Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

SEP 07 2018

The Honorable Michael L. Parson
Governor of Missouri
201 West Capitol Avenue, Room 216
Jefferson City, MO 65101

Dear Governor Parson:

Pursuant to Section 644.145.1 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources completed 160 analyses of affordability in 2017 for those actions (e.g. permits or enforcement actions) that imposed new requirements on publicly owned waste water collection or treatment systems. The enclosed report summarizes the results of those analyses.

The report includes a brief narrative and tables listing each action and key statistical data as required by statute. The Department appreciates your review of this information and is available to answer any questions you might have.

Sincerely,

Carol S. Comer
Director

CSC/hls

c: Mr. Rich Germinder

Recycled paper

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

SEP 07 2018

The Honorable Sonya Anderson, Chair
Committee on Conservation and Natural Resources
Missouri House of Representatives
201 West Capitol Avenue, Room 234
Jefferson City, MO 65101

Dear Representative Anderson:

Pursuant to Section 644.145.1 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources completed 160 analyses of affordability in 2017 for those actions (e.g. permits or enforcement actions) that imposed new requirements on publicly owned waste water collection or treatment systems. The enclosed report summarizes the results of those analyses.

The report includes a brief narrative and tables listing each action and key statistical data as required by statute. The Department appreciates your review of this information and is available to answer any questions you might have.

Sincerely,

Carol S. Comer
Director

CSC/hls

c: Mr. Rich Germinder

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

SEP 07 2018

The Honorable Todd Richardson
Speaker of Missouri House of Representatives
201 West Capitol Avenue, Room 308
Jefferson City, MO 65101

Dear Representative Richardson:

Pursuant to Section 644.145.1 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources completed 160 analyses of affordability in 2017 for those actions (e.g. permits or enforcement actions) that imposed new requirements on publicly owned waste water collection or treatment systems. The enclosed report summarizes the results of those analyses.

The report includes a brief narrative and tables listing each action and key statistical data as required by statute. The Department appreciates your review of this information and is available to answer any questions you might have.

Sincerely,

Carol S. Comer
Director

CSC/hls

c: Mr. Rich Germinder

Recycled paper

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

SEP 07 2018

The Honorable Brian Munzlinger, Chair
Committee on Agriculture, Food Production and
Outdoor Resources, Missouri Senate
201 West Capitol Avenue, Room 319
Jefferson City, MO 65101

Dear Senator Munzlinger:

Pursuant to Section 644.145.1 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources completed 160 analyses of affordability in 2017 for those actions (e.g. permits or enforcement actions) that imposed new requirements on publicly owned waste water collection or treatment systems. The enclosed report summarizes the results of those analyses.

The report includes a brief narrative and tables listing each action and key statistical data as required by statute. The Department appreciates your review of this information and is available to answer any questions you might have.

Sincerely,

Carol S. Comer
Director

CSC/hls

c: Mr. Rich Germinder

Recycled paper

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

SEP 07 2018

The Honorable Ron Richard
President Pro Tempore, Missouri Senate
201 West Capitol Avenue, Room 321
Jefferson City, MO 65101

Dear Senator Richard:

Pursuant to Section 644.145.1 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources completed 160 analyses of affordability in 2017 for those actions (e.g. permits or enforcement actions) that imposed new requirements on publicly owned waste water collection or treatment systems. The enclosed report summarizes the results of those analyses.

The report includes a brief narrative and tables listing each action and key statistical data as required by statute. The Department appreciates your review of this information and is available to answer any questions you might have.

Sincerely,

Carol S. Comer
Director

CSC/hls

c: Mr. Rich Germinder

Recycled paper

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

SEP 07 2018

The Honorable Ryan Silvey, Chair
Committee on Commerce, Consumer Protection
Energy and the Environment, Missouri Senate
201 West Capitol Avenue, Room 429
Jefferson City, MO 65101

Dear Senator Silvey:

Pursuant to Section 644.145.1 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources completed 160 analyses of affordability in 2017 for those actions (e.g. permits or enforcement actions) that imposed new requirements on publicly owned waste water collection or treatment systems. The enclosed report summarizes the results of those analyses.

The report includes a brief narrative and tables listing each action and key statistical data as required by statute. The Department appreciates your review of this information and is available to answer any questions you might have.

Sincerely,

Carol S. Comer
Director

CSC/hls

c: Mr. Rich Germinder

Recycled paper

Annual Report on Affordability Findings of Compliance to the Missouri Clean Water Law

Calendar Year 2017

Prepared by Missouri Department of Natural Resources

Water Protection Program

The General Assembly enacted Section 644.145 of the Revised Statutes of Missouri (RSMo), in 2011 to ensure that the Department of Natural Resources (Department) considers affordability when incorporating new requirements into permits for publicly owned sewer systems or water or sewer treatment works, or when enforcing provisions of Chapter 644 or the Federal Water Pollution Control Act. This report presents the affordability findings conducted in calendar year 2017 for department permit taken or anticipated during that time period.

Under this statute, affordability with respect to payment of a utility bill is "a measure of whether an individual customer or household with an income equal to or lower than the median household income for their community can pay the bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household," taking into consideration the criteria described in the statute.

Number of Findings of Affordability

The Department issued 160 findings of affordability, with effective dates in calendar year 2017. All 160 findings were categorized as affordable. None of the changes were implemented as a federal mandate. The Department works with permittees before issuing any final permit whenever the risk of an unaffordable action is high, to mitigate the permit changes where possible to avoid creating an unaffordable situation. These mitigation efforts can include such actions as temporary variances, revised compliance schedules, and the reevaluation of financing options.

Findings Resulting in Higher Than Normal Median Household Income (MHI)

Missouri's statute does establish a specific threshold for affordability relative to median household income (MHI), although MHI is commonly regarded as an indicator of potential affordability concerns. Of the 160 actions requiring affordability findings in 2017, ten actions resulted in projected monthly sewer rates per user greater than 2% of MHI. Of those ten actions, seven were minor, resulting in monthly increases of $.09 or less. Of the remaining three -

- Curryville's permit action requires compliance with water quality standards for bacteria and resulted in an estimated $10.54 increase in projected monthly sewer rate to $74.54, however this was deemed "affordable" for the term of the permit as the actual cost of upgrades is anticipated to be substantially less than the cost identified in the affordability analysis. This is due to the fact that the cost identified in CAPDETWORKS are known to significantly overestimate the cost of disinfection for flows less than 100,000 gallons per day and that the proposed upgrades will be for a facility with flows of 25,500 gallons per day verses the evaluated 76,000 gallons per day. Since this permit was issued the department has developed a cost projection spreadsheet for facilities with flows less than 100,000 gallons per day which provides more accurate projections. In drafting this report the department has conducted an additional analysis for Curryville's new requirement using the new cost projection tool and found that the resulting monthly sewer rate would be $68.57. This represents an increase in the monthly sewer rate of $4.57 or 0.16% of the MHI. The department is committed to reevaluating these costs, assumptions, and the affordability determination during the permit renewal process.

