

AUG 15 2016

Water Protection Program

BEFORE THE MISSOURI DEPARTMENT OF NATURAL RESOURCES

In the Matter of:)
)
 City of Meadville)
 Wastewater Treatment Facility)
)
)
)
Serve:)
 The Honorable Theresa Malone, Mayor)
 City of Meadville)

Order No. 2016-WPCB-1344

ABATEMENT ORDER ON CONSENT

NOTICE TO RECIPIENTS OF ABATEMENT ORDERS ON CONSENT

The issuing of this Abatement Order on Consent (AOC) No. 2016-WPCB-1344, by the Department of Natural Resources, is a formal administrative action by the state of Missouri and is being issued because the city of Meadville violated the Missouri Clean Water Law (MCWL). This AOC is issued under the authorities of Sections 640.130, 640.131, 644.056 and 644.079, RSMo. Failure to comply with this AOC is, by itself, a violation of the MCWL Section 644.076.1, RSMo. Litigation may occur without further administrative notice if there is not compliance with the requirements of this AOC. This AOC does not constitute a waiver or a modification of any requirements for the MCWL, or its implementing regulations, all of which remain in full force and effect. Compliance with the terms of this AOC shall not relieve the city of liability for, or preclude the department from, initiating an administrative or judicial enforcement action to recover civil penalties for any future violations of the MCWL, or to seek injunctive relief, pursuant to Chapter 644, RSMo.

FINDINGS OF FACT

1. The city is a fourth class municipality with a population of approximately 462 residents and 183 wastewater connections. The city owns and operates a wastewater treatment facility (WWTF) that consists of a three-cell lagoon with sludge retained in the lagoon. The WWTF is located in the SW ¼, SW ¼, NE ¼, Section 1, Township 57 North, Range 22 West, of Linn County, Missouri. The design flow of the WWTF is 64,000 gallons per day with a population equivalent of 642. Design sludge production is 9.63 dry tons per year. Treated effluent from the WWTF discharges from Outfall No. 001 to a tributary to Parson Creek pursuant to the conditions and requirements of Missouri State Operating Permit (MSOP) No. MO-0041114.

2. Parson Creek and its tributaries are waters of the state as the term is defined by Section 644.016(27), RSMo.

3. Domestic wastewater is a water contaminant as the term is defined in Section 644.016(24), RSMo.

4. On January 30, 2009, the department reissued MSOP No. MO-0041114 to the city, which expired on January 29, 2014. The MSOP included a Schedule of Compliance (SOC) requiring the city to: 1) by January 30, 2011, maintain compliance with the final bacteria limits set forth in the permit, if it is believed that disinfection equipment is not necessary to meet such limits. The city shall submit an interim report by January 30, 2010, to the department regarding the city's compliance with the bacterial standards. The report should include A or B of the following: A. An evaluation or data set to the department that demonstrate effluent limits can be met without disinfection; or B. An alternative water quality based effluent limit or a

demonstration that such limits are not required and will not violate the Water Quality Standard for E. coli. A permit modification request may be submitted with the report; and C. Within three months of the interim monitoring report, the department may determine that disinfection will be necessary to meet effluent limits; and 2) within 180 days from the issuance of the department's notice to disinfect, but no later than 30 months from permit issuance, the city shall submit a construction permit application and an activity schedule toward meeting the disinfection requirement. The city shall submit an interim progress report within 12 months from commencement of construction if the construction completion and operation of the disinfection equipment will be more than one year. The city shall be in compliance with final bacteria limits by December 31, 2013. Upon completion of construction, the city shall submit an application to modify the permit and a Statement of Work Complete, signed by the city and a licensed professional engineer in the state of Missouri prior to December 31, 2013.

5. MSOP No. MO-0041114 requires the city to sample the effluent discharged from Outfall No. 001 and chemically analyze the effluent sample for the water contaminants listed in Part "A" every month. The MSOP further requires the effluent to comply with the effluent limitations contained in Part "A" and requires the results of the analysis to be submitted to the department on monthly Discharge Monitoring Reports (DMRs) by the 28th day of the month following the reporting period.

6. Monthly DMRs submitted to the department document that the effluent discharged from the WWTF failed to comply with the applicable permitted effluent limitations for Fecal Coliform during the months of October 2014 and June 2015.

7. On May 18, 2010, the department sent correspondence to the city reminding the city that the MSOP included a SOC to install disinfection equipment.

