STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



GENERAL PERMIT for SEWER EXTENSION CONSTRUCTION

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

Construction Permit ID:	MOGC00763
Title of Project:	Nevada WWTP
Owner:	City of Nevada
Address:	110 S. Ash
	Nevada, MO 64772

The project will also include general site work appropriate to the scope and purpose of the project and will include all the necessary appurtenances to make a complete and usable collection system. The construction of this project will be in the vicinity of the county below and discharge to Receiving Permit ID below:

County: Vernon Receiving Permit ID: MO0089109

for the construction of (described construction project):

Camp Clark Sewer Extension. Construction of approximately 1,050 lf of 12 inch PVC SDR-26 gravity sewer and 330 lf of 12 inch PVC SDR 35 with 4 manholes, 1,880 lf of 8 inch C900 DR 18 PVC force mains with air release valves to serve 350 PE and a design average flow of 35,000 gpd.

Project is in the vicinity of 17605 E Overland Road in Nevada, Vernon County and discharges to an existing system to be treated at Nevada Municipal WWTF, MO0089109. The City of Nevada is the owner and continuing authority for the sewer extension, and is also the owner of the receiving WWTF.

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 Department of Natural Resources (Department) 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.

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

August 21, 2024 Issue Date

John Hoke, Director Water Protection Program

August 20, 2026 Expiration Date

APPLICABILITY

- 1. This permit authorizes the construction of gravity sewer extensions, force mains, and lift stations. Non-earthen flow equalization storage basins at lift stations and inline storage, which flows back into the lift station or collection system, are also included.
- 2. The Missouri Department of Natural Resources may require a site-specific sewer extension construction permit due to compliance and enforcement actions in accordance with 10 CSR 20-6.010(13)(C).
- 3. This permit does not apply to:
 - A. Earthen storage basins;
 - B. Exempt projects in accordance with 10 CSR 20-6.010(1)(B), 10 CSR 20-6.010(5)(B), and RSMo 644.051 unless requested by the applicant or required by enforcement.

PREREQUISITES:

- 1. The Sewer Extension Construction Permit application, appropriate fee, and documentation in accordance with 10 CSR 20-6.010(5)(G).
- 2. Submit the Sewer Extension Construction Permit application at least sixty (60) days in advance of the start of construction in accordance with 10 CSR 20-6.010(5)(F).
- 3. Submit an electronic copy of the construction permit application and documents to <u>DNR.WPPEngineerSection@dnr.mo.gov</u> in accordance with 10 CSR 20-6.010(5)(G)3.
- 4. The plans and specifications, each signed, sealed, and dated by a professional engineer registered in the State of Missouri in accordance with 10 CSR 20-8 and 10 CSR 20-6.010.
- 5. The Design Certification form, Engineering Report, or Summary of Design, signed, sealed, and dated by a professional engineer registered in the State of Missouri, certifying the design of the system is in accordance with 10 CSR 20-6 and 10 CSR 20-8.
- 6. A statement from the continuing authority, as defined in 10 CSR 20-6.010, accepting the wastewater for treatment and indicating the permitted treatment facility has the available capacity.
- 7. A statement from the continuing authority, as defined in 10 CSR 20-6.010, accepting responsibility for the operation and maintenance of these facilities.

PERMIT CONDITIONS:

- 1. This permit authorizes the activities and scope of work detailed in the plans and specifications submitted with the request.
- 2. The construction must be in accordance with the final plans and specifications received by the Department. Revisions that affect capacity, flow, or system layout must be approved by the Department prior to construction.

PERMIT CONDITIONS: (continued)

- 3. If construction will incorporate minor changes from previously submitted plans and specifications (i.e., changes that do not affect the capacity, flow, or system layout), submit an electronic copy of the as-built plans and specifications in accordance with 10 CSR 20-8.110(11).
- 4. State and Federal Law does not permit bypassing of raw wastewater; therefore, the applicant must take steps 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 regional office per 10 CSR 20-7.015(9)(E) or through the Online Bypass/SSO Reporting service on the Missouri Gateway for Environmental Management (MoGEM) portal found at https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem.

