



ANTIDegradation REVIEW SUBMITTAL

ATTACHMENT E: TIER 2 – SIGNIFICANT DEGRADATION USING DEPARTMENT’S ALTERNATIVES ANALYSIS FOR DOMESTIC WASTEWATER FACILITIES WITH DESIGN FLOW LESS THAN 10,000 GALLONS PER DAY

1. APPLICABILITY

If you answer “Yes” to any of the below questions, a site specific alternatives analysis may be required.

The department’s alternatives analysis is *not* applicable to facilities that have a Total Maximum Daily Load (TMDL) or are 303(d) or 305(b) listed for the pollutants of concerns addressed in this alternatives analysis, with an exception for *E. coli* since disinfection will be required.

Facilities currently under enforcement will need to coordinate with the Water Protection Program’s compliance and enforcement section to determine applicability for the department’s alternatives analysis.

- 1.1 Does the receiving waterbody or downstream waterbody have a Total Maximum Daily Load (TMDL)? Yes No
 (This can be checked at: <http://dnr.mo.gov/env/wpp/tmdl/>)
- 1.2 Is the receiving waterbody or downstream waterbody 303(d) or 305(b) listed as impaired or potentially impaired? (This can be checked at: dnr.mo.gov/env/wpp/waterquality/303d/303d.htm) Yes No
- 1.3 Is the facility currently under enforcement with the department or the U.S. Environmental Protection Agency? Yes No
- 1.4 Is the design flow 10,000 gallons per day or more? Yes No
- 1.5 Is a nondischarging system a viable option Yes No

The following forms must also be submitted with this form:

- No Discharge Evaluation Form (dnr.mo.gov/forms/780-2805-f.pdf)
- Water Quality Review Assistance/Antidegradation Review Request Form (<http://dnr.mo.gov/forms/780-1893-f.pdf>)

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE

3. OWNER

NAME AND OFFICIAL TITLES			
ADDRESS	CITY	STATE	ZIP CODE
TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS		

4. CONTINUING AUTHORITY The regulatory requirement regarding continuing authority is found in 10 CSR 20-6.010(3) available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf.

NAME AND OFFICIAL TITLES			
ADDRESS	CITY	STATE	ZIP CODE
TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS		

5. RECEIVING WATER BODY SEGMENT #1

NAME

- 5.1 UPPER END OF SEGMENT (Location of discharge)
 UTM X=_____ Y=_____ OR Lat _____, Long _____
- 5.2 LOWER END OF SEGMENT
 UTM X=_____ Y=_____ OR Lat _____, Long _____

Per the Missouri Antidegradation Implementation Procedure, or AIP, the definition of a segment is: "A section of water that is bound, at a minimum, by significant existing sources and confluences with other significant water bodies."

6. WATER BODY SEGMENT #2

NAME

- 6.1 UPPER END OF SEGMENT
 UTM X=_____ Y=_____ OR Lat _____, Long _____
- 6.2 LOWER END OF SEGMENT
 UTM X=_____ Y=_____ OR Lat _____, Long _____

7. SOCIAL AND ECONOMIC IMPORTANCE OF THE PREFERRED ALTERNATIVE

This section must be completed with adequate and thorough descriptions of the social and economic importance associated with the proposed project in accordance with the Antidegradation Implementation Procedure Section II.E. for discharge to be allowed.

Social and economic importance is defined as the social and economic benefits to the community that will occur from any activity involving a new or expanding discharge.

7.1 Identify the affected community:

(The affected community is defined in 10 CSR 20-7.031(2)(B) as the community "in the geographical area in which the waters are located: Per the Antidegradation Implementation Procedure Section II.E.1, "the affected community should include those living near the site of the proposed project as well as those in the community that are expected to directly or indirectly benefit from the project.")

7.2 Identify the important social and economic development associated with the project:

Will the proposed discharging activity:

Create or expand employment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A
Increase median family income?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A
Reduce the number of households below the poverty line?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A
Increase the community tax base?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A
Increase needed housing supply?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A
Provide necessary public services (e.g., school, infrastructure, fire department, etc.)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A
Correct a public health, safety, or environmental problem?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	<input type="checkbox"/> N/A

Other:

7.3 Describe the important social and economic development associated with the project:

The applicant must describe the expected changes in the factors identified in question 7.2 that are associated with the project and provide information on any additional items demonstrating important social and economic development. The applicant should first describe the existing condition of the affected community. This base condition should then be compared to the predicted change (benefit) in social and economic condition after the discharge is allowed. The social and economic measures identified above do not constitute a comprehensive list. Each situation and community is different and will require an analysis of unique social and economic factors in accordance with the Antidegradation Implementation Procedure Section II.E.1.