- Livonia's permit action resulted in an estimated $2.81 increase in the projected monthly sewer rate to $35.56, however this was deemed "affordable" for this permit term because this sewer rate is based on the assumption that the facility will have to spend significant resources to upgrade. It appears likely that the facility will not have to upgrade after all, although the affordability analysis assumes this as a worst-case scenario. Based on reports submitted by Livonia to the department, the system has greatly improved its operational controls, particularly in the area of wastewater retention time such that the system has not discharged in several years. In comparison to some other systems that utilized similar retention times prior to discharge, it appears likely that Livonia's system will provide sufficient treatment that it will meet the effluent limitations of the new permit that triggered the affordability analysis. The department is committed to reevaluating these costs and assumptions during the permit renewal process.

- Breckenridge's permit action resulted in an estimated $3.01 increase in projected monthly sewer rate to $43.01, however this was deemed "affordable" for this permit term because there is a wide range of projected costs for the upgrade to land application, final effluent limitations for ammonia were established in the previous permit and that the Department was not provided with any information regarding the City's existing debt or operating costs. To address the potential burden, the Department has provided an extension of the existing schedule of compliance by another five years to allow opportunity to evaluate additional mitigating paths such as the multiple discharger variance for ammonia. The department is committed to reevaluating these costs and assumptions during the future permit renewal process.

Average Increase in Sewer Rates

For the 160 findings, the projected increases in monthly sewer rates in terms of 2016 dollar values ranged between $0.00 and $38.64, with an average of $6.32. The projected percent increases in monthly sewer rates ranged between 0.0% and 270.9%, with an average of 33.0%.

Average Increase in Sewer Rates as Percentages of MHI

For the 160 findings, the projected increases in monthly sewer rates as percentages of monthly MHI of the respective communities were ranged between 0.000% and 1.117%, with an average of 0.186%. The communities included counties, cities, villages, towns and census designated places in which the service users were residing.

List of All the Permit Holders Receiving Affordability Findings

All permits holders receiving findings in 2017 are provided in Table 1 along with data, including the following that are required by statute:

a) Current and projected monthly residential sewer rates in dollars;
b) Projected monthly residential sewer rates as percentages of monthly median household incomes; and
c) Percentages of households at or below the state poverty rate.

All footnotes are denoted within Table 1 in the format of an asterisk and a number, that is, "*1" through "*18" and corresponding elaborations are presented at the end of Table 1.

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017

(This table is arranged in descending order of the values for the indicator "projected monthly sewer rate per user as a percentage of monthly MHI of the respective community" as presented in the column with the highlighted heading of "Projected Monthly Sewer Rate Per User: % of Monthly MHI.")

