STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:

Miller Wastewater Treatment Facility
105 South Washman Street
City of Miller, MO 65707

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo., and regulation promulgated thereunder, or this permit may be revoked by the Missouri Department of Natural Resources.

As the Department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

August 30, 2021
Effective Date

Edward B. Galbraith
Edward B. Galbraith, Director, Division of Environmental Quality

August 29, 2023
Expiration Date

Chris Wieberg
Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The project includes modifications to the wastewater treatment lagoons to allow for better ammonia reduction. Primary components of the modifications include the addition of a pump station and flowmeter directly after the lagoon discharge to control flows to additional treatment processes; a NitrOx^{TM} treatment system (by Triplepoint Environmental, LLC) including two treatment basins with aeration and media for fixed growth in each; three clarifiers in series following the NitrOx^{TM} treatment tanks; and air lift pumps for waste sludge pumping from the clarifiers. An ultraviolet (UV)disinfection system will be provided to help meet E. Coli limits.

The project also involves the modification and rehabilitation of the collection system to better convey peak flows to the lagoon system, reduce inflow and infiltration, and eliminate sanitary sewer over flows. Collection system work includes installing an 18-inch gravity main interceptor to replace the current gravity main that flows into the lagoon; cleaning and closed circuit television (CCTV) inspection of designated sewer sections; lining and point repair of designated sections of existing pipeline and appurtenances; removing and replacing designated sections of existing pipeline and appurtenances; and lining and repair of designated existing manholes.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

II. COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, RSMo., when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or treatment works, the Missouri Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

The Department is required to determine "findings of affordability" because the permit applies to a **combined or separate sanitary sewer system for a publically-owned treatment works.**

Cost Analysis for Compliance - The Department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of Department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3. See **APPENDIX – AFFORDABILITY ANALYSIS**.

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.

2. All construction shall be in accordance with the plans and specifications submitted by Trekk Design Group, LLC. on July 28, 2021 (Contract No. 2), and July 30, 2021 (Contract No. 1). The project is divided into two contracts, with Contract No. 1 as Wastewater Treatment Lagoon Upgrade Project, signed and sealed by Adam N. Black, P.E. on July 28, 2021, James Eric DeGruson, P.E. on July 28,2021, and Jared C. Nichols on October 6, 2020, and Contract No. 2 as Sanitary Sewer Rehabilitation and Replacement Project signed and sealed by Adam Black, P.E. on July 28, 2021, and approved by the Department on August 30, 2021.

3. Regulation 10 CSR 20-4.040(18)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.

4. The Department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).

5. As per 10 CSR 20-4.040, all changes in contract price or time within the approved scope of work must be by change order in accordance with Section 19 of this rule.

6. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's electronic Sanitary Sewer Overflow/Bypass Reporting system at https://dnr.mo.gov/mogem/ or Southwest Regional Office per 10 CSR 20-7.015(9)(G)

7. In addition to the requirements for a construction permit, see 10 CSR 20-6.200 for land disturbance requirements to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the Department's ePermitting system available online at www.dnr.mo.gov/env/wpp/epermit/help.htm. For more information, see www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm.

8. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information. See dnr.mo.gov/env/wpp/401/ for more information.

9. Upon completion of construction:

   A. The City of Miller will become the continuing authority for operation and maintenance of these facilities;

   B. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications; and

   C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The project includes modifications to the existing wastewater treatment system to better meet effluent limitations, more specifically adding a NitrOx system for ammonia reduction and a UV disinfection system to help meet E. Coli limits. Other project components are included to better convey peak flows to the lagoon system, reduce inflow and infiltration, and eliminate sanitary sewer over flows.

2. FACILITY DESCRIPTION

The existing wastewater treatment is a two-cell aerated lagoon, with the sludge retained in those cells. Additions to the wastewater treatment process include a NitrOx^{TM} Moving Bed Biological Reactor (MBBR)/IFAS System, clarifiers, and an

UV disinfection unit. The upgrades will help meet E. Coli and Ammonia limits. A pump station with flow meter will be added between the lagoons and the NitrOx™ system and air lift pumps will be used to transfer waste sludge from the clarifiers. The project also involves the modification and rehabilitation of the collection system to better convey peak flows to the lagoon system, reduce inflow and infiltration, and eliminate sanitary sewer over flows.

The Miller WWTF is located 0.15 miles south of the intersection of W. Adamson St. and S. Seneker Rd. in Miller, Missouri, in Lawerance County. The facility has a design average flow of 75,000 gpd and serves a hydraulic population equivalent of approximately 1,100 people.

3. COMPLIANCE PARAMETERS

The limits following the completion of construction will be applicable to the facility:

Parameter	Units	Monthly average limit
Biochemical Oxygen Demand$_5$	mg/L	30
Total Suspended Solids	mg/L	30
Ammonia as N-summer	mg/L	1.4
Ammonia as N-winter	mg/L	2.9
pH	SU	6.5-9.0
E. Coli	#/100mL	206

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Existing Components:

- Lagoon Cell No. 1 – At 3 feet of depth, Lagoon Cell No. 1 has a surface area of 3.2 acres and a wastewater volume of 2.73 million gallons (MG).
- Lagoon Cell No. 2 – At 8 feet of depth, Lagoon Cell No. 2 has a surface area of 0.86 acres and a wastewater volume of 1.01 million gallons (MG).

