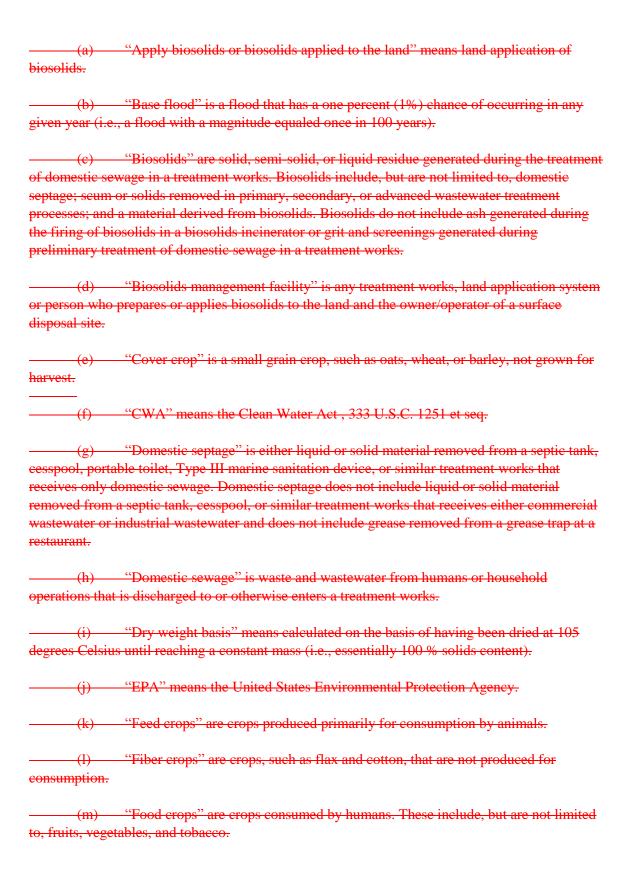
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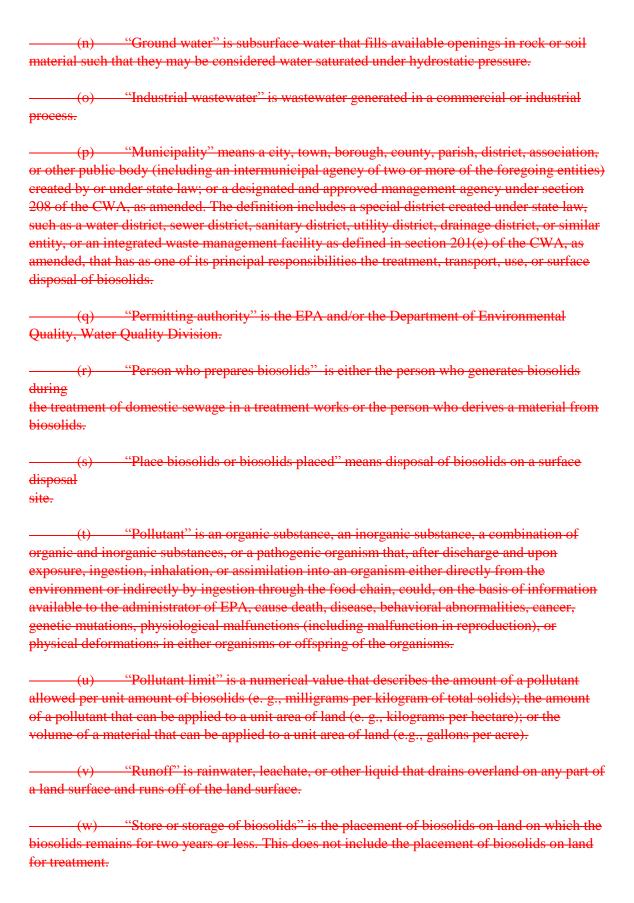
STANDARDS FOR THE USE OR SURFACE DISPOSAL OF BIOSOLIDS