										RSMo 644.145.9 Criteria						
															Federal Mandate	0
															Not Affordable	0
										Average *1	Average *2	Average *3			Affordable	160
										$6.32	33.0%	0.186%				
No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House-holds at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
*9, *10				[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]			
001	MO-0040801	Curryville WWTF	UD	$33,249	90	$949	$64.00	$74.54	2.69%	$10.54	16.5%	0.380%	*18	33.8%	Yes
002	MO-0026646	Unionville South WWTF	UM	$27,286	869	$0	$56.00	$39.11	2.46%	$0.00	0.0%	0.000%	*16	28.3%	Yes
003	MO-0054569	Unionville North WWTF	UM	$27,286	869	$0	$56.00	$39.11	2.46%	$0.00	0.0%	0.000%	*16	28.3%	Yes
004	MO-0136051	Country Club WWTF	S	$71,461	530	$388	$140.16	$140.22	2.35%	$0.06	0.0%	0.001%	*18	7.0%	Yes
005	MO-0134821	GASD, Gravois Arm WWTP #2	S	$32,843	967	$388	$63.00	$63.03	2.30%	$0.03	0.1%	0.001%	*18	58.8%	Yes
006	MO-0121916	Livonia WWTF	UL	$18,909	44	$124	$32.75	$35.56	2.26%	$2.81	8.6%	0.178%	*18	35.4%	Yes
007	MO-0050610	Mansfield WWTF	S	$18,676	650	$388	$34.50	$34.55	2.22%	$0.05	0.1%	0.003%	*18	36.1%	Yes
008	MO-0093891	Breckenridge WWTF	UL	$23,479	231	$695	$40.00	$43.01	2.20%	$3.01	7.5%	0.154%	*18	20.6%	Yes
009	MO-0044954	Fayette WWTF	S	$33,520	1,051	$388	$59.70	$59.73	2.14%	$0.03	0.1%	0.001%	*18	24.9%	Yes
010	MO-0093548	Osceola WWTF	S	$23,404	370	$388	$40.00	$40.09	2.06%	$0.09	0.2%	0.004%	*18	27.4%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House-holds at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
011	MO-0093068	Pilot Grove West WWTF	UL	$36,278	160	$0	$58.75	$35.47	1.94%	$0.00	0.0%	0.000%	*16	17.8%	Yes
012	MO-0106348	Russellville WWTF	UM	$49,017	313	$6,075	$57.35	$76.76	1.88%	$19.41	33.8%	0.475%	*11	18.1%	Yes
013	MO-0040002	El Dorado Springs WWTP	S	$19,928	2,101	$1,200	$30.89	$30.94	1.86%	$0.05	0.2%	0.003%	*17	45.7%	Yes
014	MO-0092517	Rich Hill WWTF	UD	$31,043	714	$2,892	$44.00	$48.05	1.86%	$4.05	9.2%	0.157%		28.1%	Yes
015	MO-0120570	Lewistown WWTF	UL	$36,838	252	$3,087	$44.00	$56.25	1.83%	$12.25	27.8%	0.399%		9.8%	Yes
016	MO-0092932	Laclede WWTF	UL	$38,827	159	$5,746	$22.00	$58.14	1.80%	$36.14	164.3%	1.117%		6.7%	Yes
017	MO-0118010	Jameson WWTF	UL	$32,918	54	$0	$49.00	$46.20	1.79%	$0.00	0.0%	0.000%	*16	6.0%	Yes
018	MO-0137111	Liberty WWTP	UM	$47,333	9,888	$87,311	$58.20	$67.03	1.70%	$8.83	15.2%	0.224%		9.3%	Yes
019	MO-0114715	Hume WWTF	UD	$47,273	141	$1,231	$57.69	$66.42	1.69%	$8.73	15.1%	0.222%		15.6%	Yes
020	MO-0123056	CGCRCSD, Pleasant Lake Estates WWTF	UD	$53,200	44	$1,209	$46.87	$74.35	1.68%	$27.48	58.6%	0.620%		13.0%	Yes
021	MO-0123307	CGCRCSD, Sun Valley Estates WWTF	UD	$53,200	20	$550	$46.87	$74.35	1.68%	$27.48	58.6%	0.620%		13.0%	Yes
022	MO-0125105	CGCRCSD, Homestead Place WWTF	UD	$53,200	11	$302	$46.87	$74.35	1.68%	$27.48	58.6%	0.620%		13.0%	Yes
023	MO-0054755	Hopkins WWTF	UM	$34,253	268	$2,305	$38.64	$47.24	1.65%	$8.60	22.3%	0.301%		22.1%	Yes
024	MO-0113930	Eagleville WWTF	UL	$32,857	154	$0	$45.00	$33.67	1.64%	$0.00	0.0%	0.000%	*16	17.1%	Yes
025	MO-0117161	Clarksdale WWTF	UL	$40,550	128	$0	$55.00	$43.14	1.63%	$0.00	0.0%	0.000%	*16	14.9%	Yes
026	MO-0052663	Clarkton WWTF	S	$25,717	520	$400	$34.75	$34.81	1.62%	$0.06	0.2%	0.003%		39.8%	Yes
027	MO-0096679	Pineville WWTF	S	$31,449	350	$776	$41.70	$41.88	1.60%	$0.18	0.4%	0.007%		15.2%	Yes
028	MO-0028061	Braymer WWTF	UM	$32,356	448	$12,741	$14.40	$42.84	1.59%	$28.44	197.5%	1.055%		25.3%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House-holds at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
029	MO-0028690	Fredericktown WWTP	S	$26,551	2,135	$776	$34.80	$34.83	1.57%	$0.03	0.1%	0.001%		25.2%	Yes
030	MO-0130028	Ionia WWTF	UL	$34,037	48	$456	$35.00	$44.49	1.57%	$9.49	27.1%	0.335%		21.8%	Yes
031	MO-0127906	Laurie WWTF	S	$29,002	392	$1,908	$37.35	$37.76	1.56%	$0.41	1.1%	0.017%	*17	19.5%	Yes
032	MO-0127124	Montgomery Clear Creek WWTP	S	$36,140	1,346	$1,588	$46.65	$46.75	1.55%	$0.10	0.2%	0.003%	*17	21.9%	Yes
033	MO-0039675	Houston WWTF	S	$24,437	1,099	$776	$31.39	$31.45	1.54%	$0.06	0.2%	0.003%		31.1%	Yes
034	MO-0027600	Grant City West Sanitary Lagoon	UM	$38,911	409	$8,937	$27.95	$49.80	1.54%	$21.85	78.2%	0.674%		21.0%	Yes
035	MO-0088676	Winfield WWTF	UM	$49,164	496	$8,730	$44.60	$62.20	1.52%	$17.60	39.5%	0.430%		23.9%	Yes
036	MO-0050296	New Franklin WWTF	UL	$33,428	540	$0	$42.25	$40.00	1.52%	$0.00	0.0%	0.000%	*16	19.4%	Yes
037	MO-0056626	Cole Camp WWTF	UC	$37,721	590	$2,342	$43.65	$47.62	1.51%	$3.97	9.1%	0.126%		20.3%	Yes
038	MO-0026301	Cabool WWTF	UM	$18,415	1,107	$11,236	$12.71	$22.86	1.49%	$10.15	79.9%	0.661%		41.3%	Yes
039	MO-0042480	Billings WWTP	S	$36,144	440	$400	$44.77	$44.85	1.49%	$0.08	0.2%	0.003%		17.7%	Yes
040	MO-0040738	Boonville WWTP	S	$38,233	3,039	$4,600	$47.30	$47.43	1.49%	$0.13	0.3%	0.004%	*17	25.5%	Yes
041	MO-0021423	Gideon WWTF	S	$30,026	450	$212	$37.20	$37.24	1.49%	$0.04	0.1%	0.002%		25.9%	Yes
042	MO-0107581	Granby WWTF	S	$36,209	904	$776	$44.60	$44.67	1.48%	$0.07	0.2%	0.002%	*17	16.1%	Yes
043	MO-0051608	Tarkio WWTF	UM	$35,909	684	$17,134	$19.00	$44.05	1.47%	$25.05	131.8%	0.837%		20.5%	Yes
044	MO-0115410	CCSD, Catawissa WWTF	UM	$42,559	563	$6,435	$40.00	$51.43	1.45%	$11.43	28.6%	0.322%		10.8%	Yes
045	MO-0041068	Owensville WWTP	S	$34,787	1,330	$96	$42.00	$42.01	1.45%	$0.01	0.0%	0.000%		24.0%	Yes
046	MO-0103390	Cairo WWTF	UL	$48,850	152	$5,873	$20.00	$58.64	1.44%	$38.64	193.2%	0.949%		18.8%	Yes
047	MO-0030791	Norborne WWTF	UM	$41,961	330	$6,211	$31.50	$50.32	1.44%	$18.82	59.7%	0.538%		12.9%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House-holds at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
048	MO-0106496	Centerview WWTF	UL	$32,292	117	$1,308	$26.49	$37.67	1.40%	$11.18	42.2%	0.415%		14.5%	Yes
049	MO-0026310	Mountain View WWTF	S	$22,917	1,209	$548	$26.50	$26.54	1.39%	$0.04	0.1%	0.002%		30.2%	Yes
050	MO-0023221	Macon WWTP	S	$35,580	2,565	$6,810	$40.91	$41.13	1.39%	$0.22	0.5%	0.007%		20.1%	Yes
051	MO-0094137	Reeds Spring WWTP	S	$33,616	429	$1,526	$38.50	$38.80	1.38%	$0.30	0.8%	0.011%		15.6%	Yes
052	MO-0097527	Jacksonville WWTF	UL	$43,491	63	*15	*15	$49.22	1.36%	*15	*15	*15		17.6%	Yes