New Components:

- Pump Station—A pump station will be constructed after the discharge from the existing lagoon and before the NitrOx™ treatment, to control flow to the NitrOx™ and UV disinfection systems. Each of the two submersible pumps will be capable of operating at 250 gpm at total dynamic head (TDH) between 20 and 25 feet and will have a variable frequency drive control with a maximum driver horsepower (HP) of 7.5 and a minimum driver HP of 3.5.
- Flow Measurement – Installation of an accurate flow measurement device will provide improved data for operational controls and analysis. An electromagnetic 4-inch flow meter shall measure the flow from the new pump station to the NitrOx™ treatment unit.

- NitrOx™ by Triplepoint Water Technologies, LLC– The lagoon treated effluent will be pumped to the NitrOx™ system. The NitrOx™ system is capable of treating a design average flow of 75,000 gpd. The system is composed of two tanks with each approximately 7 ft x 14 ft x 12.4 ft with a sidewater depth of 12 ft. Total volume of the two tanks is 18,180 gallons. The average flow hydraulic retention time is 5.8 hours and the peak flow hydraulic retention time is 1.3 hours. A floating insulating cover shall be installed in each tank. An immersion tank heater will be installed to maintain a minimum wastewater temperature of 5°C. Each tank will be filled approximately 41% with high surface area HDPE media. Aeration will be by means of two positive displacement blowers each capable of supplying 209 scfm with 10 HP motors. The effluent from the NitrOx™ basins will flow by gravity to clarifiers for polishing prior to disinfection and discharge.
- Clarifiers—Three clarifiers in series will follow the NitrOx™ treatment. Each basin is 7 ft x 14 ft with approximately 12 ft sidewater depth. The surface overflow rate at the average daily flow of 0.075 MGD equals 255 gpd/s.f.
- Ultraviolet Disinfection-- Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms. A closed channel, gravity flow, low pressure, high output (LPHO) UV non-contact disinfection system system shall be provided, capable of treating a peak flow of 345,000 gpd while delivering a minimum UV intensity of 30.0 mJ/cm^2 with an expected ultraviolet transmissivity of 65% or greater. The disinfected effluent will flow by gravity to Outfall No. 001.
- Waste Sludge Pumping—An air lift pump will be installed in each of the three clarifier basins and will use the same blowers as the NitrOx™ basins. Valves on the airline to each pump will be operated manually as needed to transfer sludge from the clarifier to lagoon cell #1.
- Collection System Rehabilitation and Replacement—The project includes the following work associated with the collection system:
    - Replacement of a portion of the main that feeds into the lagoon, including installation of approximately 674 linear feet (LF) of 18-inch polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-35 gravity sewer; approximately 54 LF of 18-inch reinforced concrete pipe (RCP), PVC lined; and associated concrete encasement, connections and other appurtenances. (Bid Alternate of Contract No. 1.)
    - Cured-in-Place Pipe (CIPP) Liner for approximately 19,214 LF of gravity sewer. (Contract No. 2)
    - Manhole construction, including installation of 4 new 4-foot diameter manholes and work on approximately 53 manhole risers.(Contract No. 2)
    - Additional work includes approximately 7 point repairs of 8-inch mains, approximately 3 tap repairs, and grouting approximately 222 service laterals. (Contract No. 2)

5. OPERATING PERMIT

Operating permit MO-0041149 will require a modification to reflect the construction activities. The modified Miller WWTF, MO-0041149, was successfully public noticed from May 28, 2021 to June 28, 2021 with no comments received.

Ginny Bretzke, P.E.
Financial Assistance Center
ginny.bretzke@dnr.mo.gov

APPENDICES

- **Affordability Analysis**
- **Summary of Design and Process Flow Diagram**

APPENDIX—AFFORDABILITY ANALYSIS

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

Miller WWTF, Permit Modification
City of Miller
Missouri State Operating Permit No. MO-0041149

Section 644.145 RSMo requires the Missouri 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 does not dictate how the permittee will comply with new permit requirements.

New Permit Requirements

The permit requires compliance with new monitoring requirements, increasing the frequency of monitoring from quarterly to monthly.

Connections
The number of connections was reported by the permittee on the permit modification application.

Connection Type	Number
Residential	284
Commercial	15
Industrial	
Total	**299**

Data Collection for this Analysis
This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. The city submitted Financial Questionnaire Form MO 780-2511. Follow-up correspondence clarified that the number of connections to the facility are 284 residential and 15 commercial, as indicated on Form B for the Operating Permit Modification.

Eight Criteria of 644.145 RSMo
The Department must consider the 8 criteria presented in subsection 644.145 RSMo to evaluate the cost associated with new permit requirements.