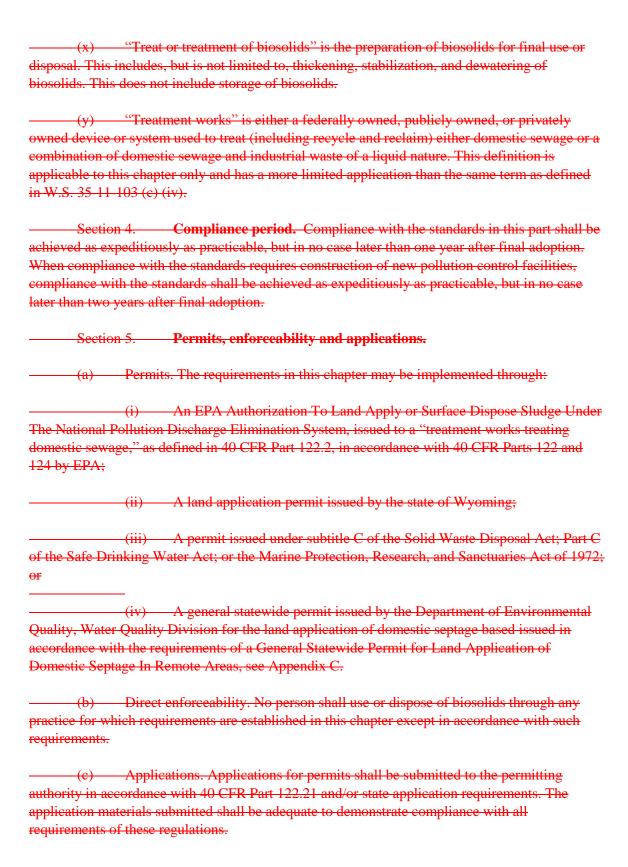
CHAPTER 15

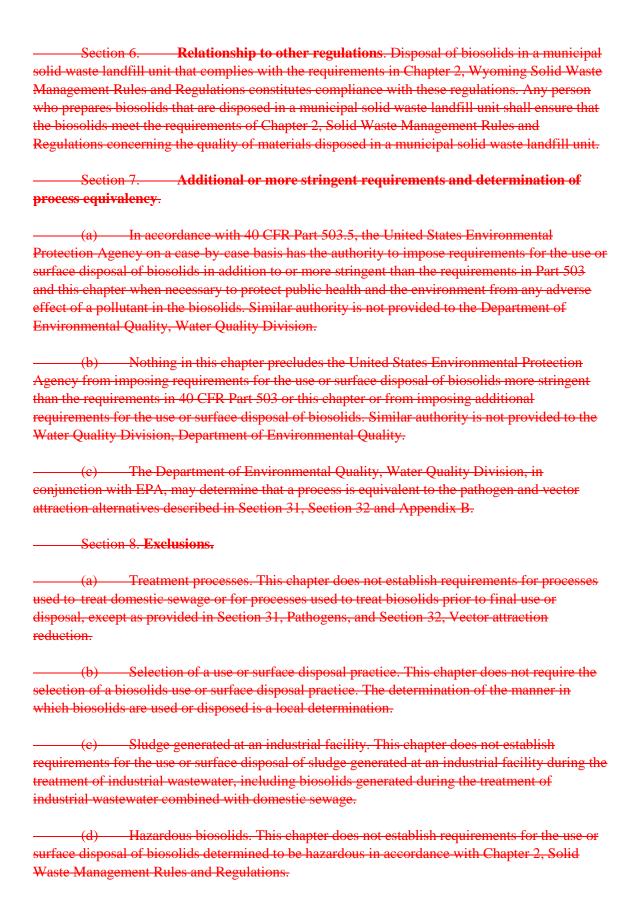
PART A GENERAL PROVISIONS

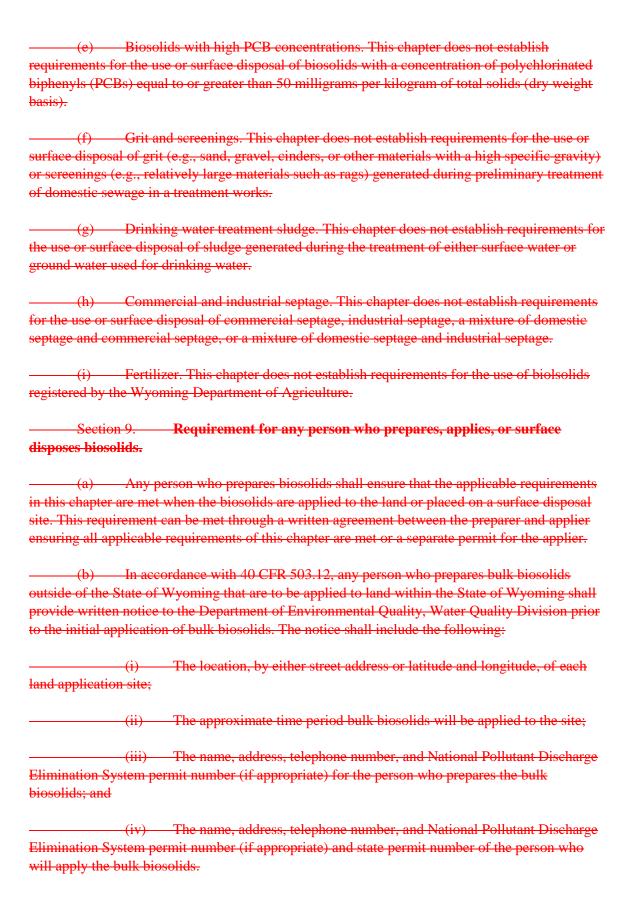
CEI VEIGHE I IVO VISIONO	
Section 1. Authority and Purpose.	
(a) This chapter is promulgated pursuant to the Env Specifically, W.S. 35-11-302 (a) (iii) requires the administrator to issuance of permits for disposal systems or other facilities capable to the systems.	o establish standards for the
(b) This chapter contains the minimum standards for biosolids.	r the use or surface disposal of
(c) This chapter establishes standards, which consist pollutant limits, management practices, and operational standard disposal of biosolids generated during the treatment of domestic Standards are included in this part for biosolids applied to the last site. Also included in this chapter are pathogen and alternative verguirements for biosolids applied to the land or placed on a surface.	s, for the final use or surface sewage in a treatment works. nd or placed on a surface disposal ector attraction reduction
(d) In addition, the standards in this chapter include record keeping and reporting requirements when biosolids are apsurface disposal site.	
Section 2. Applicability. (a) This chapter applies to any person who prepares the land and to the owner/operator of a surface disposal site.	-biosolids or applies biosolids to
(b) This chapter applies to biosolids applied to the l disposal site.	and or placed on a surface
(c) This chapter applies to land where biosolids are sites.	applied and to surface disposal
(d) This chapter supersedes all of the provisions in l Water Quality Rules and Regulations, Waste and Wastewater La pertain to the land application or surface disposal of biosolids an	and Application Facilities, which
Section 3. General definitions . The following definition contained in Section 35-11-103 of the Wyoming Environmental	

