plant for a regional provider.   | 20 |
| F. Replacement and/or rehabilitation of aging infrastructure   | 17 |
| G. New Treatment Plant/Expanding Existing Plant  | 15 |
| H. Extension of Service to Unserved Households   |    |
| a. 10+ households per mile   | 20 |
| b. 8-9 households per mile   | 18 |
| c. 6-7 households per mile   | 15 |
| d. > 5 households per mile   | 10 |

## Compliance with Enforcement Action

- |  |    |
|--|----|
| Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? | 20 |
|--|----|

## Financial

- |   |    |
|---|----|
| A. Documented financing plan in Project Profile | 10 |
|---|----|

## Project Status

- |   |   |
|---|---|
| A. Estimated engineer's budget complete           | 5 |
| B. Estimated bid date and construction start date | 5 |

## County Ranking

- |                                |    |
|--------------------------------|----|
| A. Number one ranked project   | 24 |
| B. Number two ranked project   | 20 |
| C. Number three ranked project | 16 |
| D. Number four ranked project  | 14 |
| E. Number five ranked project  | 12 |

## Regional Importance

A project can be awarded points at the discretion of the regional water management council. No more than thirty points can be awarded by the council to water projects in the regional ranking.



### Project Rankings For Five County Area Development District

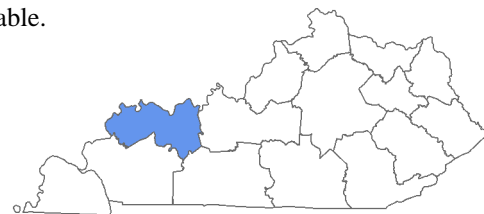
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21019081</a>	29th Street Storm Water Separation Project	0-2 Years	Not Funded	\$4,024,780	Boyd	1	1
<a href="#">SX21127030</a>	City of Louisa I & I Rehab Project	3-5 Years	Not Funded	\$5,375,000	Lawrence	2	1
<a href="#">SX21019065</a>	Ashland: Enlarge Sewer Treatment Plant to Eliminate Overflows	3-5 Years	Not Funded	\$25,000,000	Boyd	3	5
<a href="#">SX21089112</a>	GJSA Wastewater Treatment Plant Modification Project	0-2 Years	Not Funded	\$330,000	Greenup	4	1
<a href="#">SX21019053</a>	SD4: Systemwide Pump Station Maintenance	0-2 Years	Not Funded	\$950,000	Boyd	5	2
<a href="#">SX21019062</a>	Sd2: System-Wide Inflow and Infiltration Abatement Project	0-2 Years	Partially Funded	\$2,173,000	Boyd	6	3
<a href="#">SX21089064</a>	Worthington: CSO Phase 5 Project	3-5 Years	Not Funded	\$185,900	Greenup	7	11
<a href="#">SX21019077</a>	SD4: Rehab Ray Drive Sewer Line	0-2 Years	Not Funded	\$312,000	Boyd	8	4
<a href="#">SX21089109</a>	City of Greenup Phase 2 Sewer Rehab Project	0-2 Years	Not Funded	\$3,000,000	Greenup	9	4
<a href="#">SX21089003</a>	Worthington Dry Beds Rehab Project	3-5 Years	Not Funded	\$80,000	Greenup	10	2
<a href="#">SX21089056</a>	City of Flatwoods I & I Study and Rehab Project	0-2 Years	Not Funded	\$650,000	Greenup	11	5
<a href="#">SX21089095</a>	South Shore: Upgrade Lift Stations 4, 5, and 6	0-2 Years	Not Funded	\$785,200	Greenup	12	9
<a href="#">SX21127029</a>	Louisa: Wastewater Treatment Plant	3-5 Years	Not Funded	\$21,000,000	Lawrence	13	2
<a href="#">SX21089108</a>	Raceland: Rehab the Williams Avenue Lift Station	3-5 Years	Not Funded	\$250,000	Greenup	14	3
<a href="#">SX21089110</a>	City of Russell I & I Study and Sewer Rehab Project	0-2 Years	Not Funded	\$500,000	Greenup	15	6
<a href="#">SX21089080</a>	Flatwoods: Federal Way Sewer Line Upgrade and Replacement	0-2 Years	Not Funded	\$400,000	Greenup	16	12
<a href="#">SX21089084</a>	Flatwoods: Dietrich Drive Sewer Project	0-2 Years	Not Funded	\$425,000	Greenup	17	13
<a href="#">SX21089068</a>	Raceland: Rogers Avenue Upgrade	0-2 Years	Not Funded	\$20,000	Greenup	18	18
<a href="#">SX21089083</a>	Flatwoods: Jones Street Sewer Project	0-2 Years	Not Funded	\$650,000	Greenup	19	20
<a href="#">SX21019022</a>	BCFC: Phase IV SR 5 Princess Area	3-5 Years	Not Funded	\$400,000	Boyd	20	6
<a href="#">SX21089005</a>	Worthington: Rehab Project to Replace Clay Pipe	3-5 Years	Not Funded	\$300,000	Greenup	21	8
<a href="#">SX21089085</a>	Wurtland: Phase 2 of System Rehab	0-2 Years	Not Funded	\$500,000	Greenup	22	10
<a href="#">SX21089045</a>	Bellefonte: Buena Vista Sewer Repair	3-5 Years	Not Funded	\$115,000	Greenup	23	16
<a href="#">SX21089017</a>	Raceland: Cherokee Road Sewer Extension	3-5 Years	Not Funded	\$102,000	Greenup	24	22
<a href="#">SX21089028</a>	Wurtland: Conley Subdivision Sewer Project	0-2 Years	Not Funded	\$650,000	Greenup	25	23
<a href="#">SX21089060</a>	Wurtland: Uhlen Branch Sewer Line Extension	0-2 Years	Not Funded	\$1,000,000	Greenup	26	24
<a href="#">SX21043030</a>	Grayson: Rolling Hills Subdivision Sewer Extension	0-2 Years	Not Funded	\$1,200,000	Carter	27	2
<a href="#">SX21043035</a>	Grayson: Plantation Subdivision Sewer Extension Project	0-2 Years	Not Funded	\$1,900,000	Carter	28	4
<a href="#">SX21019082</a>	Pump Station Rehab Project	3-5 Years	Not Funded	\$250,000	Boyd	29	7
<a href="#">SX21089031</a>	Raceland: Sanitary Sewer Rehab Project	3-5 Years	Not Funded	\$50,000	Greenup	30	7
<a href="#">SX21089113</a>	GCEC: Raceland Lift Station Upgrade Project	3-5 Years	Not Funded	\$321,000	Greenup	31	15
<a href="#">SX21089096</a>	South Shore: Upgrade Forest Heights Collection Lines	3-5 Years	Not Funded	\$889,100	Greenup	32	19
<a href="#">SX21089043</a>	Worthington: Calumet Causeway Sewer Project	6-10 Years	Not Funded	\$55,000	Greenup	33	21
<a href="#">SX21043017</a>	Olive Hill: Rehab of City Lines to Replace Clay Pipe	3-5 Years	Not Funded	\$1,400,000	Carter	34	1
<a href="#">SX21089078</a>	GCEC: Lagoon Aeration Equipment	3-5 Years	Not Funded	\$250,000	Greenup	35	14
<a href="#">SX21089105</a>	GCEC: Weather Protection Project	3-5 Years	Not Funded	\$90,000	Greenup	36	17

### Project Rankings For Five County Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21043037</a>	Wastewater Treatment Plant Expansion Project	3-5 Years	Unknown	\$0	Carter	37	3
<a href="#">SX21089090</a>	Wurtland: Riverside Drive Line Extension	3-5 Years	Not Funded	\$50,000	Greenup	38	25
<a href="#">SX21089094</a>	Wurtland: Industrial Parkway Sewer Service	0-2 Years	Not Funded	\$100,000	Greenup	39	26
<b>Total Cost:</b>				<b>\$75,732,980</b>			

# Green River Area Development District (GRADD)

- 2010 census population of 213,472 (92,066 households) with 64% serviceable.
- Projected 2020 population of 220,544 (change of 7,072).
- 1,021.80 miles of existing sewer lines.
- 47.00 miles of line extensions proposed in the next 10 years.
- 26.00 miles of line rehabilitation proposed in the next 10 years.
- 8.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$63,375,612.
- Estimated funding needs for projects from 6 to 10 years: \$15,228,500.
- Average age of wastewater treatment plants is 39 years.
- Total number of interconnected systems is 7.
- 171 miles of sewer lines less than 15 years old.
- 189 miles of sewer lines between 15 and 30 years old.
- 284 miles of sewer lines between 31 and 50 years old.
- 159 miles of sewer lines between 51 and 70 years old.
- 220 miles of sewer lines greater than 70 years old.



Green River Area Development District has a 2010 census population count of 213,472 (92,066 households) with a projected 2020 population count of 220,544 (89,593 households). Public sewer is currently available to approximately 64 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,324 serviceable households will be added through the construction of 47.00 miles of sewer line extensions and approximately 64,353 instances of improved service through the rehabilitation of 26.00 miles of existing sewer lines and other appurtenances. 8.00 miles of interceptor lines are also proposed within this district.

**County Summary for Green River Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Daviess	96,656	41,452	102,214	41,878	32,378	78%	\$ 9,061,065
Hancock	8,565	3,734	8,843	3,502	1,420	38%	\$ 5,225,000
Henderson	46,250	20,320	47,600	19,851	13,885	68%	\$ 23,430,085
McLean	9,531	4,264	9,271	3,821	1,810	42%	\$ 10,572,000
Ohio	23,842	10,219	24,781	9,786	3,282	32%	\$ 4,556,570
Union	15,007	6,141	14,436	5,463	3,686	60%	\$ 13,567,142
Webster	13,621	5,936	13,399	5,292	2,807	47%	\$ 12,192,250
<b>Totals</b>	<b>213,472</b>	<b>92,066</b>	<b>220,544</b>	<b>89,593</b>	<b>59,268</b>	<b>64%</b>	<b>\$ 78,604,112</b>

## Public Sewer Systems in the Green River Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0031895</a>	Cedar Hills Sanitation Corporation	Daviess	373	129
<a href="#">KY0025224</a>	Friendly Park Development Company	Daviess	146	57
<a href="#">KY0073377</a>	Regional Water Resource Agency - East	Daviess	31,643	13,293
<a href="#">KY0020095</a>	Regional Water Resource Agency - West	Daviess	40,774	18,585
<a href="#">KY0054941</a>	Whitesville Water Works	Daviess	711	314
<a href="#">KY0020087</a>	Hawesville Water Works	Hancock	1,266	562
<a href="#">KY0025241</a>	Lewisport Municipal Water Works	Hancock	1,840	858
<a href="#">KYP000042</a>	Corydon Wastewater Collection	Henderson	755	306
<a href="#">KY0020711</a>	Henderson Water Utility - North	Henderson	29,780	13,578
<a href="#">KY0020125</a>	Calhoun Water Works	McLean	1,176	561
<a href="#">KY0066605</a>	Island Water Department	McLean	508	227
<a href="#">KY0020613</a>	Livermore Water Works	McLean	1,464	695
<a href="#">KY0091731</a>	Sacramento Water Works	McLean	685	327
<a href="#">KYP000076</a>	Beaver Dam Municipal Water/Sewer	Ohio	3,877	1,629
<a href="#">KYP000078</a>	Centertown Water System	Ohio	538	219
<a href="#">KY0054801</a>	Fordsville Water District	Ohio	554	242
<a href="#">KYP000077</a>	Hartford Municipal Water Works	Ohio	2,547	1,125
<a href="#">KY0105791</a>	Ohio County Regional Wastewater District	Ohio	165	67
<a href="#">KY0021440</a>	Morganfield Water Works	Union	5,761	2,006
<a href="#">KY0025895</a>	Sturgis Water Works	Union	2,088	1,025
<a href="#">KY0025844</a>	Uniontown Water/Sewer Department	Union	1,086	496
<a href="#">KYP000060</a>	Waverly Wastewater Collection	Union	348	159
<a href="#">KY0028096</a>	Clay Water Works	Webster	1,181	514
<a href="#">KY0021296</a>	Providence Water Works	Webster	2,868	1,447
<a href="#">KYP000054</a>	Sebree Collection System	Webster	1,493	565
<a href="#">KYP000055</a>	Webster County Sanitation District	Webster	835	281
		<b>Totals:</b>	134,462	59,267

# Green River Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **New Collector and Appurtenances**

## Discussion of Area Development District Needs:

The GRADD region covers seven counties and their individual needs vary widely. The counties all know the importance and value of rationalization and regional projects and strive to build them. However, these individual systems have other needs that must be addressed on a daily basis while regional projects can take years to plan and complete.

In the GRADD region, the primary need is the repair and replacement of existing infrastructure. All seven counties in the GRADD region considered repair and replacement of existing infrastructure as their primary need. Under this, the most important aspect is repair/replacement of sewer lines to combat I&I, but also includes repairing/replacing equipment in the distribution system as well as that at sewer plant.

The secondary need of the area is to build new collector sewer and appurtenances. The need for this varies from county to county as well as between systems. The project needs include building new sewer lines that will redesign the systems flow and will help the system run more efficiently, to building out new sewer lines to serving areas that have failing on-site systems or no sewer system at all.

## Description and Determination of Planning Units:

The GRADD Water Management Council adopted the GRADD geographical boundary as its services area.

The following wastewater systems serve communities in the Green River Area Development District, and their service areas are included in the Water Management Planning Area:

### \*Daviess County

1. Regional Water Resource Agency - East Plant
2. Regional Water Resource Agency - West Plant
3. Whitesville Water Works

### \*Hancock County

1. Hawesville Water Works
2. Lewisport Municipal Water Works

### \*Henderson County

1. Henderson Water Utility--North
2. Henderson Water Utility--South

### \*McLean County

1. Calhoun Water Works
2. Island Water Department
3. Livermore Water Works
4. Sacramento Water Works

### \*Ohio County

1. Beaver Dam Municipal Water
2. Centertown Water System
3. Fordsville Water Works
4. Hartford Municipal Water Works
5. Ohio County Regional Wastewater District

### \*Union County

1. Morganfield Water Works
2. Sturgis Water Works
3. Uniontown Water Department
4. Waverly Wastewater Collection

### \*Webster County

1. Clay Water Works
2. Providence Water Works
3. Sebree Water Department
4. Webster County Sanitation District

# Green River Area Development District Project Ranking Methodology



## Basic Information

- Project County
- Project Owner
- WRIS Project Number
- Project Description
- Estimated Project Cost

## Type of Project

### Unserved

- 9 or more per mile 20 pts
- 7-8 per mile 19 pts
- 5-6 per mile 18 pts
- 3-4 per mile 15 pts
- 1-2 per mile 10 pts
- <1 per mile 5 pts

### Underserved

- 80-100% total customer base impacted 20 pts
- 60-79% total customer base impacted 19 pts
- 40-59% total customer base impacted 18 pts
- 20-39% total customer base impacted 15 pts
- 10-19% total customer base impacted 10 pts
- less than 10% customer base impacted 5 pts

### Economic Development

- 100 or more jobs created or retained 20 pts
- 75-99 jobs created or retained 19 pts
- 50-74 jobs created or retained 18 pts
- 20-49 jobs created or retained 15 pts
- 10-19 jobs created or retained 10 pts
- less than 10 jobs created or retained 5 pts

Other (a project that does not meet above criteria, i.e. a building for chemicals)

- 3 pts

### Combination

- If a project is a combination of the above, whichever category the project scored higher in (unserved, underserved, or economic development) the project will get those points, plus 3 additional pts

Maximum of 20 points for this section

## Delivery Area

- Regional – Consolidation into single system 30 pts
- Regionalization of a WTP or WWTP 20 pts
- Project benefits multiple systems/communities 15 pts
- Project benefits two systems/communities 10 pts
- Non-regional 5 pts
- Non-regional project that eliminates a lift station/ package treatment plant/pump station 10 pts

**Project Status**

- Engineering plans and specs submitted to DOW 20 pts
- PER 15 pts
- Engineering procurement completed 10 pts
- Cost estimate by PE 10 pts
- Preliminary planning by system 5 pts

**Funding Status**

A project costing greater than \$100,000

1. Funding committed for 50% or more 20 pts
2. Funding committed for 25-49% 10 pts
3. Funding committed for 1-24% 5 pts
4. Pending applications 3 pts

A project costing less than \$100,000

1. 10 pts as long as the project is in one of the above four processes

**Environmental Factors**

Any project can receive as many (or none) of the points below

- Water loss reduction/I&I reduction 5 pts
- Replacing inefficient pumps/motors with high efficiency ones 5 pts
- Use of some other Green Technology not listed above 5 pts

Tie breaker is cost per connection

**County Ranking**

The highest scoring project in a county will be the number one ranking project for that county. The number two and subsequently ranked projects will follow in order of next highest scoring. The top five ranked projects in the county will be sent to be ranked regionally; however, all county ranked projects will still be submitted to KIA.