053	MO-0022381	Mount Vernon WWTP	S	$34,356	1,921	$3,394	$38.72	$38.87	1.36%	$0.15	0.4%	0.005%	*17	16.2%	Yes
054	MO-0026336	Savannah WWTF	UD	$43,062	1,917	$29,196	$33.38	$48.61	1.35%	$15.23	45.6%	0.424%		11.0%	Yes
055	MO-0117412	Belton WWTP	S	$54,862	7,810	$5,386	$60.91	$60.97	1.33%	$0.06	0.1%	0.001%		14.7%	Yes
056	MO-0108081	La Monte SE WWTF	UM	$43,653	312	$9,475	$18.00	$48.37	1.33%	$30.37	168.7%	0.835%		19.1%	Yes
057	MO-0108090	La Monte NW WWTF	UM	$43,653	312	$9,475	$18.00	$48.37	1.33%	$30.37	168.7%	0.835%		19.1%	Yes
058	MO-0048666	Senath WWTF	S	$27,775	694	$800	$30.50	$30.60	1.32%	$0.10	0.3%	0.004%		35.0%	Yes
059	MO-0048097	Alma Sewage Treatment Lagoon	UL	$44,483	217	$7,107	$16.00	$48.75	1.32%	$32.75	204.7%	0.883%		5.5%	Yes
060	MO-0126349	Advance WWTF	UM	$34,715	630	$13,173	$16.41	$37.32	1.29%	$20.91	127.4%	0.723%		14.7%	Yes
061	MO-0106810	Holts Summit WWTP	UD	$45,094	1,738	$5,058	$45.46	$48.37	1.29%	$2.91	6.4%	0.077%		13.2%	Yes
062	MO-0126179	Harrisonville S WWTF	UD	$41,546	4,113	$27,886	$37.65	$44.43	1.28%	$6.78	18.0%	0.196%		14.3%	Yes
063	MO-0032883	Marshall SE WWTP	S	$37,675	4,820	$1,086	$40.25	$40.27	1.28%	$0.02	0.0%	0.001%		19.9%	Yes
064	MO-0028070	Harrisonvillle WWTF	UD	$41,546	4,113	$27,475	$37.65	$44.33	1.28%	$6.68	17.7%	0.193%		14.3%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				Households at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
065	MO-0091600	Sumner WWTF	UL	$34,037	86	$1,820	$15.00	$36.16	1.27%	$21.16	141.1%	0.746%		35.8%	Yes
066	MO-0118591	Kidder WWTF	UD	$35,838	116	$1,232	$27.00	$37.62	1.26%	$10.62	39.3%	0.356%		14.9%	Yes
067	MO-0094854	Buffalo WWTP	S	$35,195	1,341	$2,008	$36.50	$36.62	1.25%	$0.12	0.3%	0.004%	*17	25.8%	Yes
068	MO-0099465	St. Clair WWTF	UD	$28,805	2,225	$8,544	$25.28	$29.12	1.21%	$3.84	15.2%	0.160%		29.1%	Yes
069	MO-0088536	Wyatt WWTF	UD	$33,226	192	$1,254	$27.00	$33.53	1.21%	$6.53	24.2%	0.236%		28.4%	Yes
070	MO-0025305	Chaffee WWTF	UM	$33,272	1,208	$26,636	$11.11	$33.16	1.20%	$22.05	198.5%	0.795%		21.1%	Yes
071	MO-0085391	Hannibal WWTP	S	$37,799	7,700	$8,700	$37.55	$37.64	1.20%	$0.09	0.3%	0.003%		18.9%	Yes
072	MO-0108162	Rockaway Beach WWTF	S	$27,254	1,751	$292	$27.00	$27.01	1.19%	$0.01	0.1%	0.001%		34.1%	Yes
073	MO-0129470	SCPSD #1, Box Canyon Watershed WWTF	UM	$50,465	308	$1,540	$45.00	$50.00	1.19%	$5.00	11.1%	0.119%		25.4%	Yes
074	MO-0127370	Kingdom WWTF	UD	$39,886	93	$2,018	$17.60	$39.30	1.18%	$21.70	123.3%	0.653%		17.0%	Yes
075	MO-0103942	Walker WWTF	UL	$32,177	99	$1,547	$16.00	$31.63	1.18%	$15.63	97.7%	0.583%		26.4%	Yes
076	MO-0023299	Richland WWTP	UM	$27,028	870	$2,567	$23.05	$26.00	1.15%	$2.95	12.8%	0.131%		30.3%	Yes
077	MO-0022098	Republic WWTP	S	$51,191	5,953	$4,356	$49.08	$49.14	1.15%	$0.06	0.1%	0.001%		15.8%	Yes
078	MO-0052132	Wardell WWTF	S	$33,686	259	$400	$32.00	$32.13	1.14%	$0.13	0.4%	0.005%		16.9%	Yes
079	MO-0111601	Altamont - Winston WWTF	UL	$41,286	173	$2,765	$22.50	$38.48	1.12%	$15.98	71.0%	0.464%		23.0%	Yes
080	MO-0021466	Albany WWTF	UM	$40,340	795	$0	$37.57	$37.18	1.12%	$0.00	0.0%	0.000%	*16	15.4%	Yes
081	MO-0101109	Olympian WWTF	S	$39,620	296	$776	$35.50	$35.72	1.08%	$0.22	0.6%	0.007%		28.0%	Yes
082	MO-0055905	Warrensburg W WWTP	S	$40,066	3,455	$3,565	$35.79	$35.88	1.07%	$0.09	0.2%	0.003%	*17	26.2%	Yes
083	MO-0094943	Crocker WWTF	UD	$38,017	476	$1,690	$30.29	$33.84	1.07%	$3.55	11.7%	0.112%		25.9%	Yes
084	MO-0126802	Amazonia WWTF	UL	$35,297	145	$13	$31.00	$31.09	1.06%	$0.09	0.3%	0.003%		17.8%	Yes
085	MO-0093564	St. James WWTF	S	$38,028	1,681	$2,698	$33.16	$33.29	1.05%	$0.13	0.4%	0.004%		19.2%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House-holds at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
086	MO-0040142	Pevely WWTP	S	$41,322	1,407	$3,078	$35.87	$36.05	1.05%	$0.18	0.5%	0.005%	*17	25.0%	Yes
087	MO-0099856	Osborn WWTF	UM	$49,944	188	$0	$43.10	$37.88	1.04%	$0.00	0.0%	0.000%	*16	6.0%	Yes
088	MO-0115401	CCSD, Robertsville WWTF	S	$48,892	117	$1,638	$40.00	$41.17	1.01%	$1.17	2.9%	0.029%		11.9%	Yes
089	MO-0119997	Branson West Aunts Creek WWTF	S	$45,803	229	$720	$38.04	$38.30	1.00%	$0.26	0.7%	0.007%		7.8%	Yes
090	MO-0094935	Qulin WWTF	S	$32,776	212	$280	$27.00	$27.11	0.99%	$0.11	0.4%	0.004%		18.7%	Yes
091	MO-0048194	Burlington Junction WWTF	UM	$42,419	241	$5,227	$13.00	$34.69	0.98%	$21.69	166.8%	0.614%	*11	14.4%	Yes
092	MO-0099678	Blackburn WWTF	UL	$49,164	124	$804	$33.43	$39.91	0.97%	$6.48	19.4%	0.158%		8.4%	Yes
093	MO-0052159	Ste. Genevieve WWTF	S	$38,005	1,928	$800	$30.25	$30.28	0.96%	$0.03	0.1%	0.001%		18.8%	Yes
094	MO-0028568	Kennett WWTF	UM	$31,938	4,534	$44,116	$15.23	$24.96	0.94%	$9.73	63.9%	0.366%	*11	25.4%	Yes
095	MO-0054089	Hughesville Wastewater Lagoon	UL	$50,961	78	$2,261	$10.70	$39.69	0.93%	$28.99	270.9%	0.683%		19.5%	Yes
096	MO-0126195	Morley WWTF	UL	$42,546	333	$0	$33.00	$23.08	0.93%	$0.00	0.0%	0.000%	*16	30.9%	Yes
097	MO-0045837	Liberal WWTF	UM	$33,304	359	$4,240	$13.60	$25.41	0.92%	$11.81	86.8%	0.426%		12.4%	Yes
098	MO-0022918	Orrick WWTF	UL	$55,215	380	$10,093	$15.50	$42.06	0.91%	$26.56	171.4%	0.577%		6.9%	Yes
099	MO-0130371	Oak Grove WWTF	S	$49,886	2,781	$3,002	$37.80	$37.89	0.91%	$0.09	0.2%	0.002%		11.0%	Yes
100	MO-0104027	Sparta WWTF	S	$37,422	804	$292	$28.15	$28.18	0.90%	$0.03	0.1%	0.001%		19.2%	Yes
101	MO-0091723	Montrose WWTF	UL	$34,352	193	$1,324	$18.89	$25.75	0.90%	$6.86	36.3%	0.240%		22.5%	Yes
102	MO-0129046	Hillsboro N WWTF	UL	$49,537	304	$0	$36.47	$20.46	0.88%	$0.00	0.0%	0.000%	*16	14.0%	Yes
103	MO-0080594	Bell WWTF	UL	$33,827	214	$2,014	$15.30	$24.71	0.88%	$9.41	61.5%	0.334%		27.9%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House-holds at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
104	MO-0027111	Herculaneum WWTP	S	$49,078	1,445	$6,050	$33.46	$33.81	0.83%	$0.35	1.0%	0.009%	*17	3.0%	Yes
105	MO-0114910	FCLCWSD, Labadie WWTF	S	$53,560	254	$1,690	$36.00	$36.55	0.82%	$0.55	1.5%	0.012%		11.9%	Yes
106	MO-0094188	Tipton WWTF	S	$48,187	938	$776	$32.45	$32.52	0.81%	$0.07	0.2%	0.002%	*17	14.3%	Yes
107	MO-0124664	Lohman WWTP	S	$60,089	75	$456	$39.00	$39.51	0.79%	$0.51	1.3%	0.010%		6.2%	Yes
108	MO-0104906	Neosho WWTP	UM	$36,422	4,378	$4,684	$22.83	$23.90	0.79%	$1.07	4.7%	0.035%		20.2%	Yes