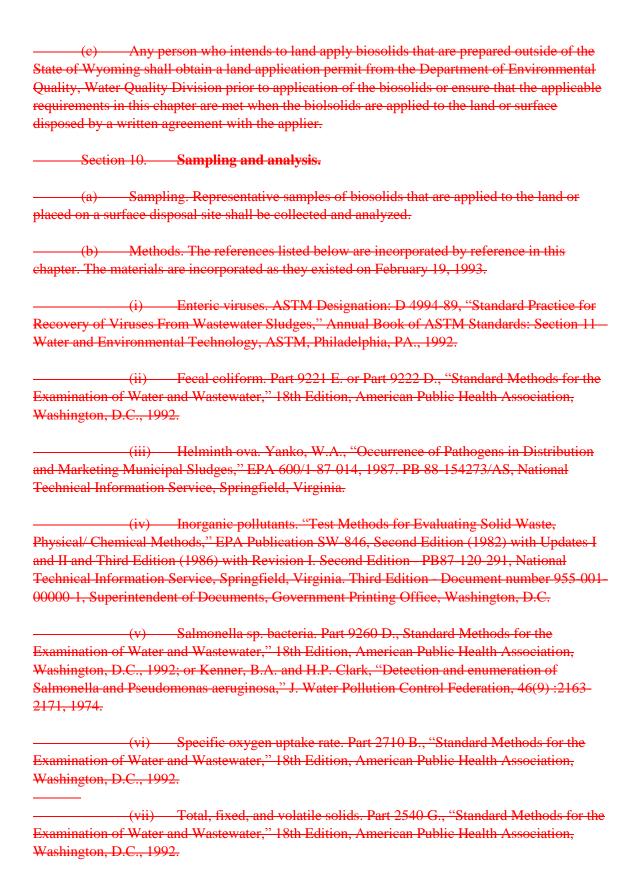


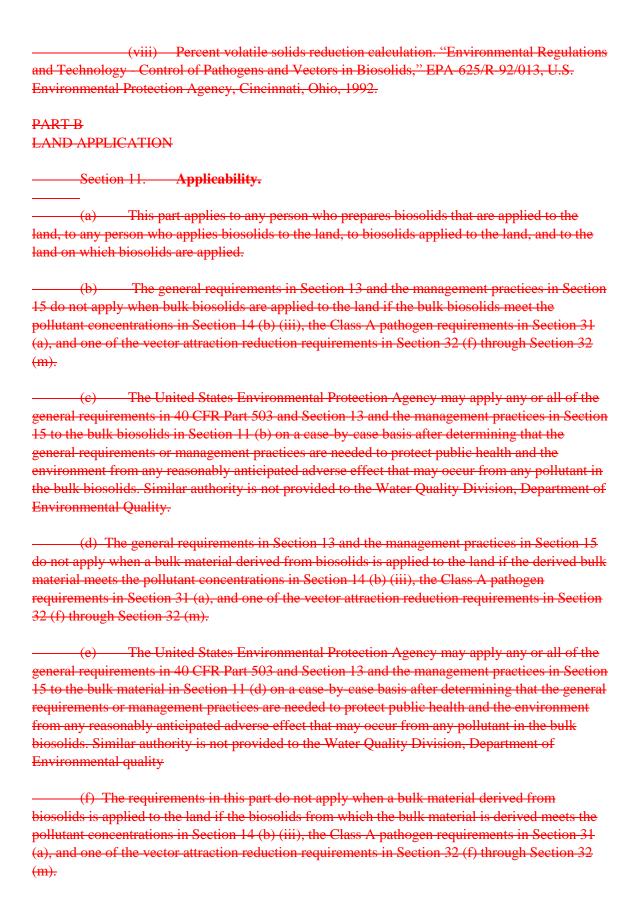


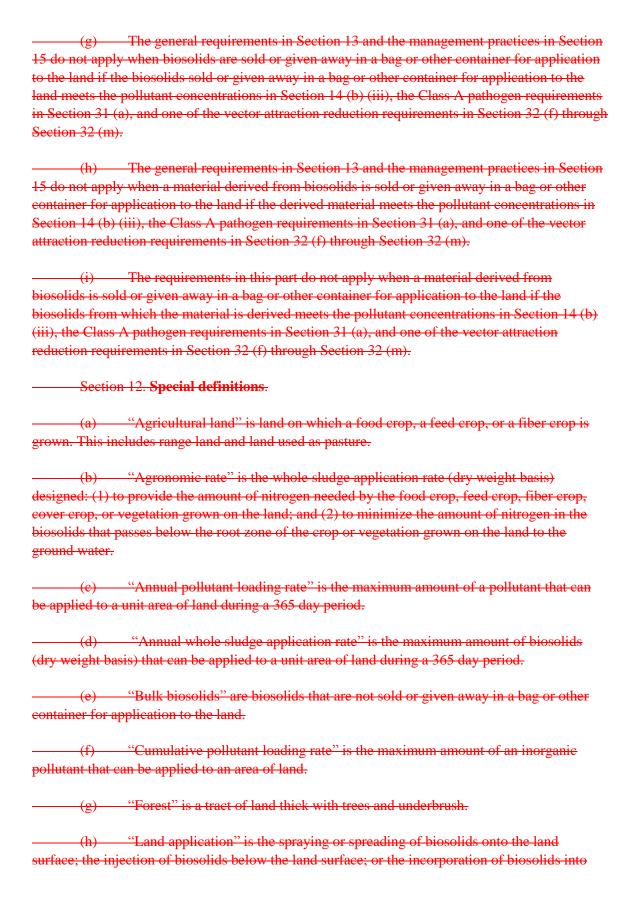






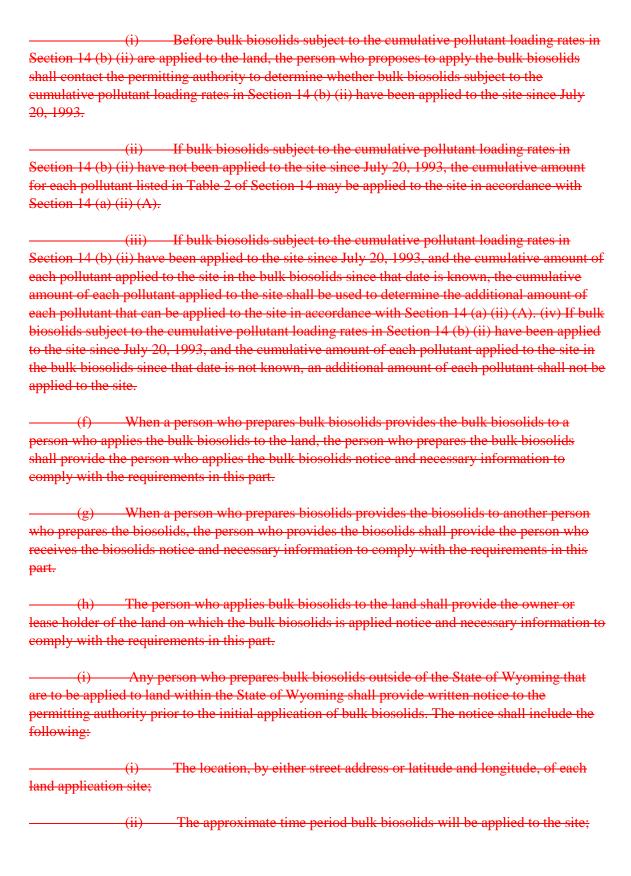


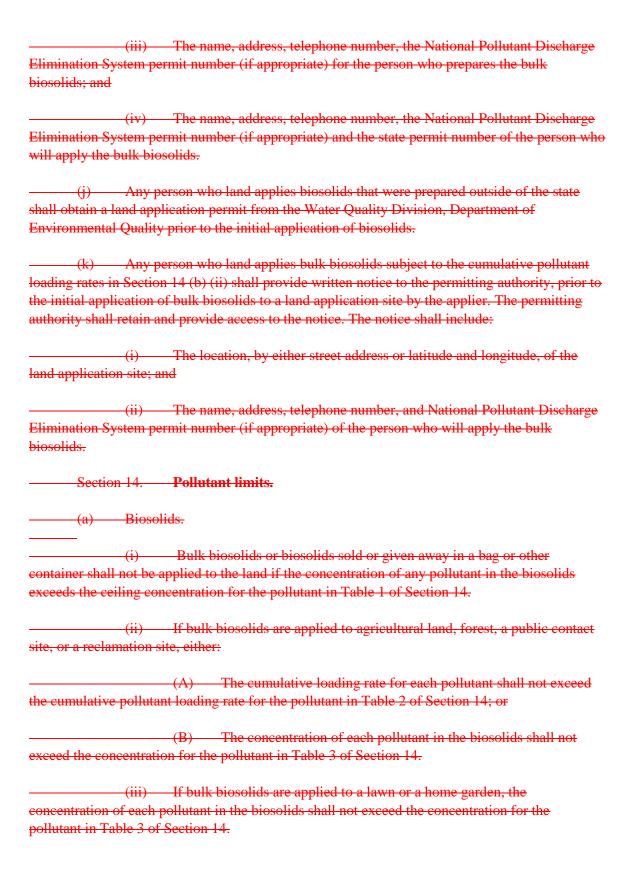




the soil.	
——————————————————————————————————————	"Monthly average" is the arithmetic mean of all measurements taken during the
•	"Other container" is either an open or closed receptacle. This includes, but is not bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton
	"Pasture" is land on which animals feed directly on feed crops such as legumes, in stubble, or stover.
	"Public contact site" is land with a high potential for contact by the public. This it is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and
	"Range land" is open land, used for grazing by livestock or wildlife, on which the ntial plant community is dominated by grasses, grasslike plants, forbs and shrubs.
	"Reclamation site" is drastically disturbed land that is reclaimed using biosolids. es, but is not limited to, strip mines and construction sites.
Sec	tion 13. General requirements.
	No person shall apply biosolids to the land except in accordance with the is in this part.
rates in Sect any of the	No person shall apply bulk biosolids subject to the cumulative pollutant loading tion 14 (b) (ii) to agricultural land, forest, a public contact site, or a reclamation site if pollutant loading rates in Section 14 (b) (ii) has been reached.