**Regional Ranking**

The highest scoring projects in the region will be determined from the highest ranked projects in the counties.

### Project Rankings For Green River Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21059049</a>	Cedar Hills Sewer Extension Project	0-2 Years	Not Funded	\$2,035,000	Daviess	1	1
<a href="#">SX21233026</a>	Providence Wastewater Treatment Plant Expansion	0-2 Years	Not Funded	\$1,959,000	Webster	2	1
<a href="#">SX21091015</a>	Hawesville Sewer Plant Rebuild Project	0-2 Years	Not Funded	\$3,800,000	Hancock	3	1
<a href="#">SX21149023</a>	Sacramento Gravity Sewer Project, Phase II	0-2 Years	Not Funded	\$940,000	McLean	4	1
<a href="#">SX21183016</a>	Centertown Liftstation Rebuild Project	0-2 Years	Not Funded	\$150,000	Ohio	5	1
<a href="#">SX21233025</a>	Providence Sanitary Sewer Upgrades	0-2 Years	Not Funded	\$1,693,750	Webster	6	2
<a href="#">SX21233020</a>	Sebree I&I Sewer Rehab Project	3-5 Years	Not Funded	\$1,215,000	Webster	7	3
<a href="#">SX21225012</a>	Sturgis Wastewater Treatment Plant Upgrade	6-10 Years	Partially Funded	\$2,710,000	Union	8	1
<a href="#">SX21101015</a>	Happy Acres Sewer Service Extension	11-20 Years	Not Funded	\$2,000,000	Henderson	9	1
<a href="#">SX21101023</a>	Henderson Water Utility Manhole Renovation	3-5 Years	Not Funded	\$1,100,000	Henderson	10	2
<a href="#">SX21101014</a>	Holloway Hills Sewer Extension	6-10 Years	Not Funded	\$600,000	Henderson	11	3
<a href="#">SX21101016</a>	Grantwood Sewer Service Extension	6-10 Years	Not Funded	\$1,000,000	Henderson	12	4
<a href="#">SX21101009</a>	Broadview Sewer Line Extension	11-20 Years	Not Funded	\$600,000	Henderson	13	5
<a href="#">SX21149031</a>	Calhoun Wastewater Plant Replacement Project	0-2 Years	Not Funded	\$2,480,000	McLean	14	2
<a href="#">SX21225030</a>	Morganfield Combined Sewer Separation Project Phase 3	0-2 Years	Not Funded	\$1,499,942	Union	15	2
<a href="#">SX21149028</a>	Sacramento Phase III Gravity Sewer Project	6-10 Years	Not Funded	\$375,000	McLean	16	3
<a href="#">SX21149029</a>	Sacramento Phase IV Gravity Sewer Project	11-20 Years	Not Funded	\$1,147,500	McLean	17	4
<a href="#">SX21183002</a>	North 231 Sewer Extension Project	0-2 Years	Not Funded	\$700,000	Ohio	18	2
<a href="#">SX21059050</a>	Hawes Treatment Plant and Ragu Pump Station Upgrades	0-2 Years	Not Funded	\$4,215,000	Daviess	19	2
<a href="#">SX21059043</a>	Whitesville Sewer Rehabilitation Project	3-5 Years	Not Funded	\$58,000	Daviess	20	3
<a href="#">SX21091014</a>	Hawesville Lift Station Rehabilitation	6-10 Years	Not Funded	\$100,000	Hancock	21	2
<a href="#">SX21091013</a>	Highway 60 East Economic Development	3-5 Years	Not Funded	\$500,000	Hancock	22	3
<a href="#">SX21225015</a>	Uniontown Lift Station Rebuilds	6-10 Years	Not Funded	\$1,000,000	Union	23	3
<a href="#">SX21225006</a>	Camp Breckenridge Sewer Rehab	0-2 Years	Not Funded	\$3,552,800	Union	24	4
<a href="#">SX21149002</a>	Livermore Sewer Line Extensions	6-10 Years	Not Funded	\$1,500,000	McLean	25	5
<a href="#">SX21233001</a>	Webster County Sanitation Expansion Project	3-5 Years	Not Funded	\$4,615,000	Webster	26	4
<a href="#">SX21091012</a>	Hawesville Generator Project	6-10 Years	Not Funded	\$75,000	Hancock	27	4
<a href="#">SX21233024</a>	Sebree Highway 370 Sewer Line Extension	6-10 Years	Not Funded	\$941,500	Webster	28	5
<a href="#">SX21225025</a>	Winn Addition Sewer Expansion	0-2 Years	Not Funded	\$3,424,400	Union	29	5
<a href="#">SX21183013</a>	Beaver Dam Sewer Rehab Debt Payoff	3-5 Years	Not Funded	\$580,000	Ohio	30	3
<a href="#">SX21183007</a>	Centertown Sewer Clean Out Machine Purchase Project	0-2 Years	Not Funded	\$50,000	Ohio	31	4
<a href="#">SX21091017</a>	Lewisport Manhole Inspection and Relining Project	11-20 Years	Not Funded	\$120,000	Hancock	32	5
<a href="#">SX21183012</a>	Valley View Sewer Line Replacement	3-5 Years	Not Funded	\$321,120	Ohio	33	5
<a href="#">SX21149005</a>	Fox Hollow Road Sewer Line Extension	6-10 Years	Not Funded	\$1,000,000	McLean	34	6
<a href="#">SX21101018</a>	Graham Hill Sewer Extensions	3-5 Years	Not Funded	\$3,150,000	Henderson	35	6



	<b>Total Cost:</b>	<b>\$51,208,012</b>			
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# Gateway Area Development District (GWADD)

- 2010 census population of 81,652 (36,780 households) with 41% serviceable.
- Projected 2020 population of 87,651 (change of 5,999).
- 361.74 miles of existing sewer lines.
- 21.00 miles of line extensions proposed in the next 10 years.
- 11.00 miles of line rehabilitation proposed in the next 10 years.
- 1.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$19,895,369.
- Estimated funding needs for projects from 6 to 10 years: \$3,195,089.
- Average age of wastewater treatment plants is 24 years.
- Total number of interconnected systems is 0.
- 67 miles of sewer lines less than 15 years old.
- 209 miles of sewer lines between 15 and 30 years old.
- 70 miles of sewer lines between 31 and 50 years old.
- 19 miles of sewer lines between 51 and 70 years old.
- 0 miles of sewer lines greater than 70 years old.



Gateway Area Development District has a 2010 census population count of 81,652 (36,780 households) with a projected 2020 population count of 87,651 (34,583 households). Public sewer is currently available to approximately 41 percent of the district's households based on 2010 census counts. Over the next ten years approximately 636 serviceable households will be added through the construction of 21.00 miles of sewer line extensions and approximately 52,016 instances of improved service through the rehabilitation of 11.00 miles of existing sewer lines and other appurtenances. 1.00 miles of interceptor lines are also proposed within this district.

**County Summary for Gateway Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bath	11,591	5,405	12,132	5,006	1,758	33%	\$ 6,394,829
Menifee	6,306	3,744	6,038	2,422	572	15%	\$ 6,327,100
Montgomery	26,499	11,699	30,750	12,483	6,271	54%	\$ 3,285,589
Morgan	13,923	5,830	14,023	5,126	892	15%	\$ 4,007,940
Rowan	23,333	10,102	24,708	9,546	5,748	57%	\$ 3,075,000
<b>Totals</b>	<b>81,652</b>	<b>36,780</b>	<b>87,651</b>	<b>34,583</b>	<b>15,241</b>	<b>41%</b>	<b>\$ 23,090,458</b>

## Public Sewer Systems in the Gateway Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KIA011001</a>	Bath County Sanitation District	Bath	153	72
<a href="#">KY0024287</a>	City of Owingsville	Bath	1,996	992
<a href="#">KY0088421</a>	City of Sharpsburg	Bath	393	229
<a href="#">KY0040584</a>	City of Frenchburg	Menifee	720	387
<a href="#">KY0100901</a>	Menifee County Sanitation District # 1	Menifee	420	177
<a href="#">KY0069736</a>	Montgomery County Sanitation Dist #2	Montgomery	1,767	791
<a href="#">KY0104400</a>	Mount Sterling Water and Sewer	Montgomery	11,882	5,480
<a href="#">KY0089567</a>	City of West Liberty	Morgan	3,665	892
<a href="#">KY0052752</a>	Morehead Utility Plant Board	Rowan	15,139	6,259
		<b>Totals:</b>	36,135	15,279

# Gateway Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## Discussion of Area Development District Needs:

There are nine wastewater systems that serve Gateway Area Development District. Each wastewater utility in the Gateway ADD was provided with the opportunity to identify the needs for the system. The needs of every system were considered in the determination of the Gateway Area Development District's primary and secondary Clean Water needs.

The District's primary Clean Water need is Repair/Replace Existing Infrastructure. This was the primary need of every planning unit in the Gateway ADD with the exception of the Menifee County Planning Unit. The wastewater systems in the region have identified this as a Clean Water need for a variety of reasons. Some areas of the region's sewer infrastructure have been damaged as a result of severe weather events, some portions of the aging infrastructure need to be replaced to prevent pipe bursts, and other portions of the existing infrastructure need to be replaced because the current lines, lift stations, etc. are at/near capacity.

Extend Services to Unserved Areas is the secondary Clean Water need in the Gateway Area Development District. This was identified as the secondary need in three of the planning units and mentioned as an additional need in a fourth planning unit. While urbanized areas and the larger communities in the Gateway Area Development District have sewer infrastructure, there are large portions of the region that do not. Over 60% of the region's population is not served by a wastewater system.

Additional needs that were identified for the region are Economic Stimulation for areas that cannot currently support potential industrial development. New Collector Sewer and Appurtenances and Sanitary Sewer Overflow Correction were also identified by some of the planning units and individual systems as Clean Water needs in the District.

## Description and Determination of Planning Units:

The Gateway Area Development District is divided into five planning units which are: Bath County, Menifee County, Montgomery County, Morgan County, and Rowan County. These planning units follow the political county boundaries.

There are three wastewater systems in Bath County. Two of the systems in the Bath County Planning Unit are municipalities (City of Owingsville Water and Sewer and City of Sharpsburg Sewer) and the other is a sanitation district (Bath County Sanitation District). The systems in the Bath County Planning Unit have combined connection count of 939 total connections (residential, commercial, industrial, etc.).

The Menifee County Planning Unit has two systems; one municipality (City of Frenchburg Water and Sewer) and one sanitation district (Menifee County Sanitation District #1). The systems in the Menifee County Planning Unit have combined connection count of 368 total connections (residential, commercial, industrial, etc.).

The Montgomery County Planning Unit also has two systems; one municipality (Mt. Sterling Water and Sewer) and one sanitation district (Montgomery County Sanitation District #2). The systems in the Montgomery County Planning Unit have combined connection count of 5,652 total connections (residential, commercial, industrial, etc.).

The Morgan and Rowan County Planning Units each have one municipal wastewater system (Morgan County - City of West Liberty Water and Sewer; Rowan County - Morehead Utility Plant Board). Morgan County's total connection count is 566 (residential, commercial, industrial, etc.). Rowan County's total connection count is 5,181 (residential, commercial, industrial, etc.).

# Gateway Area Development District

## Project Ranking Methodology



The Gateway Area Water Management Council prioritizes projects based on points. Points are given under the following categories: Project Impact and Project Status.

### Project Impact

Under this category, points are awarded based on the regional needs met by the project, the scope of impact, and the delivery of the project. Regional needs are based on the Regional Needs Assessment and projects are awarded points based upon which regional need is met. Each regional need has a point value established by the Water Management Council. The scope of impact includes the impact of the project to un-served households, underserved households, and economic stimulation. Un-served households are homes that currently do not have public water/wastewater service available to them. Underserved households are homes that have public water/wastewater service, but the completion of the proposed project will improve service and/or quality to said areas in the utility's system. Points are allocated to the economic stimulation group based on the number of jobs the completed project will create. The more households and jobs that a project affects/creates, the more points the project is given. Projects that have more than one scope can receive an additional 5 points and other unlisted project scopes can receive 5 points - maximum points possible for project scope is 20 points. Project Delivery is allotted 20 points for a regional project and 5 points for a non-regional project. A regional project affects more than one utility.

### Project Status

Under this category, points are awarded based on project development, commitment of funds, project timeline, and funding type. For project development, projects are given 5 points for preliminary planning, 10 points for attaining a cost estimate from a project engineer or for procuring an engineer for the project, 15 points if a preliminary engineering report is completed, or 20 points if engineering plans and specs have been completed and submitted to Division of Water. The maximum value of point awarded for commitment of funds is 20 points for projects with more than 50% of the total project cost committed - projects with 25-49% of project funds receive 10 points and projects with less than 25% of project funds committed or with pending applications receive 5 points. Projects with a timeline that is more than 10 years receive 5 points, project scheduled for 6-10 years receive 10 points, and project that will take place in 5 years or less receive 20 points. Finally, projects are awarded points based on the type of anticipated funding - projects that will utilize 100% loan funding receive 20 points, projects that will utilize both loan and grant funding receive 10 points, and projects that will only utilize grant funds receive 5 points.

The category totals are added together for a maximum of 140 points possible. The higher the cumulative total, the higher the project is ranked. For projects with the same overall point total, a cost per connection tie breaker is utilized. The cost per connection tie breaker is calculated using the estimated project cost divided by the total number of households the project will affect. The lower the cost per connection, the higher ranking the project receives.

All profiled projects that are submitted to the Water Management Council are prioritized and receive both a county and regional ranking. The prioritization of the projects is based on the points allocated during the ranking process.