109	MO-0108227	Chillicothe WWTF	S	$38,116	3,867	$310	$24.25	$24.26	0.76%	$0.01	0.0%	0.000%		20.0%	Yes
110	MO-0040843	Marshfield WWTF	S	$36,787	2,742	$1,154	$22.98	$23.02	0.75%	$0.04	0.2%	0.001%		20.8%	Yes
111	MO-0108863	Gasconade WWTP	S	$34,457	106	$456	$21.00	$21.36	0.74%	$0.36	1.7%	0.012%	*17	10.9%	Yes
112	MO-0025194	Concordia Southeast WWTF	UM	$51,465	1,061	$22,674	$10.53	$31.90	0.74%	$21.37	202.9%	0.498%		13.1%	Yes
113	MO-0116041	Hollister WWTF	S	$27,295	1,498	$3,110	$16.15	$16.32	0.72%	$0.17	1.1%	0.008%		28.3%	Yes
114	MO-0097837	Columbia WWTF	UI	$44,749	47,229	$0	$26.18	$26.18	0.70%	$0.00	0.0%	0.000%	*11	24.5%	Yes
115	MO-0136034	Columbia Water Treatment Plant	S	$44,840	48,000	$1,292	$26.17	$26.17	0.70%	$0.00	0.0%	0.000%	*17	24.5%	Yes
116	MO-0054518	Sweet Springs WWTF	UM	$38,401	584	$0	$21.50	$19.86	0.67%	$0.00	0.0%	0.000%	*16	14.6%	Yes
117	MO-0054585	Clark WWTF	UL	$54,415	124	$2,076	$13.50	$30.24	0.67%	$16.74	124.0%	0.369%		6.8%	Yes
118	MO-0112925	St. Robert WWTF	S	$47,244	3,065	$12,698	$24.94	$25.29	0.64%	$0.35	1.4%	0.009%	*17	22.7%	Yes
119	MO-0106461	RCPSD, Kimmswick WWTP	S	$55,818	11,846	$1,736	$28.97	$28.98	0.62%	$0.01	0.0%	0.000%		10.9%	Yes
120	MO-0030805	Plattsburg WWTP	S	$48,663	962	$920	$24.68	$24.76	0.61%	$0.08	0.3%	0.002%	*17	12.2%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				Households at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
121	MO-0103560	Park Hills Mineral Belt WWTP	S	$35,646	5,039	$6,566	$16.35	$16.46	0.55%	$0.11	0.7%	0.004%	*17	26.6%	Yes
122	MO-0025186	Carl Junction WWTF	S	$55,719	3,302	$3,330	$24.81	$24.89	0.54%	$0.08	0.3%	0.002%		10.8%	Yes
123	MO-0115118	Kelso WWTF	UL	$49,587	271	*15	*15	$19.30	0.47%	*15	*15	*15		9.2%	Yes
124	MO-0025275	Portageville WWTF	UD	$33,500	1,457	$4,779	$9.59	$12.87	0.46%	$3.28	34.2%	0.117%		27.3%	Yes
125	MO-0098094	Buckner WWTP	S	$47,333	1,011	$400	$17.37	$17.40	0.44%	$0.03	0.2%	0.001%	*17	11.3%	Yes
126	MO-0113085	Parkville Extended Aeration WWTF	S	$118,462	1,865	$800	$42.12	$42.16	0.43%	$0.04	0.1%	0.000%	*17	11.5%	Yes
127	MO-0044113	Marthasville WWTF	S	$58,447	500	$1,560	$18.00	$18.26	0.37%	$0.26	1.4%	0.005%		6.6%	Yes
128	MO-0095133	Miner WWTF	S	$40,542	450	$776	$9.50	$9.64	0.29%	$0.14	1.5%	0.004%		12.6%	Yes
129	MO-0050784	JCPWSD #3, Hickory Hills South WWTF	C	$40,964	154	*12	$57.00	*12	*12	*12	*12	*12		25.3%	Yes
130	MO-0056651	CGCRCSD, Seabaugh Acres WWTF	UL	$52,979	33	*12	$35.00	*12	*12	*12	*12	*12		13.0%	Yes
131	MO-0082945	JCPWSD #3, Hickory Hills North WWTF	C	$40,964	154	*12	$57.00	*12	*12	*12	*12	*12		25.3%	Yes
132	MO-0085472	Ducket Creek Sanitary District WWTP #1	S	$56,735	21,393	$3,240	*12	*12	*12	$0.01	*12	0.000%		11.4%	Yes
133	MO-0098981	FCLCWSD, Gray Summit WWTF	UL	$61,172	254	*12	$36.00	*12	*12	*12	*12	*12		5.0%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				Households at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
134	MO-0100749	Valle Lake Sewer District WWTP	S	$55,818	294	$388	*12	*12	*12	$0.11	*12	0.002%		10.9%	Yes
135	MO-0107476	Sanitary Sewer District #103 WWTF	UD	$72,342	52	*12	$23.00	*12	*12	*12	*12	*12		7.6%	Yes
136	MO-0111716	PCSD #1, Weeks Hollow WWTF	S	$47,244	3,635	$2,776	*12	*12	*12	$0.06	*12	0.002%		22.7%	Yes
137	MO-0113905	BRCSD, Riverwood II Estates WWTF	S	$41,636	35	$328	*12	*12	*12	$0.78	*12	0.023%		26.9%	Yes
138	MO-0121363	SCCPWSD #2, Augusta WWTF	UL	$50,425	162	*12	$31.30	*12	*12	*12	*12	*12		3.2%	Yes
139	MO-0128279	CGCRCSD, Arbor Trails WWTF	S	$50,516	79	$128	*12	*12	*12	$0.14	*12	0.003%		9.7%	Yes
140	MO-0130427	LCPWSD #3, Hickory Hills WWTP	S	$31,379	315	$400	*12	*12	*12	$0.11	*12	0.004%		25.6%	Yes
141	MO-0130729	CGCRCSD, Cedar Meadows Subdivision WWTF	S	$53,200	55	$164	*12	*12	*12	$0.25	*12	0.006%		13.0%	Yes
142	MO-0132039	SCCPWSD #2, Hickory Trails Interim WWTF	S	$46,333	22	$348	*12	*12	*12	$1.32	*12	0.034%		18.6%	Yes
143	MO-0132519	Washington Co PWSD #4 WWTF	UD	$35,605	111	*12	$45.00	*12	*12	*12	*12	*12		21.2%	Yes
144	MO-0053228	Meadow Heights R-II School District Sewage Lagoon	UL	*13	*13	*13	*13	*13	*13	*13	*13	*13		*13	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User			Households at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7		
145	MO-0053546	North Wood R-IV School District WWTF	UL	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	Yes
146	MO-0057070	Nell Holcomb R-IV School WWTP	UL	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	Yes
147	MO-0085588	Hillview Elementary School WWTF	UL	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	Yes
148	MO-0088927	Richwoods R-VII School District WWTF	S	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	Yes
149	MO-0098418	St. Jude Industrial Park WWTF	UD	$41,600	5	*13	*13	*13	*13	*13	*13	*13	20.5%	Yes
150	MO-0101958	Jefferson Co Library District WWTF	S	*13	4	$48	*13	*13	*13	$1.00	*13	*13	*13	Yes
151	MO-0103241	Lake of the Ozarks Regional WWTP #1	S	$44,110	3,550	$4,727	*13	*13	*13	$0.11	*13	0.003%	26.1%	Yes
152	MO-0109878	St. Joseph Sanitary Landfill	S	$41,995	*13	$12,362	*13	*13	*13	*13	*13	*13	19.5%	Yes
153	MO-0113743	RSD, LaSalle Springs Middle School WWTF	S	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	Yes
154	MO-0116611	Bloomsdale Elementary School WWTF	UL	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	Yes
155	MO-0138444	Scott County Sanitary Landfill	S	$39,495	*13	$3,460	*13	*13	*13	*13	*13	*13	19.6%	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Annualized Additional Cost	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				Households at or Below Poverty	Affordability *8
							$	$	% of Monthly MHI *7	$	%	% of Monthly MHI *7			
156	MO-0138819	ESSD #40, Elkhorn Elementary School WWTF	UL	*13	*13	*13	*13	*13	*13	*13	*13	*13		*13	Yes
157	MO-0037052	MOARNG, Camp Clark Training Site WWTF	UL	*14	65	*14	*14	*14	*14	*14	*14	*14		*14	Yes
158	MO-0090581	MoDOT, I-55 Rest Area-Bloomsdale WWTF	S	*14	1	$220	*14	*14	*14	$18.33	*14	*14		*14	Yes
159	MO-0098281	MDNR, Meramec State Park WWTF	UL	*14	33	*14	*14	*14	*14	*14	*14	*14		*14	Yes
160	MO-0123820	MDC, Lost Valley Fish Hatchery WWTF	S	*14	1	$106	*14	*14	*14	$8.83	*14	*14		*14	Yes