See <u>https://dnr.mo.gov/document-search/missouri-gateway-environmental-management-mogem-frequently-asked-questions-pub2988/pub2988</u> for more information.

- 5. Protection of drinking water supplies must meet the requirements of 10 CSR 20-8.120(5).
 - A. There shall be no physical connections between a public or private potable water supply system and a sewer or appurtenance that would permit the passage of any wastewater or polluted water into the potable supply.
 - B. Lay sewers at least 50 feet (50') in a horizontal direction from any existing or proposed public water supply well or other water supply sources or structures.
- 6. Position manholes so that the top access is at or above grade level.
- 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. Applicants shall obtain land disturbance permits through the Department's ePermitting system, available online at https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting.

See <u>https://dnr.mo.gov/water/business-industry-other-entities/permits-</u> <u>certification-engineering-fees/stormwater/construction-land-disturbance</u> for more information.

8. Entities applying for funding under 10 CSR 20-4, "Grants and Loans" will need to comply with those requirements in addition to the requirements of 10 CSR 20-8.

PERMIT CONDITIONS: (continued)

9. The Department may require a United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) or a permit waiver for the activities described in this permit. If construction activity will disturb any land below the ordinary high water mark of Jurisdictional Waters of the U.S., then a 404/401 is required. Fulfillment of these requirements is necessary before the permit is considered valid. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Operating Permits Section at 573-522-4502 for more information.

See <u>https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality</u> for more information.

- 10. If this project eliminates a wastewater treatment facility under the jurisdiction of the Department, then the applicant shall submit a full closure plan with a Facility Closure Request Form, <u>Form MO 780-2512</u>, to the Department's appropriate <u>regional office</u> for review and approval. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit. Closure shall not commence until the Department approves the submitted closure plan.
- 11. If this project is part of a project to resolve an enforcement action or is receiving funding from the Department, submit a <u>statement of work complete</u> following the completion of construction.
- 12. Applicants may submit, prior to the expiration date of this permit, a written request that additional time is needed in accordance with 10 CSR 20-6.010(5)(H)3.

				FOR DEPARTMENT USE ONLY		
		AL RESOURCES		APP NO.	CP NO.	
APPLICATION FOR CONSTRUCTION PERMIT –		FEE RECEIVED	CHECK NO.			
SEWER EXTENSION				DATE RECEIVED		
				DATE RECEIVED		
NOTE ► Please Read the accompanying i						
1.0 APPLICATION INFORMATION (Note – considered incomplete and returned.)	f any of th	ne questions in this section	on are answ	ered NO, this appl	cation may be	
1.1 Is this a Federal/State funded project?	🗹 YES	□ N/A Funding Age	ncy: DNR/	ARPA P	roject #: T2301-01	
1.2 Has the Department of Natural Resource			•		N/A	
1.3 Is a copy of the appropriate plans* and s	pecificatio	ons* included with this ar	plication?	YES 🗌 NO		
If the project is using standard specificat	-					
1.4 Is a summary of design* included with th			 ר			
1.5 Is the appropriate fee or JetPay confirma See Section 7.0		ded with this application		LI NO		
* Must be affixed with a Missouri registered p	rofession	al engineer's seal, signat	ture and dat	e.		
2.0 PROJECT INFORMATION 2.1 NAME OF PROJECT						
Camp Clark Sewer Extension						
ADDRESS	CITY		STATE	ZIP CODE	COUNTY	
17605 E Overland Road	Nevada	1/ 0 11	MO	64772	Vernon	
2.2 Legal Description: NW ¹ / ₄ , NW ¹ / ₂	4, SE	¹ ⁄4, Sec. 11 ,	T 25N	, R 31W		
2.3 Project Components (check all that apply						
Gravity sewers Dumping station	is 🗹 Fo	orce mains 🗌 Alterna	tive sewer s	system U Other	(Describe below.)	
The project consists of the installation of 1,38 bore for 325 LF of 8" pressure sewer in a 16" being completed in conjunction with a lift stati of the highway.	steel casi	ing pipe, and miscellaned	ous paveme	nt and surface rep	airs. This project is	
2.5 DESIGN INFORMATION						
A. Population or number of lots to be served	by this ex	xtension: 1,000 PE				
B. Estimated flow to be contributed by this e	xtension:	Design Average Flow:3	5,000 gpd	Design Peak Hou	urly Flow: 6000 gph	
C. Industrial Wastes: Type:		ow: gpd	0.	C C		
D. Receiving Sewer: Size: 12 inches		ipacity: 750 gpm				
E. Does this project (check all that apply):	04	puolity. 750 gpm				
		a anforcomant issue	Eliminata a	r concelidate en ex	victing tractment plant	
Connect to an existing treatment plant			Eliminate d	r consolidate an ex	asung treatment plant	
F. Estimated number of onsite systems bein	•					
G: Estimated costs associated with piping: \$	760,000	Estimated costs a	issociated w	vith lift station(s): \$		
3.0 PROJECT OWNER						
NAME City of Nevada		TELEPHONE NUMBER WITH AF	TEA CODE	EMAIL ADDRESS	damo.gov	
ADDRESS	CITY		STATE	ZIP CODE		
110 S. Ash Street	Nevada		МО	64772		
CHARTER NUMBER (SECRETARY OF STATE) or REGISTERED City of Nevada	AGENT					
MO 780-1632 (10-22)						

