

Appendix D

**SUBSURFACE WASTEWATER TREATMENT SYSTEM SURFACE WATER MIXING ZONE
DETERMINATION CHECKLIST¹
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

Subdivision Name _____	Date Reviewed _____
EQ Number _____	Outfalls _____
Reviewer _____	2nd Reviewer _____

Determination (ARM 17.30.515)

Modified Mixing Zone approved
 Source Specific Mixing Zone approved

Mixing Zone denied
 Standard Mixing Zone approved
rev. 01/2000

GENERAL CONSIDERATIONS²

ITEMS	YES/NO ³	NOTES/DEPARTMENT FINDINGS
1. <small>ARM 17.30.515(2)</small> Has applicant requested a mixing zone? If no, a mixing zone cannot be granted.		
2. <small>ARM 17.30.505(1)(a)</small> Is a single mixing zone sufficient for all parameters? If no, explain.		
3. <small>ARM 17.30.505(1)(b)</small> For a new or increased source, are changes at the mixing zone boundary significant degradation pursuant to ARM 17.30 sub-chapter 7? If yes, did the Department issue an authorization to degrade state waters pursuant to 75-5-303, MCA?		
4. <small>ARM 17.30.505(1)(c)</small> Was the discharge under a permit issued prior to April 29, 1993, with an allowed mixing zone? If yes, is there evidence that the previously allowed mixing zone will impair existing or anticipated uses?		
5. <small>ARM 17.30.505(1)(d)</small> Have the minimum treatment requirements been met, and have all reasonable land, soil and water conservation practices been applied? If yes, treatment to purer than natural condition is not required.		
6. <small>ARM 17.30.505(1)(e)</small> Due to the potential for harm to the impacted water and its beneficial uses, is monitoring in the mixing zone required?		
7. <small>ARM 17.30.505(1)(f)</small> Are additional conditions required to comply with ARM 17.30 sub-chapter 5? If yes, what are those conditions?		
8. <small>ARM 17.30.505(1), 516 & 517</small> Describe applicability, size, configuration and location of all mixing zones.	NA	

WATER QUALITY ASSESSMENT

(If answer to any of the following questions (# 9 - 18) is yes, a mixing zone may not be applicable and additional explanation in the NOTES section is necessary. See rules for applicability and specific requirements.)

9. <small>ARM 17.30.506(1)</small> Will the mixing zone threaten or impair existing beneficial uses?		
10. <small>ARM 17.30.506(1)</small>		

**SUBSURFACE WASTEWATER TREATMENT SYSTEM SURFACE WATER MIXING ZONE
DETERMINATION CHECKLIST¹
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

	Does the applicant need to provide additional information to determine whether the mixing zone is allowable?		
11.	ARM 17.30.506(2)(a) Are there effects to biologically important areas? Biologically important areas are defined as, the presence of fish spawning areas or shallow water nursery areas within the proposed mixing zone or a "shore hugging" effluent plume in an aquatic life segment.		
12a.	ARM 17.30.506(2)(b) Is the mixing zone within the zone of influence of any drinking water well, recreational well, or drinking water intake?		
12b.	ARM 17.30.506(2)(b) Is the mixing zone within or immediately adjacent to a recreational area?		
13.	ARM 17.30.506(2)(c) Are there adverse effects to wildlife attracted to the effluent plume?		
14.	ARM 17.30.506(2)(d) Are there persistence and toxicity concerns for the parameters discharged?		
15.	ARM 17.30.506(2)(e) Will the mixing zone block or inhibit migration of aquatic organisms?		
16.	ARM 17.30.506(2)(f) Are there cumulative effects of multiple or overlapping mixing zones?		
17.	ARM 17.30.506(2)(h) & 17.30.507(3) Does this surface water discharge result from a hydrologic connection with a ground water discharge? If yes, a ground water mixing zone may also be applicable, and see ARM 17.30.507(3) for applicability of a standard surface water mixing zone.		
18.	ARM 17.30.506(2)(i) Is the discharge to an ephemeral or intermittent stream when there is no flow in the stream?		

SURFACE WATER MIXING ZONE RESTRICTIONS

(If answer to any of the following questions (# 19 - 21) is yes, a mixing zone may not be applicable and additional explanation in the NOTES section is necessary. See rules for applicability and specific requirements.)

19.	ARM 17.30.507(1)(a) Do parameter concentrations beyond the mixing zone boundary exceed narrative water quality standards, standards for harmful substances, numeric acute and chronic standards for aquatic life, or standards based on human health ?		
20.	ARM 17.30.507(1)(b) Are acute standards for aquatic life for any parameter exceeded anywhere within the mixing zone?		
21.	ARM 17.30.507(2) Is the discharge to a wetland other than a constructed wetland? If yes, will:		
		a) the standards referenced in ARM 17.30.507(1) be exceeded beyond the mixing zone boundary?; or	

**SUBSURFACE WASTEWATER TREATMENT SYSTEM SURFACE WATER MIXING ZONE
DETERMINATION CHECKLIST¹
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

b) the existing beneficial uses be threatened or harmed?; or

c) the conditions in 75-5-303, MCA, be violated?

STANDARD SURFACE WATER MIXING ZONE²

22.	ARM 17.30.516(1)(2)(3)&(4) Is a standard surface water mixing zone appropriate? If no, skip to question #25.		
23.	ARM 17.30.516(5) Is there a site-specific, impact-related reason to require monitoring at the downgradient mixing zone boundary?		
24.	ARM 17.30.516(6) Is this is a modification of an existing standard surface water mixing zone? If yes, will it threaten or impair existing beneficial uses pursuant to ARM 17.30.506?		

SOURCE SPECIFIC MIXING ZONE²

25.	ARM 17.30.518(1) Has the applicant requested a source specific mixing zone? If no, questions 26 through 28 are not applicable.		
26.	ARM 17.30.518(2) Does the requested source specific mixing zone comply with requirements of ARM 17.30.506, 17.30.507 and 75-5-303, MCA?		
27.	ARM 17.30.518(3) For mixing zones in lakes, the mixing zone must be the more restrictive of: 1) 5% of the lake area, or 2) a 200 foot radius from the discharge. Is this requirement met?		
28.	ARM 17.30.518(4) For source specific surface water mixing zones, are the requirements of 75-5-301(4), MCA satisfied? Have the applicable items in ARM 17.30.518(4)(a through j) been addressed adequately?		
G:\WPB\NONDEG\FORMS\DRFT\MXZONESW.DOC			

Footnotes:

1. This checklist is a quick reference guide that summarizes rule language. Please see the applicable rule for the complete rule language.
2. For questions #1-8 and #22-28, either response (YES or NO) may require that additional explanation be included in the NOTES section.
3. If a question is not applicable, place "NA" in the YES/NO column.