### Project Rankings For Gateway Area Development District

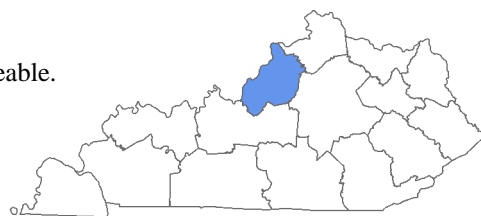
PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21011022</a>	Industrial Park WWTP Expansion	0-2 Years	Not Funded	\$2,700,000	Bath	1	1
<a href="#">SX21175013</a>	City of West Liberty Liberty Road Sewer Extension	3-5 Years	Partially Funded	\$3,257,940	Morgan	2	1
<a href="#">SX21205035</a>	Morehead Utility Plant Board 519 Sewer Extension	3-5 Years	Not Funded	\$200,000	Rowan	3	1
<a href="#">SX21205033</a>	Morehead Utility Plant Board Phase 5 Inflow and Infiltration Sewer	3-5 Years	Not Funded	\$500,000	Rowan	4	2
<a href="#">SX21011002</a>	City of Owingsville Lagoon System Cleaning Project	3-5 Years	Not Funded	\$700,000	Bath	5	2
<a href="#">SX21165015</a>	City of Frenchburg Bryant Lane/Shotgun Hollow Sewer Line Extension Project	3-5 Years	Not Funded	\$650,250	Menifee	6	1
<a href="#">SX21011017</a>	City of Owingsville KY 36 North Sewer Extension	3-5 Years	Not Funded	\$563,284	Bath	7	3
<a href="#">SX21205038</a>	Morehead Utility Plant Board Autothermal Thermophilic Aerobic Digestion (ATAD) Rehab	3-5 Years	Not Funded	\$500,000	Rowan	8	3
<a href="#">SX21011007</a>	City of Sharpsburg Oaklawn Line Extension Project	3-5 Years	Not Funded	\$892,865	Bath	9	4
<a href="#">SX21165007</a>	City of Frenchburg McCausey/Amos Ridge Extension Project	3-5 Years	Not Funded	\$4,000,000	Menifee	10	2
<a href="#">SX21165020</a>	City of Frenchburg Miscellaneous Sewer Extension Project	3-5 Years	Not Funded	\$455,000	Menifee	11	3
<a href="#">SX21173027</a>	Mount Sterling Water and Sewer SCADA System Replacement Project	3-5 Years	Not Funded	\$45,000	Montgomery	12	1
<a href="#">SX21173066</a>	Montgomery County Sanitation Dist #2 Boom and Clarifier Weirs Replacement Project	3-5 Years	Not Funded	\$75,000	Montgomery	13	2
<a href="#">SX21173033</a>	Montgomery County Sanitation District No. 2 Head Works Screen Pr	3-5 Years	Not Funded	\$200,000	Montgomery	14	3
<a href="#">SX21205041</a>	Morehead Utility Plant Board US 60 Sewer Line Rehab	6-10 Years	Not Funded	\$1,500,000	Rowan	15	4
<a href="#">SX21173034</a>	Montgomery County Sanitation District No. 2 Pump Station Upgrade	3-5 Years	Not Funded	\$510,000	Montgomery	16	4
<a href="#">SX21011016</a>	City of Owingsville Slate Avenue Pipe Bursting Project	3-5 Years	Not Funded	\$590,000	Bath	17	5
<a href="#">SX21205031</a>	MUPB Residential Grinder Replacement Project	3-5 Years	Not Funded	\$250,000	Rowan	18	5
<a href="#">SX21165018</a>	City of Frenchburg Wastewater Collection System Rehab	3-5 Years	Not Funded	\$1,061,850	Menifee	19	4
<a href="#">SX21011018</a>	Bath County Sanitation District Preston Sewer Project Phase II	3-5 Years	Not Funded	\$470,000	Bath	20	6
<a href="#">SX21175010</a>	City of West Liberty System Sewer Line Replacement Project	6-10 Years	Not Funded	\$750,000	Morgan	21	2
<a href="#">SX21173063</a>	Montgomery County Sanitation District No. 2 Sludge Holding Tank	6-10 Years	Not Funded	\$170,089	Montgomery	22	5
<a href="#">SX21173024</a>	Montgomery County Sanitation District No. 2 Pump Station No. 5 P	3-5 Years	Not Funded	\$267,000	Montgomery	23	6
<a href="#">SX21173010</a>	Montgomery Co. Sanitation Dist.#2 Lift Station and Line Upgrade	3-5 Years	Not Funded	\$464,000	Montgomery	24	7
<a href="#">SX21011020</a>	City of Owingsville Sewer Extension to Remaining Unserved In City Limits	3-5 Years	Not Funded	\$100,000	Bath	25	7
<a href="#">SX21011023</a>	Slate Avenue Pumping Station Re-Route Project	0-2 Years	Not Funded	\$93,680	Bath	26	8
<a href="#">SX21165017</a>	Menifee County Sanitation District No. 1 Equalization Basin	11-20 Years	Not Funded	\$750,000	Menifee	27	5
<a href="#">SX21011015</a>	City of Owingsville Wyoming Road Sewer Line Extension	3-5 Years	Not Funded	\$225,000	Bath	28	9
<a href="#">SX21173023</a>	Mt. Sterling Water & Sewer Long Wood Tie In Project	3-5 Years	Not Funded	\$275,000	Montgomery	29	8
<a href="#">SX21173014</a>	Mt. Sterling Water & Sewer System Manhole Rehab Project	11-20 Years	Not Funded	\$625,000	Montgomery	30	9
<a href="#">SX21173049</a>	Mt. Sterling Water & Sewer Woodford Drive Lift Station Upgrade P	6-10 Years	Not Funded	\$100,000	Montgomery	31	10
<a href="#">SX21205039</a>	Morehead Utility Plant Board Lift Station No. 7 Rehab	3-5 Years	Not Funded	\$125,000	Rowan	32	6

### Project Rankings For Gateway Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21173051</a>	Mt. Sterling Water & Sewer Doe Run Lift Station Upgrade	3-5 Years	Not Funded	\$85,000	Montgomery	33	11
<a href="#">SX21173052</a>	Mt. Sterling Water & Sewer Spencer Road Lift Station Upgrade	3-5 Years	Not Funded	\$85,000	Montgomery	34	12
<a href="#">SX21173053</a>	Mt. Sterling Water & Sewer Alliance Acres Lift Station Upgrade	3-5 Years	Not Funded	\$85,000	Montgomery	35	13
<a href="#">SX21173054</a>	Mt. Sterling Water & Sewer LMS Lift Station Elimination	3-5 Years	Not Funded	\$100,000	Montgomery	36	14
<a href="#">SX21173017</a>	Mt. Sterling Water & Sewer Portable Diesel Pump Project	3-5 Years	Not Funded	\$75,000	Montgomery	37	15
<a href="#">SX21173046</a>	Montgomery County Sanitation District Upgrade Chlorine Room At W	0-2 Years	Not Funded	\$14,500	Montgomery	38	16
<a href="#">SX21173068</a>	Portable Emergency Generator Project	3-5 Years	Not Funded	\$60,000	Montgomery	39	17
<a href="#">SX21173048</a>	Montgomery County Sanitation District No. 2 Phosphate Reduction	3-5 Years	Not Funded	\$100,000	Montgomery	40	18
<a href="#">SX21173055</a>	Mt. Sterling Water & Sewer I&I Study and Repair Project	11-20 Years	Not Funded	\$1,000,000	Montgomery	41	19
<a href="#">SX21165021</a>	City of Frenchburg I & I Analysis Project	3-5 Years	Not Funded	\$60,000	Menifee	42	6
<a href="#">SX21173015</a>	Mt. Sterling Water & Sewer Eastland Heights Lift Station Upgrade	6-10 Years	Not Funded	\$75,000	Montgomery	43	20
<a href="#">SX21173050</a>	Mt. Sterling Water & Sewer Arlington Avenue Lift Station Upgrade	6-10 Years	Not Funded	\$175,000	Montgomery	44	21
<a href="#">SX21011019</a>	Bath County Sanitation District Valve and Riser Lid Replacement	0-2 Years	Not Funded	\$60,000	Bath	45	10
<a href="#">SX21173056</a>	Mt. Sterling Water & Sewer System Mapping Project	6-10 Years	Not Funded	\$225,000	Montgomery	46	22
<a href="#">SX21173062</a>	Montgomery County Sanitation District No. 2 Combo Vac Truck Project	6-10 Years	Not Funded	\$100,000	Montgomery	47	23
<a href="#">SX21165014</a>	Menifee County Sanitation District System Improvement Project Phase 2	6-10 Years	Not Funded	\$100,000	Menifee	48	7
<b>Total Cost:</b>				<b>\$25,465,458</b>			

# Kentuckiana Regional Planning and Development Agency (KIPDA)

- 2010 census population of 959,091 (421,502 households) with 88% serviceable.
- Projected 2020 population of 1,058,343 (change of 99,252).
- 7,473.24 miles of existing sewer lines.
- 25.00 miles of line extensions proposed in the next 10 years.
- 9.00 miles of line rehabilitation proposed in the next 10 years.
- 19.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$134,331,437.
- Estimated funding needs for projects from 6 to 10 years: \$21,225,601.
- Average age of wastewater treatment plants is 32 years.
- Total number of interconnected systems is 1.
- 564 miles of sewer lines less than 15 years old.
- 1,157 miles of sewer lines between 15 and 30 years old.
- 1,048 miles of sewer lines between 31 and 50 years old.
- 708 miles of sewer lines between 51 and 70 years old.
- 514 miles of sewer lines greater than 70 years old.



Kentuckiana Regional Planning and Development Agency has a 2010 census population count of 959,091 (421,502 households) with a projected 2020 population count of 1,058,343 (437,016 households). Public sewer is currently available to approximately 88 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,568 serviceable households will be added through the construction of 25.00 miles of sewer line extensions and approximately 9,144 instances of improved service through the rehabilitation of 9.00 miles of existing sewer lines and other appurtenances. 19.00 miles of interceptor lines are also proposed within this district.

**County Summary for Kentuckiana Regional Planning and Development Agency**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Bullitt	74,319	29,318	88,508	34,970	15,810	54%	\$ 10,021,890
Henry	15,416	6,640	15,915	6,405	2,357	36%	\$ 6,137,405
Jefferson	741,096	337,616	793,817	336,744	331,050	98%	\$ 57,091,277
Oldham	60,316	20,688	74,990	26,354	10,907	53%	\$ 70,318,403
Shelby	42,074	16,606	51,944	19,663	8,599	52%	\$ 7,368,063
Spencer	17,061	6,704	23,655	9,025	667	10%	\$ 1,650,000
Trimble	8,809	3,930	9,514	3,855	948	24%	\$ 2,970,000
<b>Totals</b>	<b>959,091</b>	<b>421,502</b>	<b>1,058,343</b>	<b>437,016</b>	<b>370,338</b>	<b>88%</b>	<b>\$ 155,557,038</b>



## Public Sewer Systems in the Kentuckiana Regional Planning and Development Agency

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0034169</a>	Bullitt County Sanitation District - BCSD Hillview #2	Bullitt	2,483	920
<a href="#">KY0034177</a>	Bullitt County Sanitation District - BCSD Hillview #3	Bullitt	1,135	421
<a href="#">KY0034801</a>	Bullitt County Sanitation District - Bullitt Hills Subdivision	Bullitt	3,477	1,401
<a href="#">KY0034185</a>	Bullitt County Sanitation District - Pioneer Village Sewer Plt #1	Bullitt	2,570	1,020
<a href="#">KY0094307</a>	Bullitt County Sanitation District - Willabrook Sanitation	Bullitt	481	200
<a href="#">KY0104043</a>	Lebanon Junction Wastewater	Bullitt	1,620	705
<a href="#">KY0033804</a>	Mount Washington Water & Sewer Company	Bullitt	14,760	5,904
<a href="#">KY0027359</a>	Shepherdsville Sewer	Bullitt	12,778	5,078
<a href="#">KY0026883</a>	Eminence Wastewater	Henry	2,551	1,103
<a href="#">KY0031828</a>	New Castle Wastewater	Henry	1,101	505
<a href="#">KYP000036</a>	Pleasureville	Henry	966	427
<a href="#">KY0039021</a>	Louisville & Jefferson County MSD - Bancroft	Jefferson	575	229
<a href="#">KY0098540</a>	Louisville & Jefferson County MSD - Cedar Creek	Jefferson	44,158	17,640
<a href="#">KY0078956</a>	Louisville & Jefferson County MSD - Derek R Guthrie	Jefferson	206,126	87,524
<a href="#">KY0102784</a>	Louisville & Jefferson County MSD - Floyds Fork	Jefferson	22,811	9,177
<a href="#">KY0022420</a>	Louisville & Jefferson County MSD - Hite Creek	Jefferson	33,948	14,314
<a href="#">KY0029416</a>	Louisville & Jefferson County MSD - McNeely Lake	Jefferson	1,431	589
<a href="#">KY0022411</a>	Louisville & Jefferson County MSD - Morris Forman	Jefferson	420,132	202,564
<a href="#">KY0031712</a>	Louisville & Jefferson County MSD - Starview	Jefferson	706	374
<a href="#">KY0020001</a>	Lagrange Utilities Commission	Oldham	7,966	3,169
<a href="#">KY0024724</a>	Oldham County Environmental Authority - Ash Avenue	Oldham	1,346	429
<a href="#">KY0060577</a>	Oldham County Environmental Authority - Country Village	Oldham	549	209
<a href="#">KY0039870</a>	Oldham County Environmental Authority - Lakewood Valley STP	Oldham	786	278
<a href="#">KY0054674</a>	Oldham County Environmental Authority - Lockwood Estates Subdivision	Oldham	299	112
<a href="#">KY0076813</a>	Oldham County Environmental Authority - Mockingbird Valley	Oldham	143	44
<a href="#">KY0106143</a>	Oldham County Environmental Authority - Ohio River	Oldham	7,946	2,693
<a href="#">KY0033821</a>	Oldham County Environmental Authority - Orchard Grass	Oldham	2,894	977
<a href="#">KY0046264</a>	Oldham County Environmental Authority - Willow Creek	Oldham	742	299
<a href="#">KY0078026</a>	Oldham Woods Subdivision	Oldham	143	52
<a href="#">KY0020427</a>	Shelbyville Municipal Water & Sewer Commission	Shelby	18,714	7,506
<a href="#">KY0065889</a>	Simpsonville Wastewater	Shelby	2,644	1,057
<a href="#">KY0028142</a>	Taylorsville Wastewater	Spencer	1,395	647
<a href="#">KY0069825</a>	Bedford Wastewater	Trimble	983	431
<a href="#">KY0088625</a>	Milton Wastewater	Trimble	1,055	517
		<b>Totals:</b>	821,414	368,515

# Kentuckiana Regional Planning and Development Agency

## Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

### **Discussion of Area Development District Needs:**

The KIPDA Regional Water Council through discussion recognizes that planning needs in the region are constantly changing. What may be viewed as the primary need in the near future could differ from what is viewed as the primary need in the present. All of the listed options are viewed as necessities throughout the region and many are viewed to be intertwined with none being mutually exclusive. With these thoughts in consideration, the KIPDA Regional Water Management Council identified the Repair and Replacement of Existing Infrastructure as its primary planning need. This planning need is tied to Economic Stimulation, meeting Regulatory Requirements, and the consolidation of Package Treatment Plants.

With a few exceptions, utilities upgrade existing infrastructure when it is replaced. The increased capabilities from these upgrades enable systems to meet demands and provide improved services to areas which leads to economic stimulation. These upgrades could be in the form of increased size in line replacements to increased treatment and pumping capacity. The ability to provide service drives economic stimulation and the Council realizes that upgrading existing infrastructure is essential to meeting future needs.

Regulatory requirements are often met through the repair and replacement of existing infrastructure. An example from several priority projects in the region includes the identification of problematic areas within the system and manhole rehabilitation, these projects will address I/I issues and compliance with regulatory requirements. Further examples include expanding treatment capacities to comply with Agreed Orders and construction of chlorine capacity tanks at WWTPs to meet future compliance.

Consolidation in the form of the elimination of package treatment plants was another factor discussed in relation to the repair and replacement of existing infrastructure; especially in Bullitt and Oldham counties. Oldham County is currently in the process of taking five PTPs offline while failing package treatment plants have presented themselves as an issue in Bullitt County. Their elimination will be an improvement of service to customers and to environmental quality in the area. This also relates to what the Council views as the secondary need within the region.

Extending Service to Unserved Areas is viewed by the Council as the secondary need within the region. The caveat in place was the extension of service be to already developed areas. As with the elimination of failing package treatment plants, the benefits of taking customers off septic systems will be realized in the form of improvement to public health, the environment, and water sources in the area.

### **Description and Determination of Planning Units:**

Further, the Council designated the seven (7) water management areas in the KIPDA region to be defined by county boundaries.

#### **1. Bullitt County Wastewater Management Planning Area**

- Bullitt County Sanitation District
- Lebanon Junction, City of
- Mount Washington Water and Sewer Company
- Shepherdsville, City of

#### **2. Henry County Wastewater Management Planning Area**

- Eminence, City of
- New Castle, City of
- Pleasureville, City of

3. Jefferson County Water Management Planning Area

- Louisville & Jefferson County MSD

4. Oldham County Water Management Planning Area

- Lagrange Utilities Commission
- Oldham County Environmental Authority

5. Shelby County Water Management Planning Area

- Shelbyville Municipal Water and Sewer Commission
- Simpsonville, City of

6. Spencer County Water Management Planning Area

- Taylorsville, City of

7. Trimble County Water Management Planning Area

- Bedford, City of
- Milton, City of

# Kentuckiana Regional Planning and Development Agency

## Project Ranking Methodology



The KIPDA Regional Water Management Council prioritizes projects using local input and an established priority ranking scoresheet.

Before projects are brought before the KIPDA Regional Water Management Council to be prioritized, they are ranked at the County level. The County Water Management Councils consist of utility representatives and local elected officials. Projects are ranked based on perceived importance within the county.

To bring continuity and fairness throughout the region, the KIPDA Regional Water Management Council requires all projects that are to be considered for Regional Prioritization to complete a Priority Ranking Scoresheet. The methodology for the scoresheet was established in 2007 by a group of Area Development Water Management Coordinators along with KIA staff. This is no longer required for all water and wastewater projects requesting State funding, but the KIPDA Council choice to continue using this method due to past success.