4.0 CONTINUING AUTHORITY: A continuing for ensuring compliance with the permit require Continuing authority should be a relatively perwited by the permittee to sample or operate a analytical laboratory. To access the regulator Water Commission Chapter 6. A continuing at (SoS's) webpage: Missouri Secretary of State required to register with the SoS.	rements a rmanent e rity. A cont nd mainta y requirem uthority's	nd provide of entity respon- tinuing author in the system nent regardin name must	continuous s sible for the prity is not, h m for a defir ng continuin be listed exa	table oversigned ongoing op- nowever, an ned time period g authority, actly as it ap	ght of the permitted facility or activity. The eration, maintenance and modernization, entity or individual that is contractually iod, such as a certified operator or 10 CSR 20-6.010(2), please visit <u>Clean</u> pears on the Missouri Secretary of State's
NAME			IUMBER WITH A	REA CODE	EMAIL ADDRESS
City of Nevada ADDRESS	CITY	417-448-5	509	STATE	Istevens@nevadamo.gov
110 S Ash St	Nevada	1 B		MO	64772
CHARTER NUMBER (SECRETARY OF STATE) City of Nevada					
4.1 Has appropriate continuing authority acce A letter from the continuing authority acceptin different than the original owner of the constr Treatment Facility Acceptance" Form 780-25	ng respons uction), or	a properly e	ntinued main exec <u>ute</u> d "Co	ntenance of	the sewer (if the continuing authority is thority and Receiving Wastewater
5.0 ENGINEER					EMAIL ADDRESS
ENGINEER NAME / COMPANY NAME Garrett Wagner- Allgeier, Martin and Associat		417-680-72	NUMBER WITH A		garrett.wagner@amce.com
ADDRESS 7231 E 24th St	CITY Joplin		tan a	STATE MO	ZIP CODE 64804
6.0 RECEIVING WASTEWATER TREATME	NT FACIL	and the second se			
NAME Nevada Municipal WWTF		TELEPHONE M 417-448-5	NUMBER WITH A	REA CODE	EMAIL ADDRESS mmitchell@nevadamo.gov
MISSOURI STATE OPERATING PERMIT # MO-0089109		COUNTY	JU3		REMAINING CAPACITY (GPD) 185,000
 6.1 If different from the owner, has a letter be accept the expanded flow or has a properly of MO 780-2584 form been provided? ☐ YE 6.2 A letter from the receiving wastewater tree ☐ YES ☐ NO ☑ N/A 6.3 If the receiving treatment plant or continue Certificate of Convenience and Necessity has 	executed C S INC atment fac	Continuing A D V N/A cility, if differ	uthority and rent than the	Continuing	Wastewater Treatment Facility Acceptance authority, is included with this application.
OPTIONAL QUESTIONS REGARDING MIL					
Have you or an immediate family member ev U.S. Armed Forces?			۲ 🗆	′es	No No
If yes, would you like information about milita in Missouri?	ry-related	services		'es	No No
7.0 Application Fee		and the second			
Check Number			✓ JetPay	Confirmatio	n Number
8.0 PROJECT OWNER: I certify under penal supervision in accordance with a system des submitted. Based on my inquiry of the person gathering the information, the information su aware there are significant penalties for subr violations.	igned to a n or perso bmitted is.	ssure qualif ns who man to the best	ied personn age the sys of my knowl	el properly g tem, or thos edge and be	pather and evaluate the information e persons directly responsible for elief, true, accurate and complete. I am
La 1th		-			
PRINTED NAME Larry Stevens	- 3				DATE 04-25-2024
TITLE OR CORPORATE POSITION		TELEPHONE	NUMBER WITH A	REA CODE	EMAIL ADDRESS
Interim City Manager		417-448-5	509		lstevens@nevadamo.gov
Mail completed copy to MISSOURI DEPARTMENT OF NATUR/ WATER PROTECTION PRO PO BOX 176 JEFFERSON CITY, MO 6510	AL RESOL GRAM	JRCES		Missouri D	completed electronic copy to: epartment of Natural Resources PEngineerSection@dnr.mo.gov