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

Criterion 1 Table. Current Financial Information for the City of Miller	
Current Monthly User Rates per 5,000 gallons*	$63.25
Median Household Income (MHI)[1]	$39,047
Current Annual Operating Costs (excludes depreciation)	$392,000

*User Rates were reported by the permittee on the Financial Questionnaire

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

The following tables outline the estimated costs of the new permit requirements:

	Criterion 2A Table. Estimated Cost Breakdown of New Permit Requirements			
New Requirement	Change in Frequency	Additional Quantity	Estimated Cost	Estimated Annual Cost
Biochemical Oxygen Demand$_5$—Effluent	Quarterly to Monthly	8	$41	$328
Total Suspended Solids--Effluent	Quarterly to Monthly	8	$16	$128
E. Coli	Quarterly to Monthly	3	$29	$87
Ammonia as N	Quarterly to Monthly	8	$20	$160
Oil & Grease	Quarterly to Monthly	8	$70	$560
pH	Quarterly to Monthly	8	$8	$64
Biochemical Oxygen Demand$_5$—Influent	Quarterly to Monthly	8	$41	$328
Total Suspended Solids--Influent	Quarterly to Monthly	8	$16	$128
	Total Estimated Annual Cost of New Permit Requirements			$1,783

Criterion 2B Table. Estimated Costs for New Permit Requirements		
(1)	Estimated Annual Cost	$1,623
(2)	Estimated Monthly User Cost for New Requirements [2]	$0.50
	Estimated Monthly User Cost for New Requirements as a Percent of MHI [3]	0.015%
(3)	Total Monthly User Cost*	$63.75
	Total Monthly User Cost as a Percent of MHI [4]	1.96%

* Current User Rate + Estimated Monthly Costs of New Sampling Requirements

Due to the minimal cost associated with new permit requirements, the Department anticipates an extremely low to no rate increase will be necessary, which could impact individuals or households of this community.

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

This analysis is being conducted based on new requirements in the permit, which will not require the addition of new control technologies at the facility. However, the new sampling requirements are being established in order to provide data regarding the health of the receiving stream's aquatic life and to ensure that the existing permit limits are providing adequate protection of aquatic life. Improved wastewater provides benefits such as avoided health costs due to water-related illness, enhanced environmental ecosystem quality, and improved natural resources. The preservation of natural resources has been proven to increase the economic value and sustainability of the surrounding communities. Maintaining Missouri's water quality standards fulfills the goal of restoring and maintaining the chemical, physical, and biological integrity of the receiving stream; and, where attainable, it achieves a level of water quality that provides for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water.

(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 reported that their outstanding debt for their current wastewater collection and treatment systems is $181,232. The community reported that each user pays $63.25 monthly.

(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.

The following table characterizes the current overall socioeconomic condition of the community as compared to the overall socioeconomic condition of Missouri. The following information was compiled using the latest U.S. Census data.

Criterion 5 Table. Socioeconomic Data [1, 5-9] for the City of Miller

No.	Administrative Unit	Miller City	Missouri State	United States
1	Population (2019)	762	6,104,910	324,697,795
2	Percent Change in Population (2000-2019)	1.1%	9.1%	15.4%
3	2019 Median Household Income (in 2020 Dollars)	$39,047	$56,145	$63,618
4	Percent Change in Median Household Income (2000-2019)	1.7%	-4.7%	-2.5%
5	Median Age (2019)	36.3	38.6	38.1
6	Change in Median Age in Years (2000-2019)	0.3	2.5	2.8
7	Unemployment Rate (2019)	3.0%	4.6%	5.3%
8	Percent of Population Below Poverty Level (2019)	18.1%	13.7%	13.4%
9	Percent of Household Received Food Stamps (2019)	19.5%	11.1%	11.7%
10	(Primary) County Where the Community Is Located	Lawrence County		

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

The community did not report any other investments relating to environmental improvements.

(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;

The new requirements associated with this permit will not impose a financial burden on the community, nor will they require the City of Miller to seek funding from an outside source.

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

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

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.

Based on the assessment tool, the City of Miller has been determined to be a category 1 community. This means that the City of Miller could potentially face more challenging socioeconomic circumstances over time and may have significant declines in population in the future. If this community experiences a decline in population, which results in the inability to secure the necessary funding for an upgrade to meet the new requirements within this permit, a modification may be necessary. The community may contact the Department and send an application for a modification.

Conclusion and Finding
As a result of new regulations, the Department is proposing modifications to the current operating permit that may require the permittee to increase monitoring. The Department has considered the 8 criteria presented in subsection 644.145 RSMo to evaluate the cost associated with the new permit requirements.

This analysis examined whether the new sampling requirements affect the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. After reviewing the above criteria, the Department finds that the new sampling requirements may result in a low burden with regard to the community's overall financial capability and a low financial impact for most individual customers/households; therefore, the new permit requirements are affordable.

References
1. 2019 MHI in 2019 Dollar: United States Census Bureau. 2015-2019 American Community Survey 5-Year Estimates, Table B19013: Median Household Income in the Past 12 Months (in 2019 Inflation-Adjusted Dollars). https://data.census.gov/cedsci/table?q=B19013&g=0400000US29.160000&tid=ACSDT5Y2019.B19013&hidePreview=false.

   (B) 2000 MHI in 1999 Dollar: (1) For United States, United States Census Bureau (2003) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-2-1 Part 1. United States Summary, Table 5. Work Status and Income in 1999: 2000, Washington, DC. https://www.census.gov/prod/cen2000/phc-2-1-pt1.pdf.