The scoresheet provides for a maximum of 100 points to be assigned to each project depending on how it scores according to the following criteria:

### **Type of Project (20 point Maximum)**

For unserved and underserved projects, households served are the basis for the priority scoring while jobs created are the consideration for economic development projects. Feasibility studies and other projects that don't involve unserved, underserved, commercial, or industrial development are assigned a specified score.

### **Project Delivery (20 point Maximum)**

Projects are scored on whether they are Regional or Non-Regional. For this purpose, regional is defined as projects involving two or more systems that, through shared or consolidated resources, improve services to consumers and achieve economy of scale.

### **Project Status (20 point Maximum)**

Projects are scored based on their status relative to the planning process, the status of the development of engineering plans and specifications, and the detail of the data used to develop the estimated cost of the project. Projects that are further along in the process will receive a higher priority score.

### **Funding Status (20 point Maximum)**

The projects are categorized based on their status relative its size and the funding needed to execute. Projects that are further along in the funding process will receive a higher priority as indicated below.

### **Local Importance (20 point Maximum)**

The projects are assigned priority points based on their importance to the county as determined by consensus during the County Water Management Councils.

With the intention of each county having equal representation on the priority ranking list, the top projects from each county are ranked against each other according to their priority ranking score. This method is continued for the second, third, fourth, etc projects until all submitted projects receive a ranking.

### Project Rankings For Kentuckiana Regional Planning and Development Agency

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21211017</a>	Shelby County Cooperative Extension Office	0-2 Years	Not Funded	\$469,263	Shelby	1	1
<a href="#">SX21185010</a>	I-71 Interceptor Sewer Replacement	3-5 Years	Not Funded	\$694,000	Oldham	2	1
<a href="#">SX21103011</a>	Pleasureville Wastewater Capacity Upgrade	3-5 Years	Not Funded	\$150,000	Henry	3	1
<a href="#">SX21029029</a>	Shepherdsville-Blue Lick Stormwater Project	3-5 Years	Not Funded	\$1,996,250	Bullitt	4	1
<a href="#">SX21111101</a>	Hite Creek WTP Expansion	3-5 Years	Not Funded	\$14,389,777	Jefferson	5	1
<a href="#">SX21223013</a>	Wastewater System Improvements	0-2 Years	Not Funded	\$1,500,000	Trimble	6	1
<a href="#">SX21029015</a>	Willabrook Wastewater Treatment Plant Expansion	3-5 Years	Partially Funded	\$3,000,000	Bullitt	7	2
<a href="#">SX21185011</a>	South Pump Station	3-5 Years	Not Funded	\$688,000	Oldham	8	2
<a href="#">SX21211008</a>	Eminence Pike Gravity Sewers	3-5 Years	Not Funded	\$2,380,000	Shelby	9	2
<a href="#">SX21223011</a>	City of Milton - I/I Mitigation	3-5 Years	Not Funded	\$350,000	Trimble	10	2
<a href="#">SX21103014</a>	I-71 Exit 34 Sewer Extension	0-2 Years	Not Funded	\$303,479	Henry	11	2
<a href="#">SX21185005</a>	Madison Street Lift Station Upgrade	3-5 Years	Not Funded	\$306,500	Oldham	12	3
<a href="#">SX21223008</a>	Pump Station Rehabilitation	3-5 Years	Not Funded	\$125,000	Trimble	13	3
<a href="#">SX21211014</a>	Fast Action Response & Management (Farm) Project	3-5 Years	Not Funded	\$336,000	Shelby	14	3
<a href="#">SX21185053</a>	Orchard Grass Regional WWTP Phase 3	3-5 Years	Not Funded	\$6,300,000	Oldham	15	4
<a href="#">SX21223012</a>	City of Milton Main Trunk Sewers Cleaning, Televising and Repair	6-10 Years	Not Funded	\$625,000	Trimble	16	4
<a href="#">SX21185032</a>	Kentucky State Reformatory - Rehab Phase I	3-5 Years	Not Funded	\$2,718,080	Oldham	17	5
<a href="#">SX21223010</a>	Collection System Improvements & I/I Mitigation	6-10 Years	Not Funded	\$370,000	Trimble	18	5
<a href="#">SX21185051</a>	OCEA Lift Station Rehab, Renovation, and Replacement	3-5 Years	Not Funded	\$2,005,000	Oldham	19	6
<b>Total Cost:</b>				<b>\$38,706,349</b>			

# Kentucky River Area Development District (KRADD)

- 2010 census population of 114,762 (52,786 households) with 23% serviceable.
- Projected 2020 population of 111,267 (change of -3,495).
- 279.87 miles of existing sewer lines.
- 130.00 miles of line extensions proposed in the next 10 years.
- 19.00 miles of line rehabilitation proposed in the next 10 years.
- There are no interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$77,398,361.
- Estimated funding needs for projects from 6 to 10 years: \$7,372,000.
- Average age of wastewater treatment plants is 23 years.
- Total number of interconnected systems is 1.
- 109 miles of sewer lines less than 15 years old.
- 51 miles of sewer lines between 15 and 30 years old.
- 84 miles of sewer lines between 31 and 50 years old.
- 24 miles of sewer lines between 51 and 70 years old.
- 0 miles of sewer lines greater than 70 years old.



Kentucky River Area Development District has a 2010 census population count of 114,762 (52,786 households) with a projected 2020 population count of 111,267 (45,823 households). Public sewer is currently available to approximately 23 percent of the district's households based on 2010 census counts. Over the next ten years approximately 2,685 serviceable households will be added through the construction of 130.00 miles of sewer line extensions and approximately 15,213 instances of improved service through the rehabilitation of 19.00 miles of existing sewer lines and other appurtenances.

County Summary for Kentucky River Area Development District							
County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Breathitt	13,878	6,231	12,495	5,046	1,476	24%	\$ 6,038,350
Knott	16,346	7,461	15,635	6,332	891	12%	\$ 15,112,980
Lee	7,887	3,436	7,820	3,014	973	28%	\$ 8,575,000
Leslie	11,310	5,278	10,603	4,377	723	14%	\$ 6,535,633
Letcher	24,519	11,601	24,237	10,161	3,325	29%	\$ 17,391,582
Owsley	4,755	2,328	4,704	1,971	411	18%	\$ 5,271,364
Perry	28,712	12,791	28,137	11,637	3,850	30%	\$ 25,845,452
Wolfe	7,355	3,660	7,636	3,285	365	10%	-
<b>Totals</b>	<b>114,762</b>	<b>52,786</b>	<b>111,267</b>	<b>45,823</b>	<b>12,014</b>	<b>23%</b>	<b>\$ 84,770,361</b>

## Public Sewer Systems in the Kentucky River Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0021288</a>	Jackson Wastewater	Breathitt	3,078	1,456
<a href="#">KY0107786</a>	Perry County Sanitation District #1	Breathitt	207	90
<a href="#">KY0027685</a>	Hindman Wastewater	Knott	1,301	618
<a href="#">KY0042854</a>	Knott County Water and Sewer District	Knott	564	111
<a href="#">KY0107956</a>	Troublesome Creek Environmental Authority (Ball Creek)	Knott	267	123
<a href="#">KY0021121</a>	Beattyville Wastewater	Lee	2,649	973
<a href="#">KY0021245</a>	Hyden Wastewater Department	Leslie	1,572	723
<a href="#">KY0027405</a>	Fleming-Neon Wastewater	Letcher	2,608	1,297
<a href="#">KY0038571</a>	Jenkins Wastewater	Letcher	1,878	897
<a href="#">KY0103217</a>	Letcher County Water & Sewer District - Millstone	Letcher	92	39
<a href="#">KY0106283</a>	Whitesburg Wastewater	Letcher	2,355	1,092
<a href="#">KY0033774</a>	Booneville Water and Sewer	Owsley	870	411
<a href="#">KY0020079</a>	Hazard Wastewater	Perry	6,840	3,180
<a href="#">KYP000034</a>	Perry County Sanitation District #1	Perry	961	440
<a href="#">KY0060259</a>	Perry County Water & Sewer	Perry	427	191
<a href="#">KY0104728</a>	Campton Wastewater Department	Wolfe	712	365
		<b>Totals:</b>	26,381	12,006

# Kentucky River Area Development District Regional Wastewater Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Repair and Replace Existing Infrastructure**

## **Discussion of Area Development District Needs:**

The majority of the area is now beginning to turn to wastewater service extensions as the past has mostly been focused on providing reliable and safe potable water to the residents. The majority of our counties are now reaching 80% served with potable water and some have even achieved 95-98% served. Our entities are now looking to improve the water quality and the environment by providing a reliable means of wastewater removal which will improve the streams that empty into the rivers most use for their water source. Many residents in the area rely on failing septic systems or straight pipes for their wastewater removal needs.

Those utilities who have provided wastewater removal services for the area, have done so for many years and are now facing aging infrastructure that is in constant need of repair and/or replacement. Many of the lines are constantly breaking and the lift stations are failing which creates the potential for contamination. Wastewater concerns are focused on replacement of degraded lines, rehabilitation of lift stations and plants and when rehabilitation of the plants is not feasible construction of new ones.

## **Description and Determination of Planning Units:**

The Kentucky River Area Water Management Council reviewed the wastewater systems and their service areas located within the Kentucky River Area Development District. The Council designated the Kentucky River Area Development District boundary as the regional management area. Within the Kentucky River Region, the following wastewater systems and their respective wastewater management planning areas were designated by the Council:

### **Kentucky River Area Water Management Planning Areas**

1. Breathitt County Wastewater Management Planning Area
  - a) Breathitt County Water District (Planning to provide wastewater service in near future)
  - b) Jackson Wastewater
  - c) Troublesome Creek Environmental Authority (stand alone plant)
2. Knott County Wastewater Management Planning Area
  - a) Hindman Wastewater
  - b) Knott Co. Water and Sewer District
  - c) Troublesome Creek Environmental Authority (stand alone plant)
3. Lee County Wastewater Management Planning Area
  - a) Beattyville Wastewater
4. Leslie County Wastewater Management Planning Area
  - a) Hyden Wastewater Department
5. Letcher County Wastewater Management Planning Area
  - a) Fleming-Neon Wastewater
  - b) Jenkins Wastewater
  - c) Letcher County Water and Sewer District
  - d) Whitesburg Wastewater



6. Owsley County Wastewater Management Planning Area

- a) Booneville Water and Sewer

7. Perry County Wastewater Management Planning Area

- a) Hazard Wastewater
- b) Vicco Wastewater
- c) Perry County Sanitation District #1
- d) Troublesome Creek Environmental Authority

8. Wolfe County Wastewater Management Planning Area

- a) Campton Wastewater

## Kentucky River Area Development District Project Ranking Methodology



The KRADD Water Management Council meets once a year to prioritize projects in our area. Our area's utility managers and chief executives begin the ranking by first reviewing the previous year's prioritization and then pair off by county to discuss their current projects. Each county is given a list of the profiles they have in the WRIS and then they rank their basic needs during this portion of the meeting. Once these are completed then the Council decides the projects that will be ranked for the region and prioritizes those projects.

During the county rankings, each respective planning unit begins the process of prioritizing the projects that are of the most concern to their area. This discussion is based on service population, violations each entity may have received, current funding, whether the project is for new or existing customers and the overall community need. Once all projects in each planning unit are ranked, the council votes to approve the planning unit rankings.

Next, the council begins the process of selecting the top regional projects based on the information presented. Typically, the county with the most critical overall need is the first ranked and then the other counties follow suit. For Fiscal Year 2016, the Council decided to rank projects by drawing numbers 1-8 to obtain the first 1-8 projects. The county selected as 1 also received the number 16, the county receiving number 2 also received the number 15 and so forth. However, there were a couple instances where a planning unit only had one project ranked. The Council decided that they would only rank the number one and two projects per unit and not base the rankings on a set 16 overall projects. Based on this, there were 14 regional water projects and 15 regional wastewater projects for this fiscal year. The Council has decided that next year it will base the regional rankings on a point system that the WMC Coordinator will create over the following year.

The Kentucky River region's main concerns for water projects are those that address establishing new water service to areas that currently rely on failing or contaminated wells and areas that must haul water. The region is also faced with major rehab as most systems have lines that have been in place for 40+ years as well as rehabilitation of existing plants and in cases where rehab is too expensive then the construction of new plants.

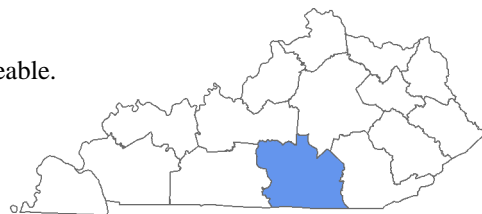
Wastewater concerns are focused on rehabilitation of lift stations and plants and when rehabilitation of the plants is not feasible construction of new ones. The majority of the area is now beginning to turn to wastewater service extensions as the past has mostly been focused on providing reliable and safe potable water to the residents. The majority of our counties are now reaching 80% served in potable water and some have even achieved 95-98% served. Our entities are now looking to improve the water quality and the environment by providing a reliable means of wastewater removal which will improve the streams that empty into the rivers most utilized for their water source.

### Project Rankings For Kentucky River Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21131003</a>	Hyden - Town Rehab Phase III	0-2 Years	Partially Funded	\$565,633	Leslie	1	1
<a href="#">SX21133014</a>	Millstone Alternative Treatment System Improvements	0-2 Years	Over Funded	\$24,500	Letcher	2	1
<a href="#">SX21119811</a>	TEA - Ball Creek Wastewater Lines Phase II	0-2 Years	Partially Funded	\$2,684,850	Knott	3	1
<a href="#">SX21189005</a>	Booneville I/I Replacement Project	3-5 Years	Not Funded	\$1,526,000	Owsley	4	1
<a href="#">SX21237004</a>	Campton Sewer Rehab Project	3-5 Years	Over Funded	\$248,973	Wolfe	5	1
<a href="#">SX21025007</a>	Medical Plaza Sewer Extension	3-5 Years	Not Funded	\$284,700	Breathitt	6	1
<a href="#">SX21129003</a>	West Beattyville Sewer Pump Station Project	0-2 Years	Not Funded	\$575,000	Lee	7	1
<a href="#">SX21193008</a>	PCSD#1 - Chavies Wastewater Collection System - Phase 1	0-2 Years	Partially Funded	\$678,000	Perry	8	1
<a href="#">SX21193009</a>	PCSD#1 - Chavies Wastewater Collection System - Phase 2	0-2 Years	Not Funded	\$559,030	Perry	9	2
<a href="#">SX21129007</a>	Beattyville - Wastewater Treatment Plant Expansion	3-5 Years	Not Funded	\$6,000,000	Lee	10	2
<a href="#">SX21025008</a>	Lift Station Rehabilitation Project Phase II	3-5 Years	Not Funded	\$1,173,000	Breathitt	11	2
<a href="#">SX21189002</a>	Booneville Pump Station Rehab	3-5 Years	Not Funded	\$291,864	Owsley	12	2
<a href="#">SX21119012</a>	Pippa Passes New WWTP and Sewer Line Rehabilitation Project	3-5 Years	Not Funded	\$3,257,400	Knott	13	2
<a href="#">SX21133644</a>	Jenkins Dairy Hollow Sewer Extension	3-5 Years	Not Funded	\$250,000	Letcher	14	2
<a href="#">SX21131004</a>	Hyden - Sanitary Sewer Extensions Phase III	3-5 Years	Not Funded	\$1,270,000	Leslie	15	2
<b>Total Cost:</b>				<b>\$19,388,950</b>			

# Lake Cumberland Area Development District (LCADD)

- 2010 census population of 207,256 (101,129 households) with 27% serviceable.
- Projected 2020 population of 221,481 (change of 14,225).
- 551.53 miles of existing sewer lines.
- 159.00 miles of line extensions proposed in the next 10 years.
- 27.00 miles of line rehabilitation proposed in the next 10 years.
- 27.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$85,631,471.
- Estimated funding needs for projects from 6 to 10 years: \$7,691,680.
- Average age of wastewater treatment plants is 24 years.
- Total number of interconnected systems is 3.
- 132 miles of sewer lines less than 15 years old.
- 119 miles of sewer lines between 15 and 30 years old.
- 182 miles of sewer lines between 31 and 50 years old.
- 37 miles of sewer lines between 51 and 70 years old.
- 81 miles of sewer lines greater than 70 years old.