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

Notes

*1 Average increase of monthly sewer rate per user = "sum of increase of monthly sewer rate per user" / "138 available data points"

*2 Average increase of monthly sewer rate as a % = "sum of increase of monthly sewer rate as a %" / "126 available data points"

*3 Average increase of monthly sewer rate as a % of monthly MHI = "sum of increase of monthly sewer rate as a % of monthly MHI" / "135 available data points"

*4 This table is arranged in descending order of projected monthly sewer rate per user as a percentage of monthly MHI of the respective community.

*5 Abbreviations used in the facility names include the following.
BRCSD: Blackwater Reorganized Common Sewer District
CCSD: Calvey Creek Sewer District
CGCRCSD: Cape Girardeau County Reorganized Common Sewer District
ESSD #40: Excelsior Springs School District No. 40
FCLCWSD: Franklin County Labadie Creek Watershed Sewer District
GASD: Gravois Arm Sewer District
JCPWSD: Johnson County Public Water Sewer District
LCPWSD #3: Laclede County Public Water Supply District No. 3
MDC: Missouri Department of Conservation
MDNR: Missouri Department of Natural Resources
MOARNG: Missouri Army National Guard
MoDOT: Missouri Department of Transportation
PCSD #1: Pulaski County Sewer District No. 1
RCPSD: Rock Creek Public Sewer District
RSD: Rockwood School District
SCCPWSD #2: St. Charles County Public Water Supply District No. 2
SCPSD #1: Stone County Public Sewer District No. 1
WWTF: Wastewater Treatment Facility
WWTP: Wastewater Treatment Plant

*6 Abbreviations used in the pollution control options include the following.
C: closure of facility
L: landfill
S: sampling only
UC: upgrade (collection system)
UD: upgrade (disinfection only)
UI: upgrade (integrated management plan)
UL: upgrade (land application)
UM: upgrade (mechanical plant)

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

Notes (Cont.)