   (2) For Missouri State, United States Census Bureau (2003) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-2-27, Missouri, Table 10. Work Status and Income in 1999: 2000, Washington, DC. https://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf.
   (C) 2020 CPI, 2019 CPI and 1999 CPI: U.S. Department of Labor Bureau of Labor Statistics (2020) Consumer Price Index - All Urban Consumers, U.S. City Average. All Items. 1982-84=100. https://data.bls.gov/pdq/SurveyOutputServlet.

   (D) 2019 MHI in 2020 Dollar = 2019 MHI in 2019 Dollar x 2020 CPI /2019 CPI; 2000 MHI in 2020 Dollar = 2000 MHI in 1999 Dollar x 2020 CPI /1999 CPI.
   (E) Percent Change in Median Household Income (2000-2019) = (2019 MHI in 2020 Dollar - 2000 MHI in 2020 Dollar) / (2000 MHI in 2020 Dollar).

2. ($1,783/299)/12 = $0.50 (Estimated Monthly User Cost for New Requirements)
3. ($0.50/($39,047/12))100% = 0.015% (New Sampling Only)
4. ($63.75/($39,047/12))100% = 1.96% (Total User Cost)
5. Total Population in 2019: United States Census Bureau. 2015-2019 American Community Survey 5-Year Estimates, Table B01003: Total Population - Universe: Total Population. https://data.census.gov/cedsci/table?q=B01003&g=0400000US29.160000&tid=ACSDT5Y2019.B01003&hidePreview=false.

   (B) Total Population in 2000: (1) For United States, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-1-1 Part 1. United States Summary, Table 1. Age and Sex: 2000, Washington, DC. https://www.census.gov/prod/cen2000/phc-1-1-pt1.pdf.

   (2) For Missouri State, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Place of Birth, Residence in 1995, and Language: 2000, Washington, DC. http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf.

   (C) Percent Change in Population (2000-2019) = (Total Population in 2019 - Total Population in 2000) / (Total Population in 2000).
6. Median Age in 2019: United States Census Bureau. 2015-2019 American Community Survey 5-Year Estimates, Table B01002: Median Age by Sex - Universe: Total population. https://data.census.gov/cedsci/table?q=B01002&g=0400000US29.160000&tid=ACSDT5Y2019.B01002&hidePreview=false.

   (B) Median Age in 2000: (1) For United States, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-1-1 Part 1. United States Summary, Table 1. Age and Sex: 2000, Washington, DC., Page 2. https://www.census.gov/prod/cen2000/phc-1-1-pt1.pdf.

   (2) For Missouri State, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Place of Birth, Residence in 1995, and Language: 2000, Washington, DC. http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf.

   (C) Change in Median Age in Years (2000-2019) = (Median Age in 2019 - Median Age in 2000).
7. United States Census Bureau. 2015-2019 American Community Survey 5-Year Estimates, B23025: Employment Status for the Population 16 Years and Over - Universe: Population 16 years and Over. https://data.census.gov/cedsci/table?q=B23025&g=0400000US29.160000&tid=ACSDT5Y2019.B23025&hidePreview=false.
8. United States Census Bureau. 2015-2019 American Community Survey 5-Year Estimates, Table S1701: Poverty Status in the Past 12 Months. https://data.census.gov/cedsci/table?q=S1701&g=0400000US29.160000&tid=ACSST5Y2019.S1701&hidePreview=false.
9. United States Census Bureau. 2015-2019 American Community Survey 5-Year Estimates, Table B2201: Food Stamps/Supplemental Nutrition Assistance Program (SNAP) - Universe: Households. https://data.census.gov/cedsci/table?q=Receipt%20of%20Food%20Stamps&g=0400000US29.050000,29.160000&tid=ACSST5Y2019.S2201&hidePreview=true

DESIGN SUMMARY
WASTEWATER TREATMENT FACILITIES
MILLER, MISSOURI

DESIGN FLOWS AND LOADS

Average Daily Flow	0.075 MGD (52 gpm)
Peak Daily Flow	0.225 MGD (156 gpm)
Peak Hourly Flow	0.345 MGD (240 gpm)
Average BOD	119 lbs/day
Average TSS	88 lbs/day
Average TKN	25 lbs/day
Average Ammonia	21.1 lbs/day

WASTEWATER LAGOON TREATMENT

All wastewater flow enters the lagoon treatment by gravity, flowing into the northeast corner of Cell #1. The flow leaves Cell #1 in the southwest corner over a weir that is set 2 feet below the top of the lagoon berm. From that point it flows by gravity to Cell #2 for additional treatment. It leaves Cell #2 over a weir set 4 feet below the top of the lagoon berm. Following is a summary of the lagoon volumes and loading rate.