	MO	780-1632	(10-22)
--	----	----------	---------

9.0 SEWER EXTENSION CHECKLIST

SEWER EXTENSION DESIGN CERTIFICATION: Answer all questions yes or N/A. Answer N/A only if the question is clearly not applicable to the design of the proposed sewer extension.

applie	dible to the debught			
	REGULATION		YES	N/A
1.	8.110(3)(A)	Is the design flow based on actual flow data for an existing system?	~	
2.	8.110(3)(B)	Are average design flows, peak hourly flows and I&I contributions for new systems calculated?	~	
3.	8.110(9)(B)	Is there a detailed plan showing tributary area, boundaries, pertinent elevations, topography, existing and proposed facilities?	~	
4.	8.120(2)	Does the sewer exclude water from roofs, streets, groundwater from foundation drains and combined wastewater?	~	
5.	8.120(3)(A)	Is the pipe installation, embedment and backfill designed to prevent damage to the pipe and its joints?	~	
6.	8.120(3) (A)1	Is all sewer pipe constructed with a slope to obtain mean velocities of not less than 2 feet per second?	~	
7.	8.120(3)(A)2	Is the pipe covered with at least 36" of soil or sufficiently insulated to prevent freezing?	~	
8.	8.120(3)(B)	Is deflection testing specified to ensure no pipe exceeds a deflection of 5% of the inside diameter?	~	
9.	8.120(4)(A)	Are manholes located at the end of each line, at all changes in grade, size or alignment and at all intersections?	~	
10.	8.120(4)(C)	Are manholes at least 42 inches in diameter with a clear opening of 22 inches on sewer line larger than 8"?	~	
11.	8.120(4)(C)	Where cleanouts are used at the end of a lateral instead of a manhole, they are a minimum diameter of 8 inches or larger and equal to the diameter for pipes < 8"?		~
12.	8.120(4)(E)	Are the manholes watertight, constructed and installed in accordance with the manufacturer's recommendations and procedures?	~	
13.	8.120(4)(F)	Do the specifications include a requirement for inspection and testing for manholes?	~	
14.	8.120(5)(A)	Is the sewer free from physical connections to a potable water supply system and no water pipes come in contact with a sewer manhole?	~	
15.	8.120(5)(B)	Are sewers and manholes located at least 50 feet horizontally from any existing or proposed water supply well, sources, structures?		
		Are sewers and manholes located at least 50 feet horizontally from any existing or proposed water supply well, sources, structures? ERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST	4	
	PRESSURE SEWE REGULATION	proposed water supply well, sources, structures? ERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST	YES	N/A
10.0 F 16.	PRESSURE SEWE REGULATION 8.125(5)(A)1.	proposed water supply well, sources, structures? ERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day?		N/A
10.0 F	PRESSURE SEWE REGULATION	proposed water supply well, sources, structures? ERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST	YES	N/A
10.0 F 16. 17. 18.	PRESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B)	proposed water supply well, sources, structures? ERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system?	YES	N/A
10.0 F 16. 17. 18. 19.	RESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B)2.	proposed water supply well, sources, structures? RS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system?	YES	N/A
10.0 F 16. 17. 18.	PRESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B)	proposed water supply well, sources, structures? RS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream,	YES V V V	
10.0 F 16. 17. 18. 19.	PRESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B)2. 8.125(5)(C)	proposed water supply well, sources, structures? RS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system?	YES V V V	
10.0 F 16. 17. 18. 19. 20.	PRESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B)2. 8.125(5)(C)	proposed water supply well, sources, structures? RS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system? Do service line pipes have a minimum diameter of 1.25"? Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e.	YES V V V	