Lake Cumberland Area Development District has a 2010 census population count of 207,256 (101,129 households) with a projected 2020 population count of 221,481 (92,378 households). Public sewer is currently available to approximately 27 percent of the district's households based on 2010 census counts. Over the next ten years approximately 4,122 serviceable households will be added through the construction of 159.00 miles of sewer line extensions and approximately 1,396 instances of improved service through the rehabilitation of 27.00 miles of existing sewer lines and other appurtenances. 27.00 miles of interceptor lines are also proposed within this district.

**County Summary for Lake Cumberland Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Adair	18,656	8,568	20,052	8,151	1,971	23%	\$ 9,287,500
Casey	15,955	7,487	16,433	6,791	1,055	14%	\$ 553,000
Clinton	10,272	5,311	10,896	4,755	1,297	24%	\$ 10,096,000
Cumberland	6,856	3,690	6,649	2,840	825	22%	\$ 2,000,000
Green	11,258	5,324	11,112	4,660	1,460	27%	\$ 1,290,000
McCreary	18,306	7,507	18,314	6,819	1,927	26%	\$ 9,193,985
Pulaski	63,063	31,443	71,036	29,901	7,477	24%	\$ 15,411,000
Russell	17,565	9,993	18,782	8,112	3,020	30%	\$ 7,146,566
Taylor	24,512	10,864	26,079	10,663	5,189	48%	\$ 7,476,100
Wayne	20,813	10,942	22,128	9,686	2,924	27%	\$ 30,869,000
<b>Totals</b>	<b>207,256</b>	<b>101,129</b>	<b>221,481</b>	<b>92,378</b>	<b>27,145</b>	<b>27%</b>	<b>\$ 93,323,151</b>

## Public Sewer Systems in the Lake Cumberland Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0024317</a>	Columbia/Adair Utilities District	Adair	4,652	1,971
<a href="#">KY0026352</a>	Liberty Water & Gas	Casey	2,050	1,055
<a href="#">KY0024295</a>	Albany Municipal Water & Sewer	Clinton	2,499	1,297
<a href="#">KY0036854</a>	Burkesville Wastewater	Cumberland	1,499	780
<a href="#">KY0023841</a>	Greensburg Sewer Department	Green	2,359	1,179
<a href="#">KY0096881</a>	Sanitation District #1 of Green County	Green	622	281
<a href="#">KY0097837</a>	McCreary County Water District	McCreary	4,276	1,927
<a href="#">KYP000069</a>	Burnside Municipal Water Works	Pulaski	615	344
<a href="#">KY0094447</a>	Science Hill Sewer	Pulaski	1,140	496
<a href="#">KY0026611</a>	Somerset Utilities	Pulaski	12,914	6,236
<a href="#">02006100</a>	Villas At Woodson Bend	Pulaski	172	401
<a href="#">KY0062995</a>	Jamestown Utilities	Russell	1,905	921
<a href="#">KYP000057</a>	Russell Springs Sewer & Water Works	Russell	3,790	2,097
<a href="#">KY0054437</a>	Campbellsville Municipal Water & Sewer System	Taylor	11,561	5,189
<a href="#">KY0033847</a>	Monticello Utility Commission	Wayne	6,252	2,924
		<b>Totals:</b>	56,306	27,098

# Lake Cumberland Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## **Discussion of Area Development District Needs:**

The Lake Cumberland Area Development District planning units are in need of repairing and replacing existing infrastructure. The systems in the Lake Cumberland Area need to repair and/or replace lift stations, sewer lines and manholes due to aging infrastructure. The some systems also need to upgrade the existing treatment plants with safer, more efficient methods of treatment.

The Lake Cumberland Area Development District planning units would like to provide service to more customers by extending service to unserved areas. Providing service to unserved areas will eliminate failing septic systems and straight pipe discharges allowing growth without the potential for health problems resulting from human exposure to untreated sewage.

The needs of the Lake Cumberland Regional Water Management Council are a very diverse collection. Other needs of the area include meeting regulatory requirements and sanitary sewer overflow correction.

## **Description and Determination of Planning Units:**

The Lake Cumberland Area Development District is made up of thirteen planning units. The planning units were determined by the Lake Cumberland Regional Water Management Council based on local issues in the area such as location, size of area, number of customers, number of systems, and need and ability of systems to plan together. The planning units are Adair (Columbia/Adair Utilities District), Bronston/Burnside (Bronston Water Association and Burnside Municipal Water Works), Campbellsville (Campbellsville Municipal Water & Sewer System), Casey (Liberty Water & Gas), Clinton (Albany Municipal Water & Sewer), Cumberland (Burkesville Wastewater and Cumberland County Water District), Eubank/Science Hill (City of Eubank Water System and Science Hill Sewer), Greensburg (Greensburg Sewer Department), McCreary (McCreary County Water District), Russell (Jamestown Utilities and Russell Springs Sewer & Water Works), Somerset (Somerset Utilities), Summersville (Sanitation District #1 of Green County), and Wayne (Monticello Utility Commission).

# Lake Cumberland Area Development District

## Project Ranking Methodology



The Lake Cumberland Regional Water Management Council uses a point based ranking system to rank the needs of the area. Each local system was asked to submit their most needed projects to the Council for ranking. Projects were scored on a series of criteria including Type of Project, Regionalism, Shovel Readiness, Funding Status, and Local Need. Additional bonus points were assigned at the discretion of the Council for projects deemed most deserving. In the event of a tie, the project's Cost per Connection was used as the deciding factor.

The following point criterion was approved by the Lake Cumberland Regional Water Management Council on September 3, 2015 and will be used to rank projects on December 3, 2015:

### Type of Project (up to 20 points assigned)

#### Unserved – Points based on number of households served per mile

- Average 9 or greater households per mile - 20
- Average 5-6 households per mile - 18
- Average 3-4 households per mile - 15
- Average 1-2 households per mile - 10
- Average of less than 1 household per mile – 5

#### Underserved – Points based on percentage of total customer base impacted

- 80-100% of total customer base impacted - 20
- 60-79% of total customer base impacted - 19
- 40-59% of total customer base impacted - 18
- 20-39% of total customer base impacted- 15
- 10-19% of total customer base impacted - 10
- Less than 10% of total customer base impacted - 5

#### Industrial/Commercial – Points based on number of jobs created/retained

- 100 or more new jobs created or jobs retained - 20
- 75-99 new jobs created or jobs retained - 19
- 50-74 new jobs created or jobs retained - 18
- 20-49 new jobs created or jobs retained - 15
- 10-19 new jobs created or jobs retained - 10
- Less than 10 new jobs created or jobs retained - 5
- Other – 3 points assigned for projects not meeting the above types
- Combination – Most favorable listed category plus an additional 3 points

### Project Delivery (up to 20 points assigned)

- Regional - 20 points
- Non-Regional – 5 points

### Project Status (up to 20 points assigned)

- Engineering Plans and specs submitted to DOW - 20 points
- Preliminary Engineering Report completed - 15 points
- Engineering procurement completed – 10 points
- Preliminary planning by system - 5 points

Funding Status (up to 20 points assigned)

- Projects with estimated costs greater than \$100,000
- Funding committed for 50% or more - 20 points
- Funding committed for 25-49% or more - 15 points
- Funding committed for 1-24% - 10 points
- Pending applications - 3 points
- Projects with estimated costs of \$100,000 or less - 10 points

Local Need (up to 20 points assigned)

Points assigned based on the planning unit ranking

- 1st – 20 points
- 2nd – 16 points
- 3rd – 13 points
- 4th – 11 points
- 5th – 9 points
- 6th – 7 points
- 7th – 6 points
- 8th – 5 points
- 9th – 4 points
- 10th – 3 points
- 11th – 2 points
- 12th – 1 points
- 13th or higher – 0 points

Council Input (up to 10 points assigned)

- Council assigns 10 bonus points to 15% of projects
- Special consideration is given to any project that addresses an agreed order, tap-on-ban, NOV, or other specific violation from the Kentucky Division of Water.

Tie Breaker (no points assigned)

- Cost per connection - only used to break point based ties
- Lowest cost per connection is ranked highest

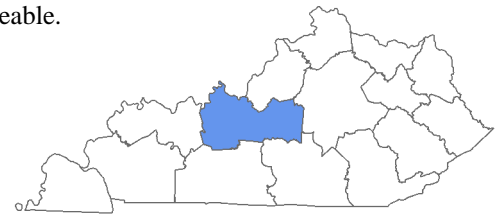


### Project Rankings For Lake Cumberland Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21217005</a>	Trace Fork Interceptor Sewer System Improvements - Phase I	3-5 Years	Not Funded	\$1,250,000	Taylor	1	1
<a href="#">SX21231017</a>	Sanitary Sewer Improvements - Phase 1 and Carter Road	3-5 Years	Not Funded	\$3,575,000	Wayne	2	1
<a href="#">SX21207012</a>	Russell Springs-KY 1611 Pressure Sewer Extension	3-5 Years	Not Funded	\$1,475,000	Russell	3	1
<a href="#">SX21231009</a>	Sanitary Sewer Extensions - KY 90 East/Eastview Subdivision/Fran	3-5 Years	Not Funded	\$5,708,000	Wayne	4	2
<a href="#">SX21231008</a>	Sanitary Sewer Extension - Bell Subdivision	3-5 Years	Not Funded	\$2,690,000	Wayne	5	3
<b>Total Cost:</b>				<b>\$14,698,000</b>			

# Lincoln Trail Area Development District (LTADD)

- 2010 census population of 269,117 (116,687 households) with 41% serviceable.
- Projected 2020 population of 295,040 (change of 25,923).
- 958.72 miles of existing sewer lines.
- 64.00 miles of line extensions proposed in the next 10 years.
- 9.00 miles of line rehabilitation proposed in the next 10 years.
- 33.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$92,251,613.
- Estimated funding needs for projects from 6 to 10 years: \$258,970.
- Average age of wastewater treatment plants is 32 years.
- Total number of interconnected systems is 3.
- 159 miles of sewer lines less than 15 years old.
- 152 miles of sewer lines between 15 and 30 years old.
- 93 miles of sewer lines between 31 and 50 years old.
- 341 miles of sewer lines between 51 and 70 years old.
- 6 miles of sewer lines greater than 70 years old.



Lincoln Trail Area Development District has a 2010 census population count of 269,117 (116,687 households) with a projected 2020 population count of 295,040 (117,392 households). Public sewer is currently available to approximately 41 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,912 serviceable households will be added through the construction of 64.00 miles of sewer line extensions and approximately 8,177 instances of improved service through the rehabilitation of 9.00 miles of existing sewer lines and other appurtenances. 33.00 miles of interceptor lines are also proposed within this district.

**County Summary for Lincoln Trail Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Breckinridge	20,059	10,630	21,489	8,788	1,555	15%	\$ 10,707,480
Grayson	25,746	13,561	27,048	11,007	3,338	25%	\$ 2,065,750
Hardin	105,543	43,261	116,612	46,055	25,722	60%	\$ 54,252,643
Larue	14,193	6,172	14,961	6,069	1,577	26%	\$ 6,426,465
Marion	19,820	8,182	21,424	8,332	3,240	40%	\$ 5,024,300
Meade	28,602	11,762	30,901	11,964	2,562	22%	\$ 240,000
Nelson	43,437	18,075	50,119	20,219	8,293	46%	\$ 7,323,000
Washington	11,717	5,044	12,486	4,958	1,308	26%	\$ 6,470,945
<b>Totals</b>	<b>269,117</b>	<b>116,687</b>	<b>295,040</b>	<b>117,392</b>	<b>47,595</b>	<b>41%</b>	<b>\$ 92,510,583</b>

## Public Sewer Systems in the Lincoln Trail Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0026701</a>	Cloverport Sewer System	Breckinridge	1,071	527
<a href="#">KY0028363</a>	Hardinsburg Sewer System	Breckinridge	2,164	1,023
<a href="#">KY0072044</a>	Caneyville Sewer System	Grayson	609	301
<a href="#">KY0090590</a>	Clarkson Sewer System	Grayson	899	448
<a href="#">KY0022934</a>	Leitchfield Utilities Commission	Grayson	5,666	2,583
<a href="#">KY0022039</a>	Elizabethtown Wastewater System	Hardin	29,554	13,152
<a href="#">KY0022390</a>	Hardin Co. Water District No. 1 Radcliff Sewer System	Hardin	23,239	10,070
<a href="#">KY0024988</a>	Vine Grove Sewer System	Hardin	4,936	2,055
<a href="#">KY0022152</a>	West Point Sewer System	Hardin	839	445
<a href="#">KY0026379</a>	Hodgenville Sewer System	Larue	3,647	1,576
<a href="#">KY0090719</a>	Bradfordsville Sewer System	Marion	305	150
<a href="#">KY0026549</a>	Lebanon Sewer System	Marion	6,011	2,768
<a href="#">KYP000073</a>	Loretto Wastewater System	Marion	803	322
<a href="#">KY0021474</a>	Brandenburg Sewer System	Meade	2,782	1,210
<a href="#">KY0043478</a>	Doe Valley Association Inc	Meade	1,878	820
<a href="#">KYP000051</a>	Muldraugh Sewer System	Meade	936	532
<a href="#">KY0021237</a>	Bardstown Sewer System	Nelson	17,207	7,447
<a href="#">KYP000086</a>	Bloomfield Wastewater Collection System	Nelson	978	441
<a href="#">KY0034126</a>	New Haven Sewer System	Nelson	938	406
<a href="#">KY0020907</a>	Springfield Water & Sewer Commission	Washington	2,705	1,308
		<b>Totals:</b>	107,167	47,584

# Lincoln Trail Area Development District Regional Wastewater Needs Assessment



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Sanitary Sewer Overflow Correction**

## **Discussion of Area Development District Needs:**

The Lincoln Trail Area has primary service within municipal boundaries. There are a few pockets of unserved areas within each city (primarily from new annexation or where force-main may be required). Many of the systems are approaching an age where lines and primary mechanical facilities will need replacement and upgrade. Most of the sewer facilities were constructed in the late 1950's, 60's and 70's. Clay tile pipe is still predominate in many communities. Deterioration of these lines, as well as old cast iron lines contribute to high rates of infiltration and inflow.

New development on the fringes of the high density urban areas (Hardin County areas outside of Elizabethtown and Radcliff) have the need for sanitary sewer service extensions. Many of these areas have poor soil quality and higher densities than practical, for on-site systems. The Hardin County Water Districts (primarily HCWD No. 2) have begun developing plans to provide sanitary service to the most densely populated areas of Glendale and Rineyville. In particular, Glendale has a need for service due to potential commercial /industrial development along I-65.

The presence of infiltration and inflow (I & I) in most systems has led to periodic SSO's and less than ideal or inefficient treatment conditions at wastewater treatment plants. Many communities have begun studies to prioritize areas for repair and replacement to reduce I & I conditions where possible. The greatest current need will continue to be repair and upgrade of existing lines / manholes to improve flow conditions and reduce I & I.

## **Description and Determination of Planning Units:**

Planning units in the Lincoln Trail Region are primarily set by county boundaries. They generally compose a large enough geographic area and small enough grouping of utilities to provide reasonable interaction, feedback, and information to be a useful planning unit. The municipal entities within each county are the primary responsible utilities for provision of sewer service due to the density requirements for efficient collection.

With the widespread availability of potable water, there is a need to constantly review the development appropriateness of sanitary service. Most households in unincorporated areas utilize on-site septic systems, which work with varying degrees of success. Poor soil suitability in some areas means less than adequate treatment and potential source water degradation. Unincorporated County areas have the potential to be included in new sanitary districts if formed and examined for improved treatment methodologies.

## Lincoln Trail Area Development District Project Ranking Methodology



The Lincoln Trail Area Water Management Planning Council will be meeting on December 3rd to do our yearly water and wastewater project prioritization. Our prioritization process is adapted from an outline previously developed by KIA and Senate Bill 409. The process is hopefully inclusive and allows for discussion at the local level to improve understanding of a project's intent and impact.