7.4 Is any other written correspondence or documentation included with this application to provide further evidence of social and economic importance:

- No
- Yes
 - Letter(s) from the mayor or community in support of the proposed project
 - Rezoning approval
 - Other:

8. NO DISCHARGE ALTERNATIVES EVALUATION

According to 10 CSR 20-6.010(4)(D), reports for the purpose of constructing a wastewater treatment facility shall consider the feasibility of constructing and operating a no discharge facility. Per the Antidegradation Implementation Procedure Section II.B.1, for discharges likely to cause significant degradation, applicants must provide an analysis of non-degrading alternatives. No-discharge alternatives may include surface land application, subsurface land application, and connection to a regional treatment facility.

You must submit the *No-Discharge Evaluation Form* available at dnr.mo.gov/forms/780-2805-f.pdf to demonstrate that a nondischarging alternative is not feasible. If sufficient information is not provided on the *No-Discharge Evaluation Form* to demonstrate that a nondischarging facility is not feasible, a more detailed evaluation of no discharge options must be submitted.

9. IDENTIFY PREFERRED TREATMENT ALTERNATIVE

Describe your preferred treatment alternative that has been recommended or approved by a registered professional engineer licensed to practice in Missouri. The preferred treatment alternative must be capable of meeting the effluent limits in the table under item 10 of this form.

Applicants choosing to use a new wastewater technology considered an “unproven technology” in Missouri must comply with the requirements set forth in the Innovative Technology factsheet found at: dnr.mo.gov/pubs/pub2453.htm

ENGINEERING CONSULTANT NAME

COMPANY NAME

10. SUMMARY OF THE POLLUTANTS OF CONCERN AND EFFLUENT LIMITS

Pollutants of concern to be considered include those pollutants reasonably expected to be present in the discharge per the Antidegradation Implementation Procedure Section II.A. and assumed or demonstrated to cause significant degradation. The tier protection levels are specified and defined in rule at 10 CSR 20-7.031 (2). All POCs in this alternatives analysis were considered to be Tier 2 and significantly degrading in the absence of existing water quality.

As a result of this alternatives analysis review, the department has determined, depending on site specific conditions, there are treatment technologies available that may be economically efficient and practicable, which are capable of meeting the effluent limitations below. If the facility owners do not believe there is a treatment technology that is economically efficient, affordable, or practicable for their facility to meet these limits, a site specific alternatives analysis will be required.

The chosen alternative must be capable of meeting the following effluent limitations:

Pollutant of Concern*		Units	Daily Maximum	Weekly Average	Monthly Average
BOD ₅		mg/L		15	10
TSS		mg/L		15	10
Ammonia as N Summer		mg/L	1.7		0.6
Ammonia as N Winter		mg/L	5.6		2.1
pH		SU	6.5– 9.0		6.5 – 9.0
<i>Escherichia coli</i> (<i>E. coli</i>)	WBC(A)	#/100 mL		630***	126
	WBC(B)	#/100 mL		1030***	206
	Losing Stream**	#/100 mL		126***	Monitoring only

* Permit limits for other parameters, including oil and grease, total residual chlorine, nitrates, and total phosphorus, will be included in the operating permit based on applicable water quality standards and criteria as applicable.

Total residual chlorine (TRC) effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), may be included in the operating permit.

** For any facility that will discharge to a waterbody designated as a losing stream or within two miles flow distance upstream of a losing stream.

*** Publicly owned treatment works will receive a weekly average limit and private facilities will receive a daily maximum limit.

If any Tier 1 Pollutants of Concern not addressed in this alternatives analysis will be discharged, the applicant must submit *Attachment D: Tier 1 Review* (dnr.mo.gov/forms/780-2024-f.pdf) for those pollutants.

OWNER: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE

DATE

CONTINUING AUTHORITY: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE

DATE