10.0 F 16. 17. 18. 19. 20. 21.	RESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B)2. 8.125(5)(C) 8.125(5)(D)1.A	proposed water supply well, sources, structures? RS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system? Do service line pipes have a minimum diameter of 1.25"? Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pumpt. Are multiple unit pump stations owned, operated and maintained by an approved	YES 2 2 2 2 2 2 2 2 2 2 2 2 2	
10.0 F 16. 17. 18. 19. 20. 21. 22.	RESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B) 8.125(5)(C) 8.125(5)(D)1.A . 8.125(5)(D)1.B	proposed water supply well, sources, structures? RS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system? Do service line pipes have a minimum diameter of 1.25"? Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pumpt. Are multiple unit pump stations owned, operated and maintained by an approved continuing authority?	YES 2 2 2 2 2 2 2 2 2 2 2 2 2	
10.0 F 16. 17. 18. 19. 20. 21. 22. 23.	RESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B) 8.125(5)(C) 8.125(5)(D)1.A . 8.125(5)(D)1.B . 8.125(5)(D)3.	proposed water supply well, sources, structures? ERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system? Do service line pipes have a minimum diameter of 1.25"? Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pumpt. Are multiple unit pump stations owned, operated and maintained by an approved continuing authority? Is there at least 70 gallons of storage in the grinder pump unit? Do grinder pump stations have shutoff valves, check valves and anti-siphon valves (where siphoning could occur) that are accessible from the ground surface? Are units serviceable and replaceable under wet conditions without electrical hazard and is electrical equipment suitable for hazardous locations (National Electrical Code, Class I, Group D, Division 1 location)?	YES 2 2 2 2 2 2 2 2 2 2 2 2 2	
10.0 F 16. 17. 18. 19. 20. 21. 22. 23. 24.	RESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B) 8.125(5)(B)2. 8.125(5)(C) 8.125(5)(D)1.A . 8.125(5)(D)1.B . 8.125(5)(D)3. 8.125(5)(D)4. 8.125(5)(D)7.,	proposed water supply well, sources, structures? FRS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system? Do service line pipes have a minimum diameter of 1.25"? Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pumpt. Are multiple unit pump stations owned, operated and maintained by an approved continuing authority? Is there at least 70 gallons of storage in the grinder pump unit? Do grinder pump stations have shutoff valves, check valves and anti-siphon valves (where siphoning could occur) that are accessible from the ground surface? Are units serviceable and replaceable under wet conditions without electrical hazard and is electrical equipment suitable for hazardous locations (National Electrical Code, Class I,	YES 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
10.0 F 16. 17. 18. 19. 20. 21. 22. 23. 24. 25.	RESSURE SEWE REGULATION 8.125(5)(A)1. 8.125(5)(A)2. 8.125(5)(B) 8.125(5)(B) 8.125(5)(B)2. 8.125(5)(C) 8.125(5)(D)1.A . 8.125(5)(D)1.B . 8.125(5)(D)3. 8.125(5)(D)4. 8.125(5)(D)7., 8.130(3)(B)2. 8.125(5)(D)8.,	proposed water supply well, sources, structures? FRS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST Does the cleaning velocity of ≥ 2 ft/s happen more than once per day? Is the diameter of the pressure sewer main pipe at least 1.5"? Are appurtenances compatible with the piping system? Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system? Do service line pipes have a minimum diameter of 1.25"? Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pumpt. Are multiple unit pump stations owned, operated and maintained by an approved continuing authority? Is there at least 70 gallons of storage in the grinder pump unit? Do grinder pump stations have shutoff valves, check valves and anti-siphon valves (where siphoning could occur) that are accessible from the ground surface? Are units serviceable and replaceable under wet conditions without electrical hazard and is electrical equipment suitable for hazardous locations (National Electrical Code, Class I, Group D, Division 1 location)? Are provisions in place to avoid interruption of service due to mechanical or power failure by providing standby power, storage capacity, or interconnection with another disposal	YES 2 2 2 2 2 2 2 2 2 2 2 2 2	