8. On December 12, 2012, department staff conducted a routine compliance inspection of the WWTF. Staff observed that the WWTF had warning signs posted on all sides of the perimeter fence, except for the north side. Staff noted that the city was required to submit a construction permit application within 180 days from the department's notice to disinfect, but no later than 30 months from the permit issuance, according to the SOC in the city's MSOP. Staff observed that Outfall No. 001 was discharging at the time of inspection and samples of the effluent were collected. Laboratory analysis of the effluent samples indicated that the discharge complied with the permitted effluent limits at the time of the inspection.

9. On February 22, 2013, the department issued a Letter of Warning (LOW) to the city for unsatisfactory features documented by department staff during the December 12, 2012, inspection, including failure to submit a construction permit application and failure to provide proper warning signs on all sides of the perimeter fence.

10. On March 7, 2013, the department received a response to the February 22, 2013, LOW from the Ms. Theresa Malone, Mayor, stating that the city was in the preliminary engineering phase and was working with Allstate Consultants, LLC, to review possible solutions. The letter also stated that the city was in negotiations with a land owner to set up a land application no-discharge system and had not reached a final agreement that would allow the city to move forward with the project. Ms. Malone stated that the city felt it would not meet the December 31, 2013, deadline for completion of construction.

11. On July 2, 2013, the department sent correspondence to the city requiring the city to submit a proposed schedule for the construction of upgrades to the WWTF.

12. On July 16, 2013, the department received a response to the July 2, 2013, letter providing a schedule for construction. The city proposed that it would submit the Preliminary Engineering Report (PER) by August 1, 2013, construction would begin by February 1, 2015, and the project would be completed by August 1, 2015.

13. On December 23, 2013, the department received a PER from Allstate Consultants, LLC, submitted on behalf of the city. The recommended alternative in the PER was a no-discharge land application system, including the construction of a new storage basin.

14. On July 2, 2014, the department sent correspondence to the city stating that MSOP No. MO-0041114 expired on January 29, 2014, and that the WWTF was required to submit a renewal application to the department 180 days prior to expiration of the permit.

15. On March 19, 2015, the department received an MSOP renewal application from the city.

16. On October 29, 2015, department staff conducted a routine compliance inspection of the WWTF. During the inspection, staff documented that the WWTF did not have the capacity to disinfect the effluent. Staff observed that two of the three lift stations serving the city lacked an audio and/or visual alarm. Staff documented that the city did not develop a program for the maintenance and repair of the collection system. During a review of the WWTF's file, staff documented that the WWTF exceeded the permitted effluent limits for Fecal Coliform in June 2015 and that the WWTF failed to meet a removal efficiency of 65% for Biochemical Oxygen Demand and Total Suspended Solids. Staff further documented that the city failed to

apply for renewal of the MSOP at least 180 days before expiration of the MSOP, that the city failed to submit timely DMRs for August 2015 and September 2015, and that the city failed to submit an Inflow and Infiltration report in April 2015 and October 2015.

17. On November 23, 2015, the department issued Notice of Violation No. NE150011 to the city for the violations documented by staff during the October 29, 2015, inspection.

18. Section 644.076.1, RSMo, makes it unlawful to violate the MCWL and regulations promulgated pursuant thereto and establishes penalties up to \$10,000.00 per day per violation.

STATEMENT OF VIOLATIONS

The city has violated the MCWL and its implementing regulations as follows:

19. Failed to submit a construction permit application and complete upgrades to comply with final effluent limitations for Fecal Coliform, as required by Part "E," SOC in MSOP No. MO-0041114, in violation of Section 644.076.1, RSMo, and 10 CSR 20-6.010(7)(A).

AGREEMENT

20. The department and the city desire to amicably resolve all claims that may be brought against the city for violations alleged above in Statement of Violations.

21. The provisions of this AOC shall apply to and be binding upon the parties executing this AOC, their successors, assigns, agents, subsidiaries, affiliates, and lessees, including the officers, agents, servants, corporations, and any persons acting under; through; or for the parties. Any changes in ownership or corporate status, including but not limited to any transfer of assets or real or personal property, shall not affect the responsibilities of the city under this AOC.