In the past month we've held a County Advisory Committee meeting in each County. Those meetings are hosted by each County Judge/Executive (as the Advisory chairperson) with each local utility, Mayor, and local Health Department invited to participate. All proposed projects are reviewed by the committee and given an initial score based upon how the project meets five criteria (project type, regional connections, design status, funding status, and local need). Most of the discussion by each County committee is centered on how projects address the greatest local needs. Since there can be diverse interests represented, committee members must work together to determine what needs are most important in their community and what projects will meet them. Discussions, while lively in some cases, also serve as a forum to hear about important things affecting local utilities and share information that impacts all of our communities.

After all the County Advisory meetings have taken place, the Area Water Management Council meets to finalize the priorities and adopt the regional list. ADD Staff provides a summary tabulation of profile points based upon the Advisory Committee recommendations. The Council then reviews the list and discusses any changes. In the past two years, the Council has only included the top five projects from each County Advisory group to be ranked in the prioritization list.

Project prioritization is provided to the KY Infrastructure Authority and to LRC. In the past, the prioritization list has been utilized by the General Assembly for KIA line item funding; but given the current budget situation, we are not optimistic for that happening. Although no federal funding pools use our prioritization list, nearly all the funding programs are using portions of the WRIS project profile to feed information for their applications and funding decisions so it is important that we continue the process to help our region produce good infrastructure projects that meet locally expressed needs.

If you would like more information on the process or if you have further questions, please feel free to contact Aaron Hawkins or me at the ADD.

### Profile Scoring Criteria for ranked projects:

Project type [20 points max to 5 points min.]: matched to the primary project activities

Unserved (customers / mile): 7+ /mile=20 pts, 5-6 /mile=15 pts, 3-4 /mile=10 pts, 2 < /mile=5 pts;

Underserved/Improved Service (% of system improved): 75-100%=20 pts, 50-75%=15 pts, 25-49%=10 pts, <25% / maintenance = 5 pts;

Economic Development (# of jobs assisted) 25+ committed= 20pts, 15-24 committed= 15pts, less than 15 committed= 10pts, no quantified jobs= 5 pts;

Other (technical improvements, feasibility studies, etc.) = 10 points

Regional Connection

Regional [20 points] project that connects or merges 2 or more systems for the sale or production of water or wastewater treatment;

Increased connectivity [10 points]: improved existing connection or emergency connection;

Non-regional [5 points]

Design Status: Division of Water approved plans (20 pts.); Preliminary Engineering Report completed (15 pts.); Engineer procured for final design (10 pts.); Engineer developed profile (5 pts.)

Funding Status: The percentage of cost committed from local sources

50% or more from local sources= 20pts,

25-49% from local sources= 15pts,

less than 25% from local or submitted applications (CDBG, RD, KIA, etc)= 10pts,

other= 5pts.

Local Need:

Most important project within the planning unit (20 pts);

2nd most important project (16 pts);

3rd most important project (13 pts);

4th most important project (11 pts);

5th most important project (9 pts).

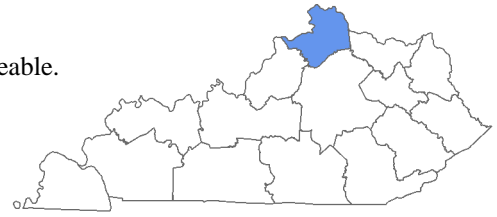
Only the top five in each planning unit are generally scored for local need.

### Project Rankings For Lincoln Trail Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21093019</a>	HCWD#2 Northern Hardin Co. Wastewater Project	3-5 Years	Not Funded	\$24,000,000	Hardin	1	1
<a href="#">SX21179020</a>	New Haven Phase I Sewer Extension to Gethsemani Monastery	3-5 Years	Not Funded	\$791,000	Nelson	2	2
<a href="#">SX21123007</a>	Hodgenville WWTP Upgrade & Wet Weather Storage	0-2 Years	Not Funded	\$3,570,000	Larue	4	1
<a href="#">SX21085009</a>	Clarkson Sewer / Lift Station Rehabilitation	3-5 Years	Not Funded	\$192,500	Grayson	5	1
<a href="#">SX21179013</a>	New Haven - WWTP Improvements Projects	3-5 Years	Not Funded	\$1,136,000	Nelson	6	1
<a href="#">SX21093022</a>	HCWD#1 Boone Trace Sewer Improvements	0-2 Years	Not Funded	\$2,000,000	Hardin	7	2
<a href="#">SX21229003</a>	Springfield Wastewater Treatment Plant Upgrade	3-5 Years	Not Funded	\$1,920,945	Washington	8	1
<a href="#">SX21155009</a>	Lebanon Wastewater System Rehabilitation and Improvements	0-2 Years	Not Funded	\$995,000	Marion	9	1
<a href="#">SX21027013</a>	Hardinsburg Sewer System Rehabilitation Phase 2	0-2 Years	Not Funded	\$1,000,000	Breckinridge	10	1
<a href="#">SX21163007</a>	Brandenburg Wastewater Treatment Plant Upgrade & Expansion	3-5 Years	Not Funded	\$745,000	Meade	11	1
<a href="#">SX21179025</a>	New Haven Outfall to Rolling Fork	3-5 Years	Not Funded	\$240,000	Nelson	12	5
<a href="#">SX21085008</a>	Leitchfield Fountain View Sewer Extensions Phase II	3-5 Years	Not Funded	\$535,000	Grayson	13	2
<a href="#">SX21027015</a>	Cloverport Trailer Park Sewer Rehab	0-2 Years	Not Funded	\$146,040	Breckinridge	14	4
<a href="#">SX21163005</a>	Muldraugh Sewer Improvements Phase 3	3-5 Years	Not Funded	\$240,000	Meade	15	2
<a href="#">SX21027020</a>	Irvington Manhole Rehabilitation Project	0-2 Years	Not Funded	\$91,390	Breckinridge	16	2
<a href="#">SX21229006</a>	Springfield - Washington County Regional Sewer Study	3-5 Years	Not Funded	\$150,000	Washington	17	2
<a href="#">SX21155005</a>	Crossroads Industrial Park Sewer Extension	3-5 Years	Not Funded	\$390,000	Marion	19	2
<a href="#">SX21229005</a>	Willisburg Wastewater Project	3-5 Years	Not Funded	\$3,400,000	Washington	20	3
<a href="#">SX21229004</a>	Springfield, Jim Town Project	3-5 Years	Not Funded	\$1,000,000	Washington	21	4
<a href="#">SX21027010</a>	Irvington Sanitary Sewer Improvements	3-5 Years	Not Funded	\$3,000,000	Breckinridge	22	5
<a href="#">SX21027018</a>	Cloverport Sewer System Lift Station Rehabilitation	0-2 Years	Not Funded	\$122,100	Breckinridge	23	3
<a href="#">SX21179012</a>	Bardstown Plum Run Road Extension	3-5 Years	Not Funded	\$600,000	Nelson	24	4
<a href="#">SX21093013</a>	Vine Grove Wastewater Treatment Upgrade & Expansion	3-5 Years	Not Funded	\$3,080,000	Hardin	25	4
<a href="#">SX21093021</a>	West Point Lift Station Upgrad	3-5 Years	Not Funded	\$343,350	Hardin	26	5
<a href="#">SX21093023</a>	HCWD#1 Radcliff Lift Station & Sewer Line Upgrades	0-2 Years	Not Funded	\$2,570,000	Hardin	27	3
<a href="#">SX21155001</a>	Lebanon Wastewater System Improvements	3-5 Years	Not Funded	\$293,000	Marion	28	3
<a href="#">SX21179018</a>	Nelson County Industrial Park Wastewater Project	3-5 Years	Not Funded	\$300,000	Nelson	29	3
<a href="#">SX21155007</a>	Lebanon / Marion Industrial Pre-Treatment Facility	3-5 Years	Not Funded	\$2,700,000	Marion	30	4
<b>Total Cost:</b>				<b>\$55,551,325</b>			

# Northern Kentucky Area Development District (NKADD)

- 2010 census population of 438,647 (185,049 households) with 81% serviceable.
- Projected 2020 population of 488,377 (change of 49,730).
- 2,093.90 miles of existing sewer lines.
- 42.00 miles of line extensions proposed in the next 10 years.
- 14.00 miles of line rehabilitation proposed in the next 10 years.
- 10.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$47,607,511.
- There are no projects planned from 6 to 10 years.
- Average age of wastewater treatment plants is 22 years.
- Total number of interconnected systems is 3.
- 108 miles of sewer lines less than 15 years old.
- 676 miles of sewer lines between 15 and 30 years old.
- 683 miles of sewer lines between 31 and 50 years old.
- 411 miles of sewer lines between 51 and 70 years old.
- 219 miles of sewer lines greater than 70 years old.



Northern Kentucky Area Development District has a 2010 census population count of 438,647 (185,049 households) with a projected 2020 population count of 488,377 (194,345 households). Public sewer is currently available to approximately 81 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,482 serviceable households will be added through the construction of 42.00 miles of sewer line extensions and approximately 5,119 instances of improved service through the rehabilitation of 14.00 miles of existing sewer lines and other appurtenances. 10.00 miles of interceptor lines are also proposed within this district.

**County Summary for Northern Kentucky Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Boone	118,811	46,154	153,933	59,951	39,806	86%	\$ 7,229,050
Campbell	90,336	39,523	91,642	37,713	34,598	88%	-
Carroll	10,811	4,696	11,440	4,408	3,037	65%	\$ 8,651,295
Gallatin	8,589	3,786	9,264	3,592	1,204	32%	\$ 5,591,673
Grant	24,662	9,942	26,917	9,870	4,168	42%	\$ 9,903,770
Kenton	159,720	68,975	168,458	68,111	64,499	94%	\$ 4,757,456
Owen	10,841	5,634	11,336	4,713	934	17%	\$ 2,817,005
Pendleton	14,877	6,339	15,387	5,987	1,575	25%	\$ 8,657,262
<b>Totals</b>	<b>438,647</b>	<b>185,049</b>	<b>488,377</b>	<b>194,345</b>	<b>149,821</b>	<b>81%</b>	<b>\$ 47,607,511</b>



## Public Sewer Systems in the Northern Kentucky Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KYP000015</a>	Florence Water & Sewer Commission	Boone	27,934	12,251
<a href="#">KY0094072</a>	SD1 - Rivershore Farms Subdivision	Boone	660	222
<a href="#">KY0093025</a>	SD1 - Verona Commons Subdivision	Boone	87	27
<a href="#">KY0107239</a>	SD1 - Western Reg Water Reclam Fac	Boone	55,422	20,684
<a href="#">KY0039756</a>	Walton Wastewater System	Boone	3,898	1,540
<a href="#">KY0105031</a>	SD1 - Eastern Regional STP	Campbell	11,899	4,495
<a href="#">KY0092843</a>	Yung Farm Estates Subdivision	Campbell	49	20
<a href="#">KY0104931</a>	Carrollton Utilities	Carroll	8,578	3,843
<a href="#">KY0028118</a>	Warsaw Wastewater System	Gallatin	2,082	987
<a href="#">KY0098027</a>	Corinth Sewer Department	Grant	407	176
<a href="#">KYP000041</a>	Dry Ridge Sewer Department	Grant	2,075	830
<a href="#">KY0091634</a>	Grant County Sanitary Sewer District	Grant	5,266	1,988
<a href="#">KY0109991</a>	Williamstown Regional WRF	Grant	3,233	1,207
<a href="#">KY0075833</a>	Bel Aire Subdivision	Kenton	102	36
<a href="#">KY0021466</a>	SD1 - Dry Creek	Kenton	228,583	99,565
<a href="#">KY0028312</a>	Kentucky-American Water Company - Northern Division	Owen	1,401	700
<a href="#">KY0021041</a>	Butler Water & Sewer Department	Pendleton	741	340
<a href="#">KY0106267</a>	Falmouth STP (New)	Pendleton	2,682	1,227
		<b>Totals:</b>	355,099	150,138

# Northern Kentucky Area Development District Regional Wastewater Needs Assessment



Primary Need: **Extend Services to Unserved Areas**

Secondary Need: **Combined Sewer Overflow Correction**

## **Discussion of Area Development District Needs:**

The Northern Kentucky Area Development District is one of fifteen regional planning agencies created by the Kentucky General Assembly to provide a mechanism for cooperative planning and development between the various local governments within the region. The Northern Kentucky Area Development District region is comprised of Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen and Pendleton Counties. Development patterns in the region range from highly developed urbanized areas to rural farmland with sparse development. The entire eight-county region had a population of 438,647 people according to the 2010 Census. The regional population is projected to increase to over 565,200 people (221,400 households) by 2030. Boone, Grant and Gallatin counties are expected to experience the greatest growth over the next 25 years.

Public wastewater systems serve approximately 74% of the regional population, with the remainder being served by private on-site systems. Campbell and Kenton counties have the highest percentage of residents on public sewers at 85% and 90%, respectively; while in Gallatin, Grant and Owen counties less than one-third to one-fifth of all people have access to public sewers.

The rate of population growth will increase the need for public sewer capacity and availability. Plans are currently underway to accommodate the demands of the projected growth both locally and regionally.

A majority of systems in the eight counties are looking to the future with plans to expand to serve the growing population through a regional approach. Sanitation District #1 (SD1) was formed in 1995 when most municipal jurisdictions in Campbell and Kenton counties merged into a regional system. The District has built two new wastewater treatment plants, one in Boone County, to expand service and protect public health in the fastest growing county in the region and one in Campbell County to replace several smaller treatment facilities that have exceeded capacity.

Carrollton Utilities operates a regional network that is responsible for the systems in the neighboring cities of Campbellsburg, Glencoe, Prestonville, Sanders, Sparta, Ghent and Worthville.

In Grant County, the Grant County Sanitary Sewer District serves the City of Crittenden and northern part of the county. The City of Corinth operates a system in the southern part of the county. There is an interconnect between the cities of Williamstown, which operates the plant, and Dry Ridge. Officials in Pendleton County are also considering a similar regional system.

## **Description and Determination of Planning Units:**

The NKADD Water Management Council reviewed the wastewater systems and their service areas located within the Northern Kentucky Area Development District. The Council designated the Northern Kentucky Area Development District boundary as the regional management area. Within NKADD, the following water systems and their respective water management planning areas were designated by the Council:

### **BOONE COUNTY**

Boone County is the fastest growing county in Northern Kentucky, and was the third fastest growing county in the state between 2000 and 2010, during which time its population increased by 38.2 percent. This growth is expected to continue. With such rapid growth, planning for future infrastructure is essential. There are three publicly-owned wastewater systems in Boone County and 16 PTPs. The cities of Florence and Walton operate municipal wastewater systems and the SD1 provides sewer service to a small portion of the County as well as Campbell and Kenton counties. SD1 has constructed the new 20MGD Western Regional Reclamation Facility. Currently 65% of the population relies on public sewers.

### CAMPBELL COUNTY

Campbell County is served by one public utility and 31 PTPs. The SD1 is responsible for the management of wastewater and stormwater in Campbell and Kenton counties as well as portions of Boone County. Campbell County is served by the Eastern Regional STP. Overall the district serves over 325,000 people, approximately 80% of the total population of the three counties.

### CARROLL COUNTY

Carroll County is located on the Ohio River, approximately halfway between Cincinnati and Louisville. The County is not expected to see considerable growth in the near future. The topography of the County is rugged and much of the terrain is unsuitable for development. The County is served by one public utility and 2 PTPs. Carrollton Utilities serves the cities of Carrollton, Campbellsburg, Ghent, Prestonville, Worthville, and Sanders.

### GALLATIN COUNTY

Gallatin County is the smallest county in Kentucky by area but it was the 3rd fastest growing county in the state from 1990 to 2000 when its population increased by nearly 46 percent but only grew by 9.1 percent between 2000 and 2010. Gallatin County has good transportation access via Interstate 71, which connects Louisville and Cincinnati, Ohio; and KY-1039, which connects Kentucky and Indiana, utilizing the Markland Dam to cross the Ohio River southwest of Warsaw. There are 2 public systems and 2 PTPs in Gallatin County. The city of Warsaw operates a municipal wastewater systems and Carrollton Utilities serves Sparta and Glencoe.