*7 MHI: median household income.

*8 Yes: affordable; No: not affordable; Mandate: federal mandate regardless of affordability.

*9 For pollution control option as "sampling only"
[3]= "sum of 'sampling cost per sample x annual sampling frequency' for all sampling parameters"
[5]=[4]+[7]
[6]=[5]/([1]/12)
[7]=[3]/12/[2]
[8]=[7]/[4]
[9]=[7]/([1]/12)

*10 For pollution control option other than "sampling only"
[3]=([7]-[4])*[2]
[5a] projected monthly sewer rate for addition of disinfection treatment to current facility
= "current monthly user rate" + "new monthly user cost"
= "current monthly user rate" + "(annualized capital costs + annual operation and maintenance costs [+ annual sampling costs])/12/ number of users"
[5b] projected monthly sewer rate for replacement of current facility with mechanical plant or land application
= "amount of the current annual user rate used towards debt services payment" + "new monthly user cost"
= "amount of the current annual user rate used towards debt services payment" + "(annualized capital costs + annual operation and maintenance costs - current annual user rate [+ annual sampling costs])/12/ number of users"
[6]=[5]/([1]/12)
[7]=[5]-[4]
[8]=[7]/[4]
[9]=[7]/([1]/12)

*11 Analyses included in Abatement Order on Consent documents.

*12 Not applicable as different sewer districts user specific rate structures and they are generally considered as sufficient to comply with the permits.

*13 Not applicable as schools, churches, nursing homes, airports, ports, training centers, correctional centers and other institutional facilities do not finance the upgrade, operation, or maintenance of their wastewater treatment facilities based on residential sewer rates.

*14 Not applicable as federal-owned, state-owned, local government-owned systems do not finance the upgrade, operation, or maintenance of their wastewater treatment facilities based on residential sewer rates.

*15 Data not available as the permittees did not provide their current user rates, although the Department had made attempts to obtain the information.

Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2017 (Cont.)

Notes (Cont.)

*16 The projected user rates were lower than the current sewer rates, therefore the current sewer rates were used to assess residential impacts, as it is unlikely the user rates would decrease after upgrading the facilities.

*17 Current user rates not presented in the permits are included in the Report based on data from "2016 Missouri Public Utility Alliance Water & Wastewater Rate Survey."

*18 Projected Monthly Residential Sewer Rate as a percentage of the Monthly Median Household Income exceeds 2%. An affordability threshold for Projected Monthly Residential Sewer Rate as a percentage of the Monthly Median Household Income varies depending on the situation of each individual community. The cost analyses associated with these permits have resulted in findings that the Projected Monthly Residential Sewer Rates will likely be affordable. If additional information is provided in the future that indicate the Projected Monthly Residential Sewer Rates are unaffordable, the Department will modify the analyses and permits accordingly and grant extensions to schedules of compliance to mitigate the impacts on the residents.

Curryville WWTF (MO-0040801, No. 001 in Table 1)

Curryville's permit action resulted in an estimated $10.54 increase in projected monthly sewer rate to $74.54, however this was deemed "affordable' the actual cost of upgrades is anticipated to be substantially less than the cost identified in the affordability analysis. This is due to the fact that the cost identified in CAPDETWORKS are known to be significantly overestimated for flows less than 100,000 gallons per day and that the proposed upgrades will be for a facility with flows of 25,500 gallons per day verses the evaluated 76,000 gallons per day. Since this permit was issued the department has developed a cost projection spreadsheet for facilities with flows less than 100,000 gallons per day which provides more accurate projects more accurate projections. In drafting this report the department has conducted an additional analysis for Curryville's new requirement using the new cost projection tool and found that the resulting monthly sewer rate would be $68.57.

Livonia WWTF (MO-0121916, No. 006 in Table 1)

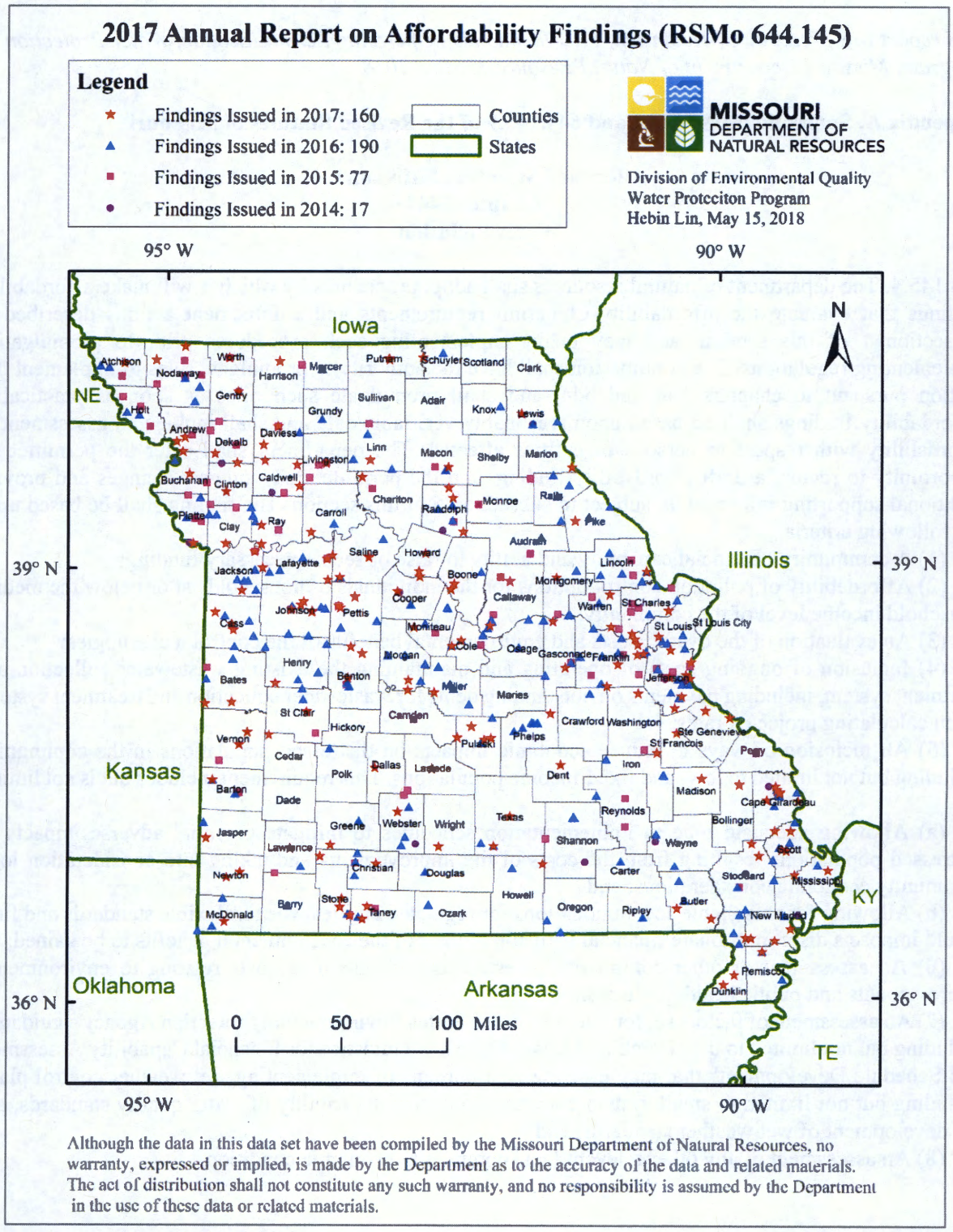
Livonia's permit action resulted in an estimated $2.81 increase in the projected monthly sewer rate to $35.56, however this was deemed "affordable" because this sewer rate is based on the assumption that the facility will have to spend significant resources to upgrade. It appears likely that the facility will not have to upgrade after all, although the affordability analysis assumes this as a worst-case scenario. Based on reports submitted by Livonia to the department, the system has greatly improved its operational controls, particularly in the area of wastewater retention time such that the system has not discharged in several years. In comparison to some other systems that utilized similar retention times prior to discharge, it appears likely that Livonia's system will provide sufficient treatment that it will meet the effluent limitations of the new permit that triggered the affordability analysis.