22. The city, in compromise and satisfaction of the department's claims relating to the above referenced violations, agrees, without admitting liability or fault, to pay a civil penalty in the amount of \$6,000.00 of which \$3,000.00 shall be suspended as described in Paragraph 23 below. The payment in the amount of \$3,000.00 shall be in the form of a check made payable to the "Linn County Treasurer, as custodian of the Linn County School Fund" and is due and payable upon execution of this AOC by the city. The check and the signed copy of this AOC shall be delivered to:

Accounting Program
Department of Natural Resources
P.O. Box 477
Jefferson City, MO 65102-0477

23. The suspended penalty described in Paragraph 22 in the amount of \$3,000.00 shall be suspended for a period of two years from the execution of the AOC upon the condition that the city does not violate the terms of this AOC. Upon determination that the city has failed to meet the terms of this AOC, including the requirements of Paragraphs 25 through 29, the department shall send a written demand for the suspended penalty to the city. The city shall have 15 days from receipt of the written demand to submit the suspended penalty to the address listed in Paragraph 22.

24. In the period of time from the effective date of this AOC until upgrades for the WWTF are completed, the city shall operate and maintain the existing WWTF at all times so as to produce the best effluent quality possible and comply with the terms and conditions of MSOP No. MO-0041114. All units or components of the existing WWTF shall be maintained in an operable condition, even if this requires the purchase and installation of new parts or equipment and the repair of the WWTF.

25. By January 1, 2017, the city agrees to submit to the department a complete application for a construction permit including the applicable fee, design summary, plans and specifications signed and sealed by a professional engineer licensed to practice in the state of Missouri.

26. If the department comments on and/or requests modification of the construction permit application, the city shall respond to and adequately address, to the department's satisfaction, all of the department's comments on the construction permit application and resubmit the construction permit application within 15 days of receipt of the department's comments.

27. Within 365 days from the date the department issues the construction permit, the city agrees to complete all construction of the upgrades in accordance with department approved plans and specifications in the construction permit.

28. Within 30 days of completing construction, the city agrees to submit to the department: (1) a Statement of Work Completed Form, signed, sealed and dated by a professional engineer licensed to practice in the state of Missouri certifying that the project was completed in accordance with department approved plans and specifications; and (2) a complete application for the modified MSOP No. MO-0041114 to reflect the upgrades with the applicable fee.

29. Within 15 days of completion of construction activities, the effluent shall comply with all final effluent limitations, as required in Part "A" of MSOP No. MO-0041114.

30. The city is ordered and agrees to comply with the MCWL, Chapter 644, RSMo, and its implementing regulations at all times in the future.

SUBMISSIONS

31. All other documentation submitted to the department for compliance with this order shall be submitted within the timeframes specified to:

Ms. Lauren Lewis
Department of Natural Resources
Water Protection Program
Compliance and Enforcement Section
P.O. Box 176
Jefferson City, Missouri 65102-0176

OTHER PROVISIONS

32. Immediately upon becoming aware that a deadline or milestone as set forth in this AOC will not be completed by the required deadline, the city shall notify the department by telephone or electronic mail i) identifying the deadline that will not be completed; ii) identifying the reason for failing to meet the deadline; and iii) proposing an extension to the deadline. Within five days of notifying the department, the city shall submit to the department for review and approval a written request containing the same information. The department may grant an extension if it deems appropriate. Failure to submit a written notice to the department may constitute a waiver of the city's right to request an extension and may be grounds for the department to deny the extension.

33. Should the city fail to meet the terms of this AOC, including the deadlines for completion of construction set out in Paragraphs 25 through 29, the city shall be subject to pay stipulated penalties in the following amount:

<u>Days of Violation</u>	<u>Amount of Penalty</u>
1 to 30 days	\$100.00 per day
31 to 90 days	\$250.00 per day
91 days and above	\$500.00 per day

Stipulated penalties will be paid in the form of a check made payable to “Linn County Treasurer, as custodian of the Linn County School Fund.” Any such stipulated penalty shall be paid within ten days of demand by the department and shall be delivered to:

Accounting Program
Department of Natural Resources
P.O. Box 477
Jefferson City, MO 65102-0477

34. Compliance with this AOC resolves only the specific violations described herein, and this AOC shall not be construed as a waiver or modification or any other requirements of the MCWL and regulations, or any other source of law. Nor does this order resolve any future violations of this order or any law or regulation. Consistent with 10 CSR 20-3.010(5), this order shall not be construed as satisfying any claim by the state or federal government for natural resource damages.

35. Nothing in this AOC forgives the city from future non-compliance with the laws of the state of Missouri, nor requires the department or state of Missouri to forego pursuing by any legal means any non-compliance with the laws of the state of Missouri. The terms stated herein constitute the entire and exclusive agreement of the parties. There are no other obligations of the parties, be they express or implied, oral or written, except those that are expressly set forth herein. The terms of this AOC supersede all previous memoranda of understanding, notes, conversations, and agreements, express or implied. This AOC may not be modified orally.