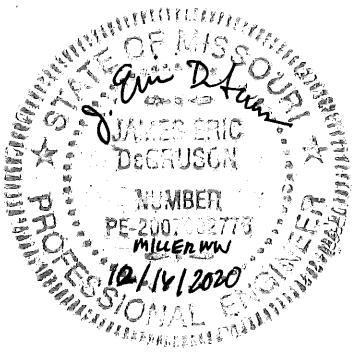
Cell #1

Total Depth:	5 feet (1231.75' to 1236.8')
Volume available at 3 feet of depth:	2,730,000 gal (1234.75')
Surface are available at 3 feet of depth:	140,440 ft^2

Cell #2

Total Depth:	10.25 feet (1226.25' to 1236.5')
Volume available at 8 feet of depth:	1,525,000 gal (1234.25')
Surface are available at 8 feet of depth (2' freeboard):	37,245 ft^2
Volume available at 6 feet of depth:	1,014,000 gal (1232.25')
Surface are available at 6 feet of depth (4' freeboard):	31,060 ft^2

Total Surface Area Available with Cell #1 at 3' and Cell #2 at 6' = 171,500 ft^2 = 3.94 acres
Lagoon BOD loading = 30.2 lbs/day/acre < 34 lbs/day/acre (maximum allowable loading)
Thus, the existing lagoons operated at 3' and 6' for Cell 1 and Cell #2, respectively, achieve primary treatment.



PUMP STATION

A pump station is located directly after the discharge from the lagoon to allow for management of the flow through the UV disinfection at a controlled rate and to allow for the storage in the lagoon to be optimally utilized for wet weather flows.

The pump station consists of 2 pumps, each with a capacity of roughly 250 gpm at 24 feet head, which is slightly in excess of the 240 gpm anticipated peak hourly flow. The pumps are planned to run off variable frequency drives (VFDs) and a transducer monitoring the level in the wet well (which should essentially match the level in the lagoon). This should allow the pumps to keep the lagoon from overflowing while providing a constant flow to the treatment process. The pumping conditions will be approximately as follows:

High Water Alarm	1234.00 (7.50' depth)
Back-up Pump ON (2 pumps ON)	1233.25 (6.75' depth)
One pump at peak flow speed (250 gpm)	1232.75 (6.25' depth)
Pumps running at Min. Speed (80 gpm +/-)	1232.25 (5.75' depth)
Pumps OFF	1232.00 (5.50' depth)
Low Alarm (let operator know lagoon is draining lower than planned)	1231.75 (5.25' depth)
Emergency Pump OFF	(as called for by Pump Manufacturer)

NITROX TREATMENT

Nitrification is provided with secondary treatment with the use of a Nitrox system to provide a lagoon integrated nitrification reactor. Two identical basins are provided, with aeration and media for fixed growth in each. Three clarifiers in series follow the Nitrox treatment tanks.

Basins – The inside dimensions of each rectangular Nitrox aeration basin is 7 x 14 feet. The maximum side water depth is approximately 12.4 ft., yielding an individual basin volume of 9,090 gallons and a combined volume of 18,180 gallons. At an average design flow of 0.075 MGD, the aeration basins provide a total hydraulic retention time (HRT) of 5.8 hours. At a peak hourly flow of 0.345 MGD, the aeration basins provide a total hydraulic retention time (HRT) of 1.3 hours. The Nitrox media fills 41% of the tank, but is largely comprised of open area to create a large surface area for microbial growth.

Mixing Equipment – The aeration system is utilized to provide mixing in the tank and also prevents solids from settling in the Nitrox tanks.

Aeration Equipment – Two positive displacement blowers are utilized, with one unit capable of providing enough air for both Nitrox tanks and the air lift pumps in the clarifiers. At design conditions of 24.3 lb. TKN/d, the actual oxygen requirement (AOR) equals 4.6 lbs. oxygen/lb. TKN x 24.3 lb. TKN/d, equaling 111.8 lbs. oxygen/day. Nitrox's design provides for an AOR of 86 lbs/day in the first stage (first tank) and 65 lbs/day in the second stage (second tank) for a total of 151 lbs/day. Converting the AOR to standard oxygen requirement (SOR), yields:

$$SOR = \frac{AOR\ (C_s)}{\alpha\ (\beta\ \tau\ \Omega\ C_{sd} - DO)\ (\theta^{(T-20)})}$$

$$SOR_{STAGE\ 1} = \frac{86\ lbs/day\ (10.5\ mg/l)}{0.70\ (0.90 * 1.08 * 0.973 * 5\ mg/l - 1\ mg/l)\ (1.024^{(15-20)})}$$

$SOR_{STAGE\ 1} =$ 390 lb. oxygen/day

$$SOR_{STAGE\ 2} = \frac{65\ lbs/day\ (10.5\ mg/l)}{0.70\ (0.90 * 1.08 * 0.973 * 6\ mg/l - 1\ mg/l)\ (1.024^{(15-20)})}$$

$SOR_{STAGE\ 2} =$ 234 lb. oxygen/day

The Total SOR for both stage is 624 lbs/day

To transfer 624 lb. oxygen/day (26 lbs per hour over a 24 hour period of aeration), assuming oxygen transfer efficiency of 12.1% for the diffusers at a depth of 11.0 ft., requires the delivery of 204 SCFM of air per basin (26/(0.0174799)(0.121))/60.

Each blower is rated to deliver 209 SCFM at a pressure across the blower of 4.8 psig. 5 SCFM is added to the blower capacity to accommodate the air lift pumps. Blower motors are approximately 10 HP. The "firm" capacity of the blowers is 209 SCFM, which is approximately 100% of that required at average design conditions.