reclamation reached dur	No person shall apply domestic septage to agricultural land, forest, or a site during a 365 day period if the annual application rate in Section 14 (c) has been ing that period. This requirement is met through compliance with the conditions of the tewide Permit for Land Application of Domestic Septage In Remote Areas, see
forest, a pub	The person who prepares bulk biosolids that are applied to agricultural land, blic contact site, or a reclamation site shall provide the person who applies the bulk ritten notification of the concentration of total nitrogen (as N on a dry weight basis) in solids.
	The person who applies biosolids to the land shall obtain information needed to the requirements in this part.

the soil so that the biosolids can either condition the soil or fertilize crops or vegetation grown in





(iv)	— If bios	solids are sold or given away in a bag or other container for
application to the la		
	(A)	The concentration of each pollutant in the biosolids shall not
exceed the concentration	ation for th	e pollutant in Table 3 of Section 14; or
	(B)	The product of the concentration of each pollutant in the
biosolids and the an	nual whole	sludge application rate for the biosolids shall not cause the annual
		ollutant in Table 4 of Section 14 to be exceeded. The procedure
		whole sludge application rate is presented in Appendix A of this
chapter.		
— (b) Poli	utant conc	entrations and loading rates - biosolids.
(i)	Ceilin	g concentrations

Table 1 of Section 14

	Ceiling Concentration
<u>Pollutant</u>	(milligrams per kilogram)*
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100

7500

(ii) Cumulative pollutant loading rates.

Zine

Table 2 of Section 14

	Cumulative Pollutant Loading Rate
<u>Pollutant</u>	(kilograms per hectare)
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Molybdenum	<u>*</u>
Nickel	420
Zinc	2800

^{*} Currently under review by EPA.

(iii) Pollutant concentrations.

Table 3 of Section 14

1 40.	
	Pollutant concentrations
<u>Pollutant</u>	(milligrams per kilogram)*
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Molybdenum	<u>**</u>
Nickel	420
Selenium	100
Zine	2800

^{*} Dry weight basis.

^{*} Dry weight basis

^{**} Currently under review by EPA.

(iv) Annual pollutant loading rates.

Table 4 of Section 14

/	\nniia	ו אסו	liitant	Loading	r Pata
I	mnua	1 0	iutant .		raic
1		1.		265	Accessor and a

<u>Pollutant</u>	(kilograms per hectare per 365 day period)
Arsenic	2.0
Cadmium	1.9
Copper	75
Lead	15
Mercury	0.85
Molybdenum	<u>*</u>
Nickel	21
Zine	140

* Currently under review by EPA.

(c) Domestic septage. The annual application rate for domestic septage applied to agricultural land, forest, or a reclamation site shall not exceed the annual application rate calculated using equation (1).



Where:

AAR = Annual application rate in gallons per acre per 365 day period.