### GRANT COUNTY

Grant County was the 22nd fastest growing county in the state between 2000 and 2010. That growth rate is expected to continue. The Interstate 75 / US-25 corridor provides convenient transportation and access for future development. Grant County is served by 3 public systems and 10 PTPs. The Grant County Sanitary Sewer District serves the city of Crittenden. The city of Williamstown operates a municipal system and treats the city of Dry Ridge as well. The city of Corinth operates a municipal system.

### KENTON COUNTY

Kenton County is the third most populous county in the state. Ninety percent of the population has access to public sanitary sewers. Public sewer service is provided to most of these residents by SD1. The City of Walton, which sits on the border of southern Boone and Kenton Counties, provides service within its city limits. The Grant County Sanitary Sewer District may extend service into a small portion of southern Kenton County in the future. Additionally, there are 10 PTPs in the county.

### OWEN COUNTY

Owen County is more sparsely populated than many other surrounding counties. The total population of 10,841 as of the 2010 Census was dispersed throughout the 352 square mile area the County encompasses resulting in an average population density of 30 persons per square mile. Because of the wide population distribution, only 20% of residents have access to public sewers. In addition to service from the city of Owenton, Carrollton Utilities is planning to extend sewer service into northern Owen County to serve communities along Eagle Creek. Additionally, there are 4 PTPs in the county.

### PENDLETON COUNTY

Pendleton County has seen moderate growth over the past decade. The terrain is made up of rolling hills and fertile river valleys. The County is bordered by the Ohio River, which flows for 3.5 miles along its northeast border. The Licking River meanders through the County. The South Fork and main branch meet in Falmouth and flow north past Butler, into Campbell County toward the Ohio River. The county is served by 2 public systems and 9 PTPs. The cities of Butler and Falmouth operate municipal systems.

# **Northern Kentucky Area Development District Project Ranking Methodology**



The Water Management Council created a subcommittee to develop a ranking methodology for NKADD. This was based on the methodology created by KIA along with modifications instituted by other ADDs. A point system was developed that looked at several aspects of the projects based on the following criteria:

- Consolidation or regionalization of systems
- Local rankings
- Number of unserved/underserved customers affected
- Cost per household
- Amount of planning and development work completed
- Capacity to provide wastewater service (for waterline extensions)
- Local funding

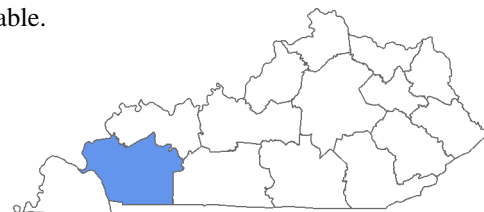
A meeting is held with each Planning Unit to rank their projects. The projects are scored using a matrix developed from the established criteria. At the Water Management Council meeting, these scores are used to rank the projects for the whole ADD. NKADD uses a tiered system so that each Planning Unit's number one project is in the top 8: the highest number one project is first, the second highest number one project is second, the third highest number one project is third ... until all of the projects ranked by the Planning Units are ranked for the whole ADD.

### Project Rankings For Northern Kentucky Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21191007</a>	City of Butler Sewer System Rehabilitation Project	0-2 Years	Not Funded	\$560,000	Pendleton	1	1
<a href="#">SX21081001</a>	City of Dry Ridge - US-25 Sewer System Expansion	0-2 Years	Not Funded	\$1,640,000	Grant	2	1
<a href="#">SX21041105</a>	Carrollton Utilities - Carrollton Sewer Extensions	3-5 Years	Not Funded	\$286,618	Carroll	3	1
<a href="#">SX21015005</a>	Sand Run Rehab Project	0-2 Years	Unknown	\$0	Boone	4	1
<a href="#">SX21081503</a>	City of Dry Ridge - 2008 Sewer Line Extension	3-5 Years	Not Funded	\$874,000	Grant	5	3
<a href="#">SX21015301</a>	Boone County - Twin Lakes Sanitary Sewer Project	0-2 Years	Not Funded	\$2,093,280	Boone	6	2
<a href="#">SX21081305</a>	GCSSD - Wastewater Treatment Plant Improvements	3-5 Years	Not Funded	\$913,300	Grant	7	2
<a href="#">SX21015007</a>	Northern Boone County Sanitary Sewer Expansion	0-2 Years	Unknown	\$0	Boone	8	3
<b>Total Cost:</b>				<b>\$6,367,198</b>			

# Pennyriple Area Development District (PEADD)

- 2010 census population of 219,305 (97,910 households) with 51% serviceable.
- Projected 2020 population of 226,580 (change of 7,275).
- 1,025.41 miles of existing sewer lines.
- 33.00 miles of line extensions proposed in the next 10 years.
- 4.00 miles of line rehabilitation proposed in the next 10 years.
- 38.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$111,896,940.
- Estimated funding needs for projects from 6 to 10 years: \$26,116,902.
- Average age of wastewater treatment plants is 38 years.
- Total number of interconnected systems is 7.
- 132 miles of sewer lines less than 15 years old.
- 131 miles of sewer lines between 15 and 30 years old.
- 160 miles of sewer lines between 31 and 50 years old.
- 200 miles of sewer lines between 51 and 70 years old.
- 402 miles of sewer lines greater than 70 years old.



Pennyriple Area Development District has a 2010 census population count of 219,305 (97,910 households) with a projected 2020 population count of 226,580 (89,133 households). Public sewer is currently available to approximately 51 percent of the district's households based on 2010 census counts. Over the next ten years approximately 2,150 serviceable households will be added through the construction of 33.00 miles of sewer line extensions and approximately 30,269 instances of improved service through the rehabilitation of 4.00 miles of existing sewer lines and other appurtenances. 38.00 miles of interceptor lines are also proposed within this district.

**County Summary for Pennyriple Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Caldwell	12,984	6,292	12,948	5,518	3,236	51%	\$ 2,495,000
Christian	73,955	29,459	77,840	28,340	19,450	66%	\$ 66,897,202
Crittenden	9,315	4,569	9,156	3,775	1,565	34%	\$ 12,084,960
Hopkins	46,920	21,180	48,007	19,684	13,777	65%	\$ 13,054,380
Livingston	9,519	4,824	9,438	4,074	2,020	42%	\$ 7,518,000
Lyon	8,314	4,791	8,523	3,430	1,602	33%	\$ 500,000
Muhlenberg	31,499	13,699	31,466	12,337	5,315	39%	\$ 24,100,000
Todd	12,460	5,286	12,958	4,989	1,723	33%	\$ 11,364,300
Trigg	14,339	7,810	16,244	6,986	1,444	19%	-
<b>Totals</b>	<b>219,305</b>	<b>97,910</b>	<b>226,580</b>	<b>89,133</b>	<b>50,132</b>	<b>51%</b>	<b>\$ 138,013,842</b>

## Public Sewer Systems in the Pennyryle Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KYP000048</a>	Fredonia Water Department	Caldwell	417	204
<a href="#">KY0028401</a>	Princeton Water & Wastewater Commission	Caldwell	6,147	3,032
<a href="#">KY0066591</a>	Hopkinsville Water Environment Authority - Crofton	Christian	974	476
<a href="#">KY0066532</a>	Hopkinsville Water Environment Authority - Hammond Wood	Christian	34,626	15,695
<a href="#">KY0094056</a>	Hopkinsville Water Environment Authority - Oak Grove	Christian	7,317	3,273
<a href="#">KY0020061</a>	Marion Water Department	Crittenden	3,175	1,565
<a href="#">KY0023868</a>	Dawson Springs Water & Sewer System	Hopkins	2,674	1,274
<a href="#">KYP000043</a>	Earlington Water & Sewer Department	Hopkins	1,387	705
<a href="#">KYP000047</a>	Hanson Water System	Hopkins	877	359
<a href="#">KY0098043</a>	Madisonville Municipal Utilities	Hopkins	21,419	9,943
<a href="#">KYP000050</a>	Mortons Gap Water Department	Hopkins	915	422
<a href="#">KY0066583</a>	Nortonville Sewer Department	Hopkins	1,628	731
<a href="#">KYP000062</a>	White Plains Sewer Department	Hopkins	796	347
<a href="#">KY0027227</a>	Grand Rivers Water System	Livingston	867	603
<a href="#">KY0100251</a>	Ledbetter Water District	Livingston	1,876	846
<a href="#">KY0066541</a>	Salem Municipal Water System	Livingston	785	382
<a href="#">KY0025836</a>	Smithland Water & Sewer System	Livingston	335	189
<a href="#">KY0027979</a>	Eddyville Water Department	Lyon	2,193	897
<a href="#">KY0020419</a>	Kuttawa Water Department	Lyon	897	591
<a href="#">KYP000079</a>	Lyon County Water District	Lyon	123	114
<a href="#">KY0023540</a>	Central City Municipal Water & Sewer System	Muhlenberg	5,871	2,285
<a href="#">KY0066575</a>	Drakesboro Water & Sewer	Muhlenberg	885	406
<a href="#">KY0020010</a>	Greenville Utilities Commission	Muhlenberg	5,494	2,280
<a href="#">KYP000064</a>	Powderly Sewer System	Muhlenberg	716	344
<a href="#">KY0023442</a>	Elkton Utilities	Todd	2,104	933
<a href="#">KY0063649</a>	Guthrie Water Works	Todd	1,334	603
<a href="#">KY0020982</a>	Trenton Water Works	Todd	386	187
<a href="#">KY0026891</a>	Cadiz Water & Sewer Commission	Trigg	2,979	1,423
		<b>Totals:</b>	109,197	50,109

# **Pennyrile Area Development District Regional Wastewater Needs Assessment**



Primary Need: **Repair and Replace Existing Infrastructure**

Secondary Need: **Extend Services to Unserved Areas**

## **Discussion of Area Development District Needs:**

The Pennyrile region has lot varied needs but at this time the majority of our needs fall under the heading of repairing and replacing aging infrastructure. This category covers the replacement of individual lines, system wide rehabilitation, to replacing aging or undersized lift stations and finally the replacement of aging or undersized wastewater treatment plants. At this time the majority of the systems in the Pennyrile area are approaching or have passed the designed lifespan of their collection systems and treatment plants. Each system is unique and has different needs but overall problem is the same. Each system has some portion of its collection system that needs to be slip lined, pipe burst, or replaced in its entirety. As the cost of treatment increases it becomes more of a priority for the systems to address the portions of their systems that are allowing I & I (inflow and infiltration). The I & I that is treated by the system is unwanted water that has made it into the collection system. It cost just as much for a system to treat rain or ground water as it does to treat household waste. The addition of I & I drives up the treatment costs for the system which in turn drives up the customer rates.

The secondary need in the Pennyrile region is the extension of services to unserved areas. These projects have a twofold effect. First they provide sewer service to an unserved area which removes septic tanks and straight pipes and improved ground water quality. The second effect is that it increases the systems customer base which in turn increases system revenues. These increased revenues can be used to address system upgrades and maintenance.

## **Description and Determination of Planning Units:**

The planning units in the Pennyrile region are based on the existing county boundaries. By keeping the planning units based on the county boundaries the systems are familiar with the political structure and the current relationship between them and their neighbors. Currently the Pennyrile region has nine planning units (Caldwell County, Christian County, Crittenden County, Hopkins County, Livingston County, Lyon County, Muhlenberg County, Todd County, and Trigg County). These planning units vary in number of systems from as little as one to as many as 8. In each of these instances the county based planning units seem to work well for the Pennyrile region. Many of the counties systems have grown interconnected and interdependent over the last several years. These relationships help foster cooperation and county/regional planning.



## **Pennyrile Area Development District Project Ranking Methodology**



Each year, the Water Management Council of the Pennyrile Area Development District (PADD) completes a ranking process of water and wastewater projects in the region. This is a “grassroots” process as it begins at the local (system) level and ends with all projects being ranked on a regional basis.

We begin the process with county-wide ranking meetings during which all water/wastewater systems meet with the PADD Water Management Coordinator and their respective County Judge Executive. We discuss the individual projects from each system and rank them according to the priorities within the county. These rankings are then used in the overall regional ranking process.

The PADD Water Management Council has elected to use a point system to determine the overall regional ranking of each project. Projects are ranked based on five categories; Project Type (Unserved Customers, Underserved Customers, and Aging Infrastructure), Regionalization, Level of Engineering/Project Status, Funding Status, and Local Importance. Projects may receive up to 20 points in each category except for regionalization. The Water Management Council recognizes the increasing importance of regionalization and has weighted this category heavier. Overall, a project can achieve 110 points. In the instances where two project score the same numerical value the Water Council has elected to use a simple cost analysis to break the tie. The system that is serving the most people with the least amount of money receives the higher ranking (cost of the project/number of customers served).

### Project Rankings For Pennyrile Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21055006</a>	City of Marion - New Wastewater Treatment Plant	3-5 Years	Not Funded	\$11,276,960	Crittenden	1	1
<a href="#">SX21107025</a>	Sanitary Sewer System Rehabilitation and WWTP Improvements	0-2 Years	Not Funded	\$1,901,000	Hopkins	2	1
<a href="#">SX21143008</a>	City of Kuttawa - Wastewater System Rehabilitation	3-5 Years	Partially Funded	\$200,000	Lyon	3	2
<a href="#">SX21107022</a>	Madisonville - Hanson Relief Interceptor	3-5 Years	Not Funded	\$5,433,001	Hopkins	4	3
<a href="#">SX21047028</a>	HWEA SRF Phase VIII - Expand Hammond-Wood WWTP & Interceptor	0-2 Years	Not Funded	\$39,324,000	Christian	5	1
<a href="#">SX21139012</a>	City of Smithland - Ledbetter Interceptor	6-10 Years	Not Funded	\$3,551,000	Livingston	6	2
<a href="#">SX21033006</a>	Fredonia - Lift Station Improvements	3-5 Years	Not Funded	\$175,000	Caldwell	7	1
<a href="#">SX21047011</a>	HWEA - Oak Grove Wastewater Treatment Plant Expansion - Construction	6-10 Years	Not Funded	\$3,500,000	Christian	8	2
<a href="#">SX21033009</a>	Princeton-Wastewater Treatment Plant Phosphorus Upgrade	3-5 Years	Not Funded	\$870,000	Caldwell	9	2
<a href="#">SX21219021</a>	Elkton - Sewer Plant Improvement Project	3-5 Years	Not Funded	\$1,620,000	Todd	10	2
<a href="#">SX21047023</a>	HWEA Oak Grove Village Sewer Project	0-2 Years	Not Funded	\$7,500,000	Christian	11	3
<a href="#">SX21143009</a>	City of Kuttawa - Old Kuttawa Pump Station and System Rehab.	3-5 Years	Not Funded	\$300,000	Lyon	12	1
<a href="#">SX21139010</a>	Smithland Sewer Rehabilitation	3-5 Years	Not Funded	\$1,517,000	Livingston	13	3
<a href="#">SX21219014</a>	Elkton - Sewer Collection System Rehabilitation	3-5 Years	Not Funded	\$500,000	Todd	14	3
<a href="#">SX21139011</a>	Grand Rivers - Wastewater System Rehabilitation	0-2 Years	Not Funded	\$1,000,000	Livingston	15	4
<a href="#">SX21107009</a>	Madisonville South Main Sewer Interceptor Phase 2	3-5 Years	Not Funded	\$1,443,200	Hopkins	16	4
<a href="#">SX21219011</a>	Trenton - Wastewater Treatment Plant Expansion	3-5 Years	Not Funded	\$1,500,000	Todd	17	4
<a href="#">SX21219012</a>	Elkton - Hwy 181 North Sewer Main Extension	6-10 Years	Not Funded	\$750,000	Todd	18	5
<a href="#">SX21047029</a>	HWEA SRF Phase VIII - Rockbridge Interceptor	6-10 Years	Not Funded	\$12,328,550	Christian	19	4
<a href="#">SX21139009</a>	Grand Rivers - Sewer Line Extension	3-5 Years	Not Funded	\$1,450,000	Livingston	20	5
<a href="#">SX21107010</a>	Madisonville South Main Sewer Interceptor Phase 3	6-10 Years	Not Funded	\$1,742,700	Hopkins	21	6
<a href="#">SX21047009</a>	HWEA - Oak Grove Spring Meadows Sewer	6-10 Years	Not Funded	\$4,244,652	Christian	22	5
<a href="#">SX21219018</a>	Elkton - Winding Oaks Sewer Project	3-5 Years	Not Funded	\$360,000	Todd	23	7
<a href="#">SX21219009</a>	Guthrie - WWTP Expansion	3-5 Years	Not Funded	\$7,000,000	Todd	24	8
<a href="#">SX21219019</a>	Elkton - WWTP energy efficiency upgrade	0-2 Years	Not Funded	\$82,800	Todd	25	9
<a href="#">SX21219010</a>	Guthrie - WWTP Debt Reduction	3-5 Years	Not Funded	\$487,000	Todd	26	10
<a href="#">SX21219013</a>	Todd County Fiscal Court - Lake Malone Sewer Study	3-5 Years	Not Funded	\$100,000	Todd	27	11
<a href="#">SX21219015</a>	Guthrie West Industrial Park Sewer Extension	0-2 Years	Not Funded	\$500,000	Todd	28	12
<b>Total Cost:</b>				<b>\$110,656,863</b>			

# Purchase Area Development District (PUADD)

- 2010 census population of 196,393 (93,709 households) with 49% serviceable.
- Projected 2020 population of 201,697 (change of 5,304).
- 942.27 miles of existing sewer lines.
- 127.00 miles of line extensions proposed in the next 10 years.
- 120.00 miles of line rehabilitation proposed in the next 10 years.
- 32.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: \$102,701,067.
- Estimated funding needs for projects from 6 to 10 years: \$26,093,690.
- Average age of wastewater treatment plants is 31 years.
- Total number of interconnected systems is 2.
- 103 miles of sewer lines less than 15 years old.
- 37 miles of sewer lines between 15 and 30 years old.
- 132 miles of sewer lines between 31 and 50 years old.
- 419 miles of sewer lines between 51 and 70 years old.
- 251 miles of sewer lines greater than 70 years old.