CLARIFIERS

Clarifiers are provided to settle any solids that come out of the Nitrox treatment to help polish the water prior to UV disinfection and discharge.

Three clarifiers are provided each with rectangular dimensions identical to that of the Nitrox tanks; 7'x14' with about 12' side water depth. The surface overflow rate at 0.345 MGD (peak hourly flow) equals 1,173 gpd/s.f. and at the average daily flow of 0.075 MGD equals 255 gpd/s.f. This is in line with the MDNR requirement of 1,000 gpd/s.f. at the average design flow and 3,000 gpd/s.f at the peak hourly flow for primary settling tanks not receiving waste activated sludge. While these are not primary clarifier, the type of loading to them will likely be less than that of primary clarifier, and thus these rates have be provided for comparison.

WASTE SLUDGE PUMPING

The waste sludge from the clarifiers is pumped into the Cell #1 lagoon utilizing air lift pumps. The air lift pumps utilize the same blowers that the Nitrox tanks utilize. The pumps are a manual operation by opening valves on the dedicate airline to each of the air lift pumps on the three clarifier tanks. The operation is manual, as it is anticipated it will only need to be utilized once a week or possibly as little as once a month due to the minimal amount of solids that are anticipated to collect in the clarifiers. Most of the solids will settle out in the lagoons prior to entering the Nitrox tanks.

ULTRAVIOLET DISINFECTION

Up to 0.345 MGD (peak hourly flow) of effluent flow is disinfected with ultraviolet lamps. The system is of a horizontal lamp, no contact design, which utilized low pressure, high output lamps. A total of 24 to 30 lamps are provided to achieve disinfection. The lamps provide a 30.0 mJ/sq.cm. ultraviolet dose and are designed to reduce fecal colform counts to less than 200 colonies/100 ml at a flow of 0.345 MGD. When provided equipment is separated into multiple reactors, each of the 3 closed pipe reactors are set at different elevations. As the flow increase and head loss through the pipe increases, the water level is monitored, and each bank turns on as the water level reaches the next bank. This set up helps minimize wasted power without sophisticated controls.