REGULATION 29. 8.125(7)(C) Is the minimum diameter sewer main pipe and service line of STEG sewer at least 4"? 30. 8.130(2)(A) Is the pump station designed to withstand the 100-year flood? 31. 8.130(3)(A) Is the dry well completely separate from the wet well and is a suitable and safe means of access provided to each?	YES	N/A
30. 8.130(2)(A) 8.140(2)(B) Is the pump station designed to withstand the 100-year flood? 31. 8.130(3)(A) Is the dry well completely separate from the wet well and is a suitable and safe means of		
8.140(2)(B) 31. 8.130(3)(A) Is the dry well completely separate from the wet well and is a suitable and safe means of		
32. 8.130(3)(B) If the design flow is 1,500 gpd or more, are there at least 2 pumps or pneumatic ejectors provided?		
33 8.130(3)(D) Are valves located outside wet well unless integral to a pump or its housing?		
34. 8.130(3)(F) Do wet and dry wells have separate ventilation systems? 8.140(8)(J) 0		
35. 8.130(3)(G) Does all potable water brought to pump stations comply with 8.140(7)(D)?		
36. 8.130(6) Is an alarm system provided with uninterrupted power?		
37. 8.130(7)(A) Is there 2 hours retention of the peak hourly flow for a design flow > 100,000 gpd or 4 hrs retention of the peak hourly flow for a design flow < 100,000 gpd?		
38. 8.130(7)(B) Are there independent utility substations provided for emergency power capable of starting and operating the pump station at its rated capacity?	¹	
39. 8.130(8)(A) Is the force main velocity of ≥ 2 ft/s maintained?		
40. 8.130 Are there complete operation instructions for the pumpting stations provided that include emergency procedures, maintenance schedules, special tools and spare parts that may be necessary?	»	
12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST		
REGULATION	YES	N/A
41. 8.130(4) Are the suction lift pumps of the self priming or vacuum priming type?		
42. 8.130(4)(A) Is the combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions less than or equal to 22 feet?		
43. 8.130(4)(B) Are there dual vacuum pumps capable of removing air from the suction lift pump?	+ -	+ -
44. 8.130(5)(A) Are submersible pumps readily removable and replaceable without personnel entering, or		
disconnecting any pipe in the wet well? 13.0 SEWER EXTENSION CHECKLIST CERTIFICATION STATEMENT		
For any questions answered "N/A" provide an explanation. Also provide any useful general comments regarding des	ign for rev	/iew
9.0.11: No services or cleanouts included in the project. 10.0.20: No services included in the project. 10.0.21: No grinder pumps included in the project. 10.0.24: No grinder pumps included in the project. 10.0.27: No STEP system included in the project. 10.0.27: No STEP system included in the project. Missouri Professional Engineer's seal, signature and date: Missouri Professional Engineer's seal, signature and date:		
Name: Garrett Wagner, PE		
Addises 7004 E 0.44b St		
Address: 7231 E 24th St		
Address: 7231 E 24th St City: Joplin State: MO ZIP Code: 64804		