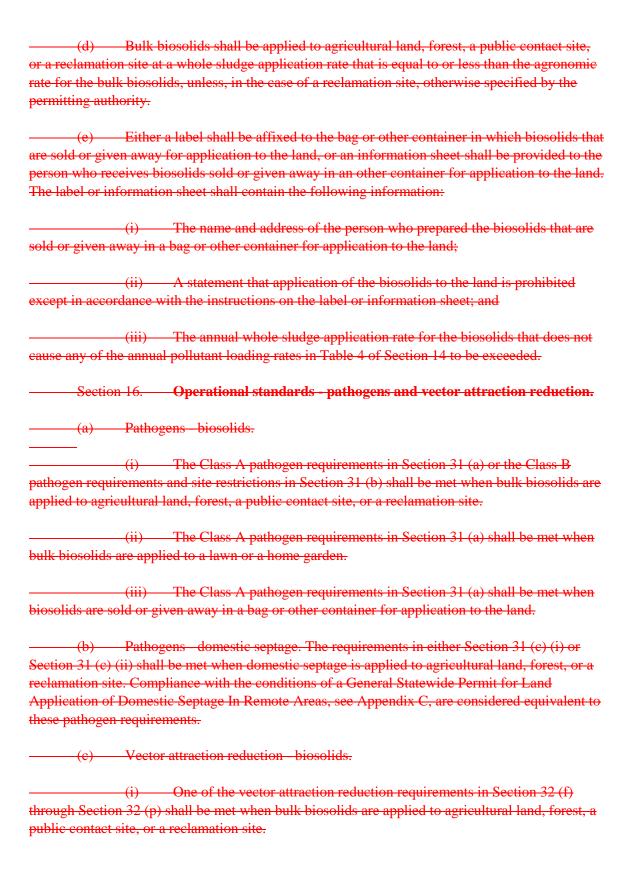
N = Amount of nitrogen in pounds per acre per 365 day period needed by the crop or vegetation grown on the land.

Section 15. Management practices.

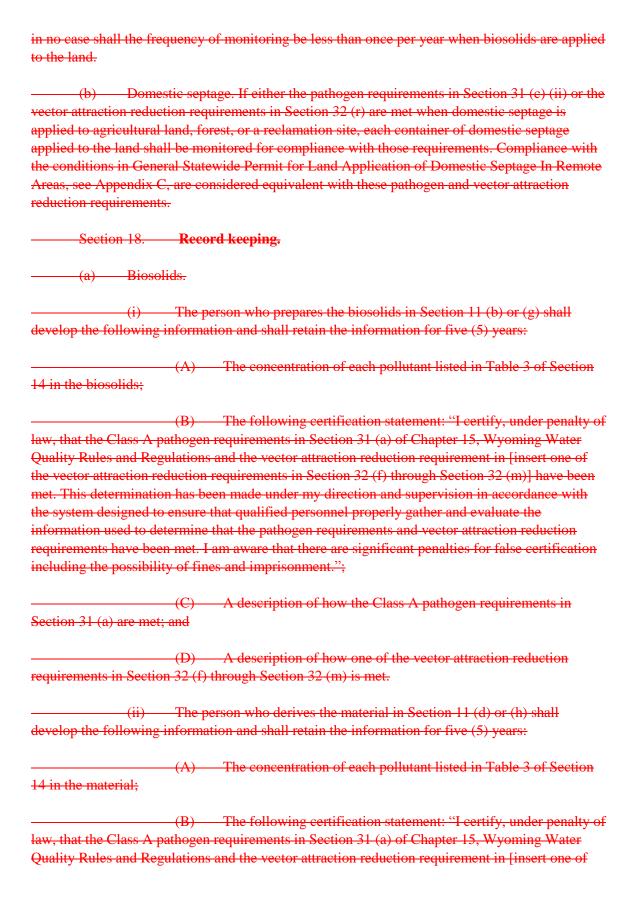
(a) Under the provisions of 40 CFR Part 503, the United State Environmental Protection Agency is authorized to ensure that bulk biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat. No similar authority is provided to the Department of Environmental Quality, Water Quality Division.

(b) Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow covered so that the bulk biosolids enters a wetland or waters of the state, except as provided in a permit issued pursuant to Chapter 2, Wyoming Water Quality Rules and Regulations.

(c) Bulk biosolids shall not be applied to agricultural land, forest, or a reclamation site that is ten (10) meters or less from waters of the state, unless otherwise specified by the permitting authority.