36. By signing this AOC, all signatories assert that they have read and understood the terms of this AOC, and that they have the authority to sign this AOC on behalf of their respective party.

37. The effective date of the AOC shall be the date the department signs the AOC. The department shall send a fully executed copy of this AOC to the city for their records.

COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, the Cost Analysis for Compliance (CAFCOM), which addresses the obligations included within this AOC based upon the city's cost estimate of \$1,427,236.60 through completion of corrective actions outlined in the city's preliminary engineering report, is attached hereto as Exhibit 1. This CAFCOM does not address future improvements that may be necessary to comply with the MCWL or its implementing regulations. This AOC requires the city to complete upgrades to the WWTF in accordance with a department approved facility plan, designs, and specifications.

NOTICE OF APPEAL RIGHTS

By signing this AOC, the city consents to its terms and waives any right to appeal, seek judicial review, or otherwise challenge the terms and conditions of this AOC pursuant to Sections 621.250, 640.010, 640.013, 644.056.3, 644.079.2, Chapter 536 RSMo, 644.145, RSMo, 10 CSR 20-1.020, 10 CSR 20-3.010, 10 CSR 20-6.020(5), the Missouri Constitution, or any other source of law.

SIGNATURE AUTHORITY

Agreed to and Ordered this 10th day of August, 2016

Theresa Malone
Theresa Malone, Mayor
City of Meadville

Agreed to and Ordered this 2nd day of September, 2016

John Madras
John Madras, Director
Water Protection Program
Missouri Department of Natural Resources

Copies of the foregoing served by certified mail to:

The Honorable Theresa Malone
City of Meadville
P.O. Box 152
Meadville, MO 64659

CERTIFIED MAIL # 7012 2920 0002 0662 9831

- c: Ms. Irene Crawford, Director, Northeast Regional Office
Ms. Diane Huffman, Environmental Protection Agency
Mr. Chris Wieberg, Chief, Operating Permits Section
Ms. Hannah Humphrey, Community Services Coordinator
Missouri Clean Water Commission
Accounting Program

**Missouri Department of Natural Resources
Water Protection Program
Cost Analysis for Compliance
(In accordance with RSMo 644.145)**

**City of Meadville
Wastewater Treatment Facility Upgrades and Enforcement Action
Missouri State Operating Permit #MO-0041114**

Section 644.145 RSMo requires the Department of Natural Resources to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works.”

This cost analysis is based on data available to the department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the department with current information about the city’s financial and socioeconomic situation.

Current Facility Description:

The city of Meadville is served by a wastewater treatment facility (WWTF) that consists of a three-cell wastewater treatment lagoon with sludge retained in the lagoonⁱ. The WWTF has a design population equivalent of 642 and a design flow of 64,000 gallons per day. The actual flow is 35,000 gallons per day. The WWTF discharges to a tributary to Parson Creek.

Flow evaluated:

Residential Connections:	174 ⁱⁱ
Commercial Connections:	10 ⁱⁱ
Industrial Connections:	0
Total Connections for this facility:	184

Requirements Now Being Enforced:

Missouri State Operating Permit (MSOP) No. MO-0041114 was issued to the city on January 30, 2009. MSOP No. MO-0041114 included a Schedule of Compliance for the city to comply with final effluent limits for E. coli by December 31, 2013. The city will be required to complete upgrades that will enable the effluent to comply with the Missouri Clean Water Law and all conditions of the operating permit. The city has selected no-discharge land application as the desired solutionⁱⁱⁱ.

Anticipated Costs Associated with Complying with the New Requirements:

Land Application – No Discharge: \$1,427,236.60 Total Project Costⁱⁱⁱ \$80,441.28 Annual Additional Costsⁱⁱⁱ

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

Current User Rates:	\$35.00 ⁱⁱ
Municipal Bond Rating (if applicable):	No bond rating ⁱⁱ
Bonding Capacity: <i>(General Obligation Bond capacity allowed by constitution: cities=up to 20% of taxable tangible property sewer districts or villages=up to 5% of taxable tangible property)</i>	\$2,000,000 ⁱⁱ
Current outstanding debt for the City:	\$250,500 ⁱⁱ
Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure:	\$0 ⁱⁱ

Consideration of integrated planning to address the most significant needs of the municipality

No planⁱⁱ

Other indicators:

None Providedⁱⁱ

The department considers Integrated Planning a very important tool when balancing multiple new environmental requirements. Please contact the community services coordinator by email at Hannah.Humphrey@dnr.mo.gov for further guidance on financial planning.