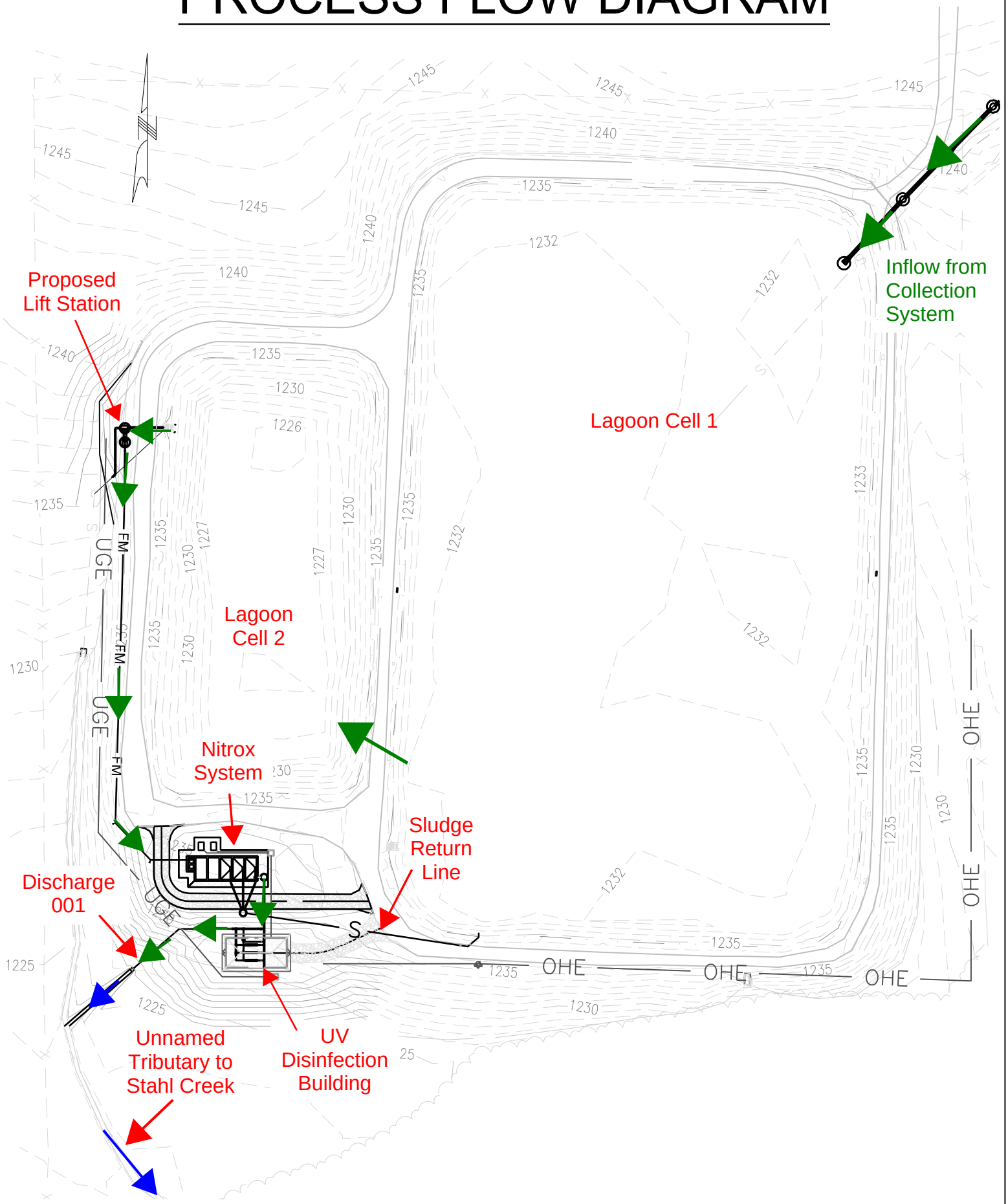
WASTE SLUDGE FACILITIES

Waste sludge is either settled out in the lagoons during primary treatment or air lift pumps deliver what settles out in the clarifiers after the Nitrox to Lagoon Cell #1. The City will need to periodically have a contract hauler dredge and properly dispose of the sludge.

WET WEATHER FLOW EQUALIZATION BASIN

The existing lagoons will be used to provide equalization of peak flow by keeping Cell #2 as low as feasible with the lift station pumping to the Nitrox treatment and discharge.

PROCESS FLOW DIAGRAM



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER TREATMENT FACILITY

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

PART A – BASIC INFORMATION

1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

1.1 Is this a Federal/State funded project? ☑ YES ☐ N/A Funding Agency: DNR CDBG Project #: C295726-02

1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: _____ ☑ N/A

1.3 Has the department approved the proposed project's facility plan*?
☑ YES Date of Approval: _____ ☐ NO (If No, complete No. 1.4.)

1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan* for wastewater treatment facilities included with this application?
☐ YES ☐ NO ☐ Exempt because _____

1.5 Is a copy of the appropriate plans* and specifications* included with this application?
☑ YES Denote which form is submitted: ☐ Hard copy ☑ Electronic copy (See instructions.) ☐ NO

1.6 Is a summary of design* included with this application? ☑ YES ☐ NO

1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?
☐ YES Date of submittal: _____
☐ Enclosed is the appropriate operating permit application and fee submittal. Denote which form: ☐ A ☐ B ☐ B2
☑ N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? ☑ YES ☐ NO

1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☑ NO

1.9 Is the appropriate fee or JetPay confirmation included with this application? ☑ YES ☐ NO
See Section 7.0

* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT
City of Miller Lagoon Upgrades and Collection System Rehabilitation

2.2 ESTIMATED PROJECT CONSTRUCTION COST
$

2.3 PROJECT DESCRIPTION
Lagoon modifications for ammonia reduction; UV disinfection addition for E. Coli; Collection system modifications for peak flow conveyance; and Collection system rehabilitation to reduce inflow and infiltration.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
Sludge detained in the lagoon

2.5 DESIGN INFORMATION
A. Current population: 691 ; Design population: 1100
B. Actual Flow: _____ gpd; Design Average Flow: 75,000 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd; Design Wet Weather Event: _____

2.6 ADDITIONAL INFORMATION
A. Is a topographic map attached? ☐ YES ☑ NO Note: The design plans include a topographical survey of the site.
B. Is a process flow diagram attached? ☑ YES ☐ NO

3.0 WASTEWATER TREATMENT FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Miller WWTF	(417)452-3371	cityofmillermayor@gmail.com

ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE	COUNTY
0.15 mi S of Adamson & S Seneker Int.	Miller	Mo	65707	Lawerence

Wastewater Treatment Facility: Mo- 0041149 (Outfall 001 Of 001)

3.1 Legal Description: ____ ¼, NE ¼, SW ¼, Sec. 23, T 29N, R 27W
(Use additional pages if construction of more than one outfall is proposed.)

3.2 UTM Coordinates Easting (X): 424611 Northing (Y): 4118443
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3.3 Name of receiving streams: Tributary to Stahl Creek

4.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
City of Miller	(417)452-3371	cityofmillermayor@gmail.com

ADDRESS	CITY	STATE	ZIP CODE
105 South Washam Street	Miller	Mo	65707

5.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
City of Miller	(417)452-3371	cityofmillermayor@gmail.com

ADDRESS	CITY	STATE	ZIP CODE
105 South Washam Street	Miller	Mo	65707

5.1 A letter from the continuing authority, if different than the owner, is included with this application. ☐ YES ☐ NO ☑ N/A

5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.

A. Is a copy of the certificate of convenience and necessity included with this application? ☐ YES ☐ NO

5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.