Purchase Area Development District has a 2010 census population count of 196,393 (93,709 households) with a projected 2020 population count of 201,697 (86,121 households). Public sewer is currently available to approximately 49 percent of the district's households based on 2010 census counts. Over the next ten years approximately 38,630 serviceable households will be added through the construction of 127.00 miles of sewer line extensions and approximately 15,007 instances of improved service through the rehabilitation of 120.00 miles of existing sewer lines and other appurtenances. 32.00 miles of interceptor lines are also proposed within this district.

**County Summary for Purchase Area Development District**

County Name	2010 Population	2010 Households	2020 Population	2020 Households	Serviceable Households	Percent Serviceable	Planned Cost 0 to 10 Years
Ballard	8,249	3,885	8,217	3,484	1,576	41%	\$ 15,126,257
Calloway	37,191	18,065	40,411	17,019	9,212	51%	\$ 3,655,000
Carlisle	5,104	2,441	4,947	2,093	604	25%	\$ 9,787,095
Fulton	6,813	3,372	6,223	2,728	2,384	71%	\$ 7,737,635
Graves	37,121	16,777	37,630	15,459	5,884	35%	\$ 36,489,806
Hickman	4,902	2,342	4,625	1,938	666	28%	-
McCracken	65,565	31,079	66,621	29,278	21,647	70%	\$ 42,801,489
Marshall	31,448	15,748	33,023	14,122	3,866	25%	\$ 13,197,475
<b>Totals</b>	<b>196,393</b>	<b>93,709</b>	<b>201,697</b>	<b>86,121</b>	<b>45,839</b>	<b>49%</b>	<b>\$ 128,794,757</b>

## Public Sewer Systems in the Purchase Area Development District

Note: Serviceable counts include households outside the area development district.

KPDES	System Name	Primary County	Serviceable Counts	
			Population	Households
<a href="#">KY0025747</a>	Barlow Sewer System	Ballard	703	370
<a href="#">KY0033791</a>	Kevil Water & Sewer System	Ballard	709	347
<a href="#">KY0020893</a>	LaCenter Water System	Ballard	1,063	500
<a href="#">KY0025933</a>	Wickliffe Sewer System	Ballard	770	363
<a href="#">KY0072761</a>	Murray Water & Wastewater System	Calloway	19,390	8,983
<a href="#">KY0028371</a>	South 641 Water District	Calloway	417	225
<a href="#">KYP000065</a>	Arlington Water and Sewer Department	Carlisle	359	183
<a href="#">KYP000066</a>	Bardwell City Utilities	Carlisle	795	421
<a href="#">KY0026913</a>	Fulton Municipal Water System	Fulton	2,448	1,330
<a href="#">KY0028436</a>	Hickman Municipal Sewer System	Fulton	2,404	1,054
<a href="#">KY0053562</a>	Graves County Water District (Fancy Farm)	Graves	573	259
<a href="#">KY0021211</a>	Mayfield Electric & Water System	Graves	10,472	4,909
<a href="#">KY0055221</a>	Mayfield Electric & Water Systems (Highland Club)	Graves	27	12
<a href="#">KY0053520</a>	Mayfield Electric & Water Systems (Thomas Country)	Graves	328	132
<a href="#">KY0055271</a>	Symsonia Water District	Graves	583	307
<a href="#">KY0025852</a>	Wingo Water & Sewer System	Graves	595	265
<a href="#">KY0025275</a>	Clinton Sewer	Hickman	1,364	665
<a href="#">KY0021172</a>	Benton Water & Sewer System	Marshall	4,765	2,211
<a href="#">KY0021130</a>	Calvert City Municipal Water & Sewer	Marshall	2,424	1,100
<a href="#">KY0021016</a>	Hardin Sewer System	Marshall	652	302
<a href="#">KY0044164</a>	Marshall County Environmental Services (Golden Acres)	Marshall	70	34
<a href="#">KY0024546</a>	Marshall County Sanitation District #1	Marshall	97	71
<a href="#">KY0044181</a>	Marshall County Sanitation District #2	Marshall	284	130
<a href="#">KY0080845</a>	Marshall County Environmental Services (Great Oaks)	McCracken	521	178
<a href="#">KY0022799</a>	Paducah McCracken County Joint Sewer Agency (Paducah)	McCracken	34,452	17,326
<a href="#">KY0025810</a>	Paducah McCracken County Joint Sewer Agency (Reidland)	McCracken	4,635	2,048
<a href="#">KY0025828</a>	Paducah McCracken County Joint Sewer Agency (Woodlawn)	McCracken	4,467	2,091
		<b>Totals:</b>	95,367	45,816

# Purchase Area Development District Regional Wastewater Needs Assessment



Primary Need: **Develop Long-term Planning That Allows for Sustainability**

Secondary Need: **Repair and Replace Existing Infrastructure**

## **Discussion of Area Development District Needs:**

The majority of systems within the Purchase Area are smaller and have different needs than the larger, more self-sustaining systems. Long-term planning needs to be a major focus within these systems, in order for them to be sustainable. The fallacy some systems fall into is being too focused on the short-term (day-to-day operations) and fail to acknowledge their Long-term needs and goals. The Purchase Area as a whole has a need to replace or repair existing infrastructure that are reaching and in a lot of cases exceeding past their useful life expectancy.

Based on the project profiles developed for the region the secondary priority for the region is to repair or replacement of existing infrastructure. The majority of the utilities in the Purchase Area are operating systems that are more than 30 years old and standards have evolved to become more stringent during this period. Many of the collection lines, manholes, and lift stations are beyond their useful life which results in wastewater systems that do not operate on a high efficiency level. Additionally, inflow and infiltration are a major issue in the region. This problem is caused by breaks in the collection system that allow surface or groundwater to penetrate the lines and forces the system to treat an increased volume resulting from major rain events.

## **Description and Determination of Planning Units:**

The Purchase Area Development District is divided into eight separate planning units, which are based on the eight counties in the Purchase Area. The planning units are: Ballard County planning unit, Calloway County planning unit, Carlisle County planning unit, Fulton County planning unit, Graves County planning unit, Hickman County planning unit, Marshall County planning unit, and McCracken County planning unit.

In the Ballard County planning unit there are four wastewater utilities (City of Barlow, City of Kevil, City of Lacer, and City of Wickliffe) that serve approximately 1,553 serviceable households in Ballard County.

The City of Murray and the South 641 Water District make up the two wastewater utilities in the Calloway County planning unit and serve approximately 9,208 serviceable households in.

The Carlisle County planning unit is comprised of two utilities (City of Arlington and City of Bardwell) that collect wastewater but send the wastewater to another utility to be treated. The Carlisle County Sanitation District is the utility that receives wastewater from these two municipalities and also the Carlisle County High School. The City of Arlington and the City of Bardwell serve approximately 604 serviceable households in.

The Fulton County planning unit has two wastewater utilities (City of Fulton and City of Hickman) that serve approximately 2,384 serviceable households in.

The Graves County planning unit also has four wastewater utilities (Graves County Water District, Mayfield Electric & Water System, Symsonia Water District, and the City of Wingo) that serve approximately 5,884 serviceable households in Graves County.

The City of Clinton is the lone wastewater utility in the Hickman County planning unit and serves approximately 627 serviceable households in.

The Marshall County planning unit has the largest amount of wastewater utilities, which has six wastewater utilities. With those utilities being the City of Benton, Calvert City, City of Hardin, Marshall County Sanitation District #1, Marshall County Sanitation District #2, and the Purchase Public Service Corporation plant at the Golden Acres Subdivision. Together these utilities serve approximately 3,881 serviceable households in.

Paducah-McCracken Joint Sewer Agency along with two Purchase Public Service Corporation plants at the Blandville-West Subdivision and Great Oaks Subdivision make up the McCracken County planning unit. These three utilities serve approximately 21,651 serviceable households in McCracken County.

# Purchase Area Development District

## Project Ranking Methodology



The Purchase Area Water Management Council uses a clean water ranking criteria to establish a regional priority list for water projects in the Purchase Area.

The clean water ranking criteria consists of five separate categories.

### Project Type:

1. Regionalizing- projects receive 25 points if there is a merger of utilities and elimination of permitted discharges.
2. Elimination of sewage treatment plant through interconnection- projects receive 23 points if there is an utility that is eliminating a sewage treatment plant and sending the wastewater to another utility to be treated.
3. New treatment plant/expansion- projects receive 20 points if the utility is building a new sewage treatment plant or expanded the existing capacity of the existing sewage treatment plant.
4. Replacement or rehabilitation of aging infrastructure- project will receive 17 points if the utility is rehabbing out-dated collection lines or out-dated equipment.
5. Extension of sewer service to unserved households- project will receive 20 points if the proposed project will add an average of 9 or more new customers per mile, 19 points for an average of 7-8 new customers per mile, 18 points for an average of 5-6 new customers per mile, 15 points for an average of 3-4 new customers per mile, and 10 points for an average of 1-2 new customers per mile.

### Compliance and Enforcement:

A project will receive 5 points if the utility is using this project to achieve full or partial compliance with a court or agreed order.

### Funding Status

Projects that are 50%-99% funded and they receive 10 points, the second section is for projects that are 1%-49% funded and they receive 5 points. Any projects that are not funded receive zero points for this category.

### Project Status

This category has three sections and a project can receive points in all sections if the utility has completed them. The first section is Engineering plans and specs submitted to DOW, a project will receive 15 points if this step has been completed. The second section is Preliminary engineering report complete, a project will receive 10 points if this step is completed. The third section is Estimated engineer's budget complete, a project will receive 5 points if this step is complete.

### County Ranking

In this category, projects will receive points based on their county ranking. A number one ranked project in the county will receive 24 points, a number two ranked project in the county will receive 20 points, a number three ranked project in the county will receive 16 points, a number four ranked project in the county will receive 14 points, and a number five ranked project in the county will receive 12 points. Only the top 5 projects in each county will be ranked regionally. In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

### Project Rankings For Purchase Area Development District

PNUM	Project Title	Schedule	Funding Status	Project Cost	Primary County	Regional Ranking	Local Ranking
<a href="#">SX21083009</a>	Gravity Sewer Extension from the intersection of I69 and Hwy45	0-2 Years	Not Funded	\$116,499	Graves	1	1
<a href="#">SX21157036</a>	City of Calvert City-Phase IV Sewer Rehab	3-5 Years	Not Funded	\$450,000	Marshall	2	1
<a href="#">SX21145023</a>	10MG Combined Sewer Storage Tank PWWTP	0-2 Years	Not Funded	\$6,342,750	McCracken	3	1
<a href="#">SX21075010</a>	Aeration Basin	0-2 Years	Not Funded	\$2,000,000	Fulton	4	1
<a href="#">SX21083029</a>	Gravity line extension from Hwy 45 North	0-2 Years	Not Funded	\$213,732	Graves	5	2
<a href="#">SX21145017</a>	Massac Creek Phase III	0-2 Years	Not Funded	\$2,020,000	McCracken	6	2
<a href="#">SX21083056</a>	Wildwood Subdivision Sewer Line Extension from HWY 121	0-2 Years	Not Funded	\$186,266	Graves	7	3
<a href="#">SX21145024</a>	Parallel 16 and 20 inch force mains serving renovated Harrison S	3-5 Years	Not Funded	\$1,368,650	McCracken	8	3
<a href="#">SX21145025</a>	Renovate Harrison Street CSO Pumping Station to 10.0 MGD	0-2 Years	Not Funded	\$2,781,430	McCracken	9	4
<a href="#">SX21075005</a>	City of Hickman- CSO Removal Project	3-5 Years	Not Funded	\$1,000,000	Fulton	10	2
<b>Total Cost:</b>				<b>\$16,479,327</b>			



## Appendix A - Counties by Area Development District

County	ADD
Adair	LCADD
Allen	BRADD
Anderson	BGADD
Ballard	PUADD
Barren	BRADD
Bath	GWADD
Bell	CVADD
Boone	NKADD
Bourbon	BGADD
Boyd	FIVCO
Boyle	BGADD
Bracken	BTADD
Breathitt	KRADD
Breckinridge	LTADD
Bullitt	KIPDA
Butler	BRADD
Caldwell	PEADD
Calloway	PUADD
Campbell	NKADD
Carlisle	PUADD
Carroll	NKADD
Carter	FIVCO
Casey	LCADD
Christian	PEADD
Clark	BGADD
Clay	CVADD
Clinton	LCADD
Crittenden	PEADD
Cumberland	LCADD
Daviess	GRADD
Edmonson	BRADD
Elliott	FIVCO
Estill	BGADD
Fayette	BGADD
Fleming	BTADD
Floyd	BSADD
Franklin	BGADD
Fulton	PUADD
Gallatin	NKADD
Garrard	BGADD

County	ADD
Grant	NKADD
Graves	PUADD
Grayson	LTADD
Green	LCADD
Greenup	FIVCO
Hancock	GRADD
Hardin	LTADD
Harlan	CVADD
Harrison	BGADD
Hart	BRADD
Henderson	GRADD
Henry	KIPDA
Hickman	PUADD
Hopkins	PEADD
Jackson	CVADD
Jefferson	KIPDA
Jessamine	BGADD
Johnson	BSADD
Kenton	NKADD
Knott	KRADD
Knox	CVADD
Larue	LTADD
Laurel	CVADD
Lawrence	FIVCO
Lee	KRADD
Leslie	KRADD
Letcher	KRADD
Lewis	BTADD
Lincoln	BGADD
Livingston	PEADD
Logan	BRADD
Lyon	PEADD
McCracken	PUADD
McCreary	LCADD
McLean	GRADD
Madison	BGADD
Magoffin	BSADD
Marion	LTADD
Marshall	PUADD
Martin	BSADD

County	ADD
Mason	BTADD
Meade	LTADD
Menifee	GWADD
Mercer	BGADD
Metcalfe	BRADD
Monroe	BRADD
Montgomery	GWADD
Morgan	GWADD
Muhlenberg	PEADD
Nelson	LTADD
Nicholas	BGADD
Ohio	GRADD
Oldham	KIPDA
Owen	NKADD
Owsley	KRADD
Pendleton	NKADD
Perry	KRADD
Pike	BSADD
Powell	BGADD
Pulaski	LCADD
Robertson	BTADD
Rockcastle	CVADD
Rowan	GWADD
Russell	LCADD
Scott	BGADD
Shelby	KIPDA
Simpson	BRADD
Spencer	KIPDA
Taylor	LCADD
Todd	PEADD
Trigg	PEADD
Trimble	KIPDA
Union	GRADD
Warren	BRADD
Washington	LTADD
Wayne	LCADD
Webster	GRADD
Whitley	CVADD
Wolfe	KRADD
Woodford	BGADD