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

A Current Costs

Current operating costs (exclude depreciation): \$68,441.28

Current user rate: \$35.00ⁱⁱ

B Estimated Costs for Improvements

Estimated total present worth of pollution control: Not Providedⁱⁱⁱ

Estimated capital cost of pollution control: \$1,427,236.60ⁱⁱⁱ

Annual cost of operation and maintenance: \$80,441.28ⁱⁱⁱ

Estimated resulting user cost per household per month plus the amount used toward payments on outstanding debt*: \$80.21ⁱⁱⁱ

Median household income(MHI)**: \$54,271^{iv}

Estimated cost per household per month plus the amount used toward payments on outstanding debt as a percent of median household income***: 1.96%^v

* This estimated monthly user cost will be used throughout this analysis

** The State's average MHI of \$49,008 is used in this analysis

*** The cost per household as a percent of median household income for the land application system will be used throughout this analysis and as the residential indicator in Criteria 7 below

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

E. coli is an indicator of the presence of fecal contamination in water and possible disease-causing bacteria and viruses in water and wastewater. The receiving stream is less than two miles from Parson Creek, which has a WBC (B) designated use to protect human health in accordance with Water Quality Standards (10 CSR 20-7.031) and the Clean Water Act. Disinfection benefits human health by reducing exposure to disease-causing bacteria and viruses. The city of Meadville will have to upgrade the WWTF with a disinfection system in order to meet the final effluent limitations if the WWTF is not converted to a no-discharge system.

The discharge of effluent that does not comply with permitted effluent limitations contributes to the further impairment of the receiving stream and endangers the aquatic life in the stream, livestock, wildlife, and public health. Such discharges have the potential to contaminate lakes and streams causing serious water quality problems that negatively impact the beneficial uses.

(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:

The community provided the department with information regarding the city’s financial status on May 19, 2015. The city reported that their current debt is related to the drinking water facility and that there is no current debt for the WWTF.

(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.
- (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.

Socioeconomic Data:

Potentially Distressed Populations – City of Meadville	
Unemployment	5.6% ^{vi}
Adjusted Median Household Income (MHI)	\$54,271 ^{iv}
Percent Change in MHI (2000-2013)	+65.3% ^{vii}
Percent Population Growth/Decline (2000-2013)	-1.5% ^{viii}
Change in Median Age in Years (2000-2013)	-3.5 ^{ix}
Percent of Households in Poverty	3.1% ^x
Percent of Households Relying on Food Stamps	10.6% ^{xi}

Opportunity for cost savings or cost avoidance:

The city is eligible for State Revolving Fund funding. The city should make continual progress with the Financial Assistance Center to ensure that they remain eligible for funding.

Opportunity for changes to implementation/compliance schedule:

The Abatement Order on Consent allows the city to request an extension of milestones, should the city become aware of a milestone date that they will not be able to meet.

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

The city did not report any other investments relating to environmental improvementsⁱⁱ.

(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;

Secondary indicators for consideration:

Indicators	Strong (3 points)	Mid-Range (2 points)	Weak (1 point)	Score
Bond Rating Indicator	Above BBB or Baa	BBB or Baa	Below BBB or Baa	N/A ⁱⁱ
Overall Net Debt as a % of Full Market Property Value ^{ii, xii}	Below 2%	2% - 5%	Above 5%	1 \$250,500/\$2,978,644 = 0.084 0.084 x 100 = 8.4%
Unemployment Rate ^{vi}	>1% below Missouri average of 5.8%	± 1% of Missouri average of 5.8%	>1% above Missouri average of 5.8%	2 City rate = 5.6% 5.6% - 5.8% = -0.2
Median Household Income ^{iv}	More than 25% above Missouri MHI (\$49,078)	± 25% of Missouri MHI (\$49,078)	More than 25% below Missouri MHI (\$49,078)	2 City MHI = \$54,271 \$54,271 - \$49,078 = 5,193 5,193/49,078 = 0.105 0.105 x 100 = 10.5%
Percent of Households in Poverty ^{*x}	>10% below Missouri average of 11.7%	± 10% of Missouri average of 11.7%	>10% above Missouri average of 11.7%	2 City rate = 3.1% 3.1% - 11.7% = -8.6
Percent of Households Relying on Food Stamps ^{*xi}	>5% below Missouri average of 10.6%	± 5% of Missouri average of 10.6%	>5% above Missouri average of 10.6%	2 City rate = 10.6% 10.6% - 10.6% = 0
Property Tax Revenues as a % of Full Market Property Value ^{ii, xii}	Below 2%	2% - 4%	Above 4%	3 City Tax Revenues = \$11,206 \$11,206/\$2,978,644 = 0.0037 0.0037 x 100 = 0.37%
Property Tax Collection Rate ⁱⁱ	Above 98%	94% - 98%	Below 94%	3 102%