A. Is a copy of the as-filed restrictions and covenants included with this application? ☐ YES ☐ NO

B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? ☐ YES ☐ NO

C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? ☐ YES ☐ NO

D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? ☐ YES ☐ NO

6.0 ENGINEER

ENGINEER NAME / COMPANY NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Adam Black / TREKK Design Group	(417)890-9465	ablack@trekkdesigngroup.com

ADDRESS	CITY	STATE	ZIP CODE
2137 W Kingsley Ave. Suite B	Springfield	Mo	65807

7.0 APPLICATION FEE

☐ CHECK NUMBER ☐ JETPAY CONFIRMATION NUMBER

8.0 PROJECT OWNER: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE: Stacy Daniels

PRINTED NAME	DATE
Stacy Daniels	10/13/2020

TITLE OR CORPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Mayor	(417)452-3371	cityofmillermayor@gmail.com

Mail completed copy to:
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
P.O. BOX 176
JEFFERSON CITY, MO 65102-0176

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.

PART B – LAND APPLICATION ONLY
(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: ☐ Domestic ☐ State/National Park ☐ Seasonal business
☐ Municipal ☐ Municipal with a pretreatment program or significant industrial users
☐ Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
☐ 12 months per year ☐ Part of the year (list months): _____

8.3 This system is designed for:
☐ No-discharge.
☐ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreational season, April – October, and discharge during November – March.
☐ Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: _____ (Use additional pages if greater than three basins.)

9.2 Type of basins: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen ☐ Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.
Basin #1: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
Basin #1: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #2: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #3: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.
Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites _____ Total Acres _____ Maximum % field slopes _____
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
(Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: ☐ Grass hay ☐ Pasture ☐ Timber ☐ Row crops
☐ Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal _____ Off-season _____

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
Design: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week
Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

10.5 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

10.6 Actual months used for irrigation (check all that apply):
☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

10.7 Land application rate is based on:
☐ Hydraulic Loading ☐ Other (describe) _____
☐ Nutrient Management Plan (N&P) If N&P is selected, is the plan included? ☐ YES ☐ NO

authority is an individual(s), government, or otherwise not required to register with the SoS. See 10 CSR 20-6.010(2) for the regulatory requirement regarding continuing authority.

5.1 Check the appropriate box. Include a letter signed by the continuing authority (if not same as the project owner) stating they will "accept, operate and maintain" the wastewater treatment facility after successful construction.

If the continuing authority will not accept and agree to operate and maintain the wastewater treatment facility, this application will be considered incomplete.

5.2 Complete if the continuing authority is a Missouri Public Service Commission, or PSC, regulated entity. See 10 CSR 20-6.010(2)(B)3 for more information. This information is not necessary for existing wastewater treatment facilities currently permitted with a PSC entity as owner and continuing authority.

5.3 Complete if the continuing authority is a property owners association. See 10 CSR 20-6.010(2)(B)5 for more information. This information is not necessary for existing wastewater treatment facilities currently permitted with the property owners association as owner and continuing authority.

6.0 Complete Engineer contact information.

7.0 Check the appropriate box and include check or confirmation number. Applicants can pay fees online by credit card or eCheck through a system called JetPay.

- Per Section 37.001, RSMo, a transaction fee will be included. The transaction fee is paid to the third party vendor JetPay, not the Department of Natural Resources.
- Be sure to select the correct fee type and corresponding URL to ensure your payment is applied appropriately. If you are unsure what type of fee to pay, please contact the Water Protection Program's Budget, Fees, and Grants Management Unit by phone at (573) 522-1485 for assistance.
- Upon successful completion of your payment, JetPay provides a payment confirmation. Submit this form with a copy of the payment confirmation if requesting a new permit or a permit modification. For permit renewals of active permits, the Department will invoice fees annually in a separate request.
- If you are unable to make your payment online, but want to pay with credit card, you may email your name, phone number, and invoice number, if applicable, WPPFEES@dnr.mo.gov. The Budget, Fees, and Grants Management Unit will contact you to assist with the credit card payment. **Please do not include your credit card information in the email.**
- Applicants can find fee rates in 10 CSR 20-6.011 and Wastewater Treatment Facility Permit Fees -- PUB2564 (https://dnr.mo.gov/pubs/pub2564.htm).

WP 04 Construction Permits: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/592/

8.0 The owner of the construction project must sign the application.

Part B – Land Application

Complete Part B only if the proposed construction project includes land application of wastewater from a treatment facility.

8.0 Provide the applicable Facility Information land application information. Check the appropriate boxes.

9.0 Provide the applicable Storage Basins information. Check the appropriate boxes.

- Freeboard – The depth from the top of the berm to the emergency spillway. Minimum depth • is one foot.
- Safety Volume – The depth to contain the 25-year, 24-hour storm event. Minimum depth is • one foot.
- Maximum Operating Water Level – The water level at the bottom of the safety volume. • Minimum depth is two feet below the top of the berm.
- Minimum Operating Water Level – The water level above the bottom of the lagoon basin for • seal protection. Minimum depth is two feet and may be greater when additional treatment volume is included.
- Total Depth is from the top of the berm to the bottom of the lagoon basin including freeboard.•

10.0 Provide the applicable Land Application System information. Check the appropriate boxes.

10.7 Check the appropriate box. If the land application rate is based on a Nutrient Management Plan, or N and P, include the plan with this application for department review.

Mail the completed form and applicable fee to the department.

If there are any questions concerning this form, please contact the Department of Natural Resources, Water Protection Program at 800-361-4827 or 573-751-1300 or visit dnr.mo.gov/env/wpp.