Breckenridge WWTF (MO-0093891, No. 008 in Table 1)

Breckenridge's permit action resulted in an estimated $3.01 increase in projected monthly sewer rate to $43.01, however this was deemed "affordable" because there is a wide range of projected costs for the upgrade to land application and that the Department was not provided with any information regarding the City's existing debt or operating costs. The department has provided an extension of the existing schedule of compliance by another five years to allow opportunity to evaluate additional mitigating paths such as the multiple discharger variance for ammonia.

2. Geographical Distribution: 2014-2017

The locations of the wastewater treatment facilities for which affordability findings have been conducted during calendar years 2014 through 2017 respectively are illustrated in Map 1 below.



Map 1. Locations of the Wastewater Treatment Facilities with Affordability Findings Issued in 2014 Through 2017

3. Conclusion

Based on the information and data collected, derived and examined, all the affordability findings issued by the Missouri Department of Natural Resources during calendar year 2017 met the criteria of affordable.

This report was prepared by Hebin Lin, PhD, Economist, Operating Permits Section, Water Protection Program, Missouri Department of Natural Resources, May, 2018.

Appendix A. Subsections 644.145.4 and 644.145.9 of the Revised Statutes of Missouri

Revised Statutes of Missouri
Chapter 644
Water Pollution

644.145.4. The department of natural resources shall adopt procedures by which it will make affordability findings that evaluate the affordability of permit requirements and enforcement actions described in subsection 1 of this section, and may begin implementing such procedures prior to promulgating implementing regulations. The commission shall have the authority to promulgate rules to implement this section pursuant to chapters 536 and 644, and shall promulgate such rules as soon as practicable. Affordability findings shall be based upon reasonably verifiable data and shall include an assessment of affordability with respect to persons or entities affected. The department shall offer the permittee an opportunity to review a draft affordability finding, and the permittee may suggest changes and provide additional supporting information, subject to subsection 6 of this section. The finding shall be based upon the following criteria:

(1) A community's financial capability and ability to raise or secure necessary funding;

(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;

(3) An evaluation of the overall costs and environmental benefits of the control technologies;

(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates;

(5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low- and fixed-income populations. This requirement includes but is not limited to:

(a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations; and

(b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained;

(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;

(7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards; and

(8) An assessment of any other relevant local community economic condition.

644.145.9. The department shall file an annual report by the beginning of the fiscal year with the governor, the speaker of the house of representatives, the president pro tempore of the senate, and the chairs of the committees in both houses having primary jurisdiction over natural resource issues showing at least the following information on the findings of affordability completed in the previous calendar year:

(1) The total number of findings of affordability issued by the department, those categorized as affordable, those categorized as not meeting the definition of affordable, and those implemented as a federal mandate regardless of affordability;

(2) The average increase in sewer rates both in dollars and percentage for all findings found to be affordable;

(3) The average increase in sewer rates as a percentage of median house income in the communities for those findings determined to be affordable and a separate calculation of average increases in sewer rates for those found not to meet the definition of affordable;

(4) A list of all the permit holders receiving findings, and for each permittee the following data taken from the finding of affordability shall be listed:

(a) Current and projected monthly residential sewer rates in dollars;

(b) Projected monthly residential sewer rates as a percentage of median household income;

(c) Percentage of households at or below the state poverty rate.

Appendix B. Overall Procedure for Making Affordability Findings

The Department conducts an affordability finding, or a Cost Analysis for Compliance (CAFCom), as part of the renewal process for a National Pollutant Discharge and Elimination System (NPDES) permit, utilizing the following four primary tools and data sources:

(1) A Financial Questionnaire with a Community Supplemental Survey sent to permit holders categorized as a Publicly Owned Treatment Works (POTW) for collecting information on the sustainability and financial capability of the community; examples of information requested are the "current monthly residential sewer rates", and a primary socioeconomic indicator (Table 1), and "property tax collection rate in the municipality", a secondary socioeconomic indicator;

(2) The Affordability PreScreening Tool developed by the Department for compiling and analyzing socioeconomic data available from national, regional and local databases, including statistics from the U.S. Census Bureau; an example of data being "monthly median household income" (Table 1) and "percentage of households at or below poverty" (Table 1);

(3) A CAPDETWORKS Model developed by Hydromantis Environmental Software Solutions, Inc. for estimating the capital costs and operating and maintenance costs for different wastewater treatment technologies for compliance of upgrades so as to calculate the "projected monthly residential sewer rate" (Table 1);

(4) The Missouri Rural Population Sustainability Assessment Tool developed by the Environmental Finance Center at Wichita State University for assessing the potential of growth and sustainability of each rural community.

Once the draft NPDES permit is completed, the permit holder is given the opportunity to review and comment on the draft permit and the CAFCom during the 10 day preview and 30 day public notice period. These review and comment periods offer permit holders an opportunity to provide additional information in regard to their community's unique financial situations before the final NPDES permit is issued. When the NPDES permit contains a Schedule of Compliance, during the 10 day preview, Department staff contact the permit holder via phone calls to ensure the permit holder has received and understood the draft permit and the CAFCom.