Financial Capability Indicators (FCI) Average Score: 2.14

Land Application Residential Indicator (RI, from Criteria #2 above): 1.96

* Financial Capability Indicators are specific to the State of Missouri

Financial Capability Matrix:

Financial Capability Indicators Score from above ↓	Residential Indicator (User cost as a % of MHI)		
	Low (Below 1%)	Mid-Range (Between 1.0% and 2.0%)	High (Above 2.0%)
Weak (below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (1.5 – 2.5)	Low Burden	Medium Burden	High Burden
Strong (above 2.5)	Low Burden	Medium Burden	High Burden

Estimated Financial Burden for Land Application: Medium Burden

The resulting financial burden has been determined by comparing the FCI with the Residential Indicator (RI) stated in Criteria #2. The cost associated with the facility upgrades or conversion to a no-discharge, land application system could result in a medium financial burden placed on the community due to the mid-range FCI paired with the mid-range RI.

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

The community did not report any other relevant local economic conditionsⁱⁱ.

The department contracted with Wichita State University to complete an assessment tool that would allow for predictions on rural Missouri community populations and future sustainability. The purpose of the study is to use a statistical modeling analysis in order to determine factors associated with each rural Missouri community that would predict the future population changes that could occur in each community. A stepwise regression model was applied

to 19 factors which were determined as predictors of rural population change in Missouri. The model established a hierarchy of the predicting factors which allowed the model to place a weighted value on each of the factors. A total of 745 rural towns and villages in Missouri received a weighted value for each of the predicting factors. The weighted values for each town / village were then added together to determine an overall decision score. The overall decision scores were then divided into five categories and each town was assigned to a different categorical group based on the overall decision score.

The categorical groups were developed from the range of overall scores across all rural towns and villages within Missouri. The range covers 1,191 score points (-245 to 946).

Based on the assessment tool, the city of Meadville has been determined as a category 2 community. This means that the city of Meadville could potentially face more challenging socioeconomic circumstances over time and may have significant declines in population in the future.

Conclusion and Finding

As a result of reviewing the above criteria, the department hereby finds that the action described above could result in a medium burden with regard to the community's overall financial capability and a medium financial impact for most individual customers/households.

The department considered the eight criteria presented in subsection 644.145.3 when evaluating the cost associated with the relevant actions. The city estimates the resulting monthly user costs for the conversion of the facility to a no-discharge, land application system in order to meet E. coli effluent limits and upcoming ammonia limits could be \$80.21.

This determination is based on readily available data and may overestimate the financial impact on the community.

ⁱ Missouri State Operating Permit No. MO-0041114

ⁱⁱ Information provided by the city in the "Cost Analysis for Compliance (CAFCOM) Questions for City of Meadville" returned to the department on May 19, 2015.

ⁱⁱⁱ City of Meadville Preliminary Engineering Report (Revised May 2015), Allstate Consultants, received May 26, 2015.

^{iv} American Community Survey, U.S. Census Bureau,
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

^v $(\text{Cost per household per month}/(\text{MHI}/12)) \times 100 = \text{Cost per household as a percent of MHI}$
 $(\$80.21/(\$49,078/12)) \times 100 = 1.96\%$

^{vi} Missouri Department of Economic Development (June 2015)
<http://www.missourieconomy.org/indicators/unemp/index.stm>

^{vii} 2000 Median Household Income,
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_00_SF3_DP3&prodType=table; and American Community Survey, U.S. Census Bureau,
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

^{viii} Total Population Universe: Total Population American Community Survey B01003,
<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

^{ix} 2000 Median Age, Demographic Profile 1- Census 2000 – Summary File 1,
<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkml>; Median Age by Sex – American Community Survey 5-year Estimates – B01002,
<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?ref=geo&refresh=t>

^x Poverty data – American Community Survey,
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_S1701&prodType=table

^{xi} Food Stamps/SNAP ACS Community Survey 5-year Estimates - S2201,
<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

^{xii} 2014 Property Tax Rates, Missouri State Auditor, Report No. 2015-004