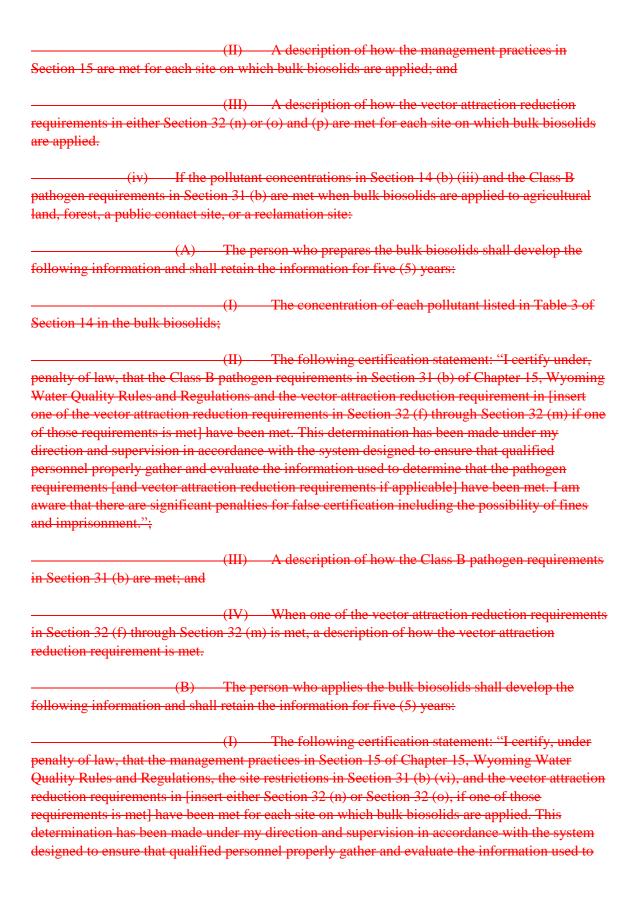


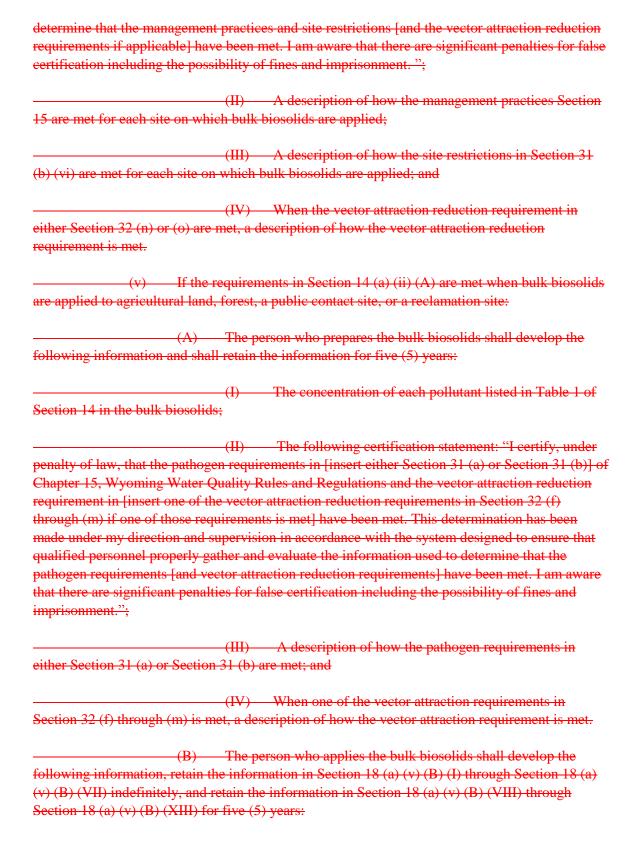
(ii) One of the	vector attraction reduction requirements in Section 32 (f)
through Section 32 (m) shall be met	when bulk biosolids are applied to a lawn or a home garden.
(iii) One of the	vector attraction reduction requirements in Section 32 (f)
	when biosolids are sold or given away in a bag or other
container for application to the land	•
container for application to the fand	-
(d) Vector attraction re	duction domestic septage. The vector attraction reduction
requirements in Section 32 (n), or (e	o) and (p), or 32 (r) shall be met when domestic septage is
applied to agricultural land, forest, o	or a reclamation site. Compliance with the conditions of a
General Statewide Permit for Land	Application of Domestic Septage In Remote Areas, see
Appendix C, are considered equival	ent to the vector attraction requirements.
Section 17. Frequency	of monitoring.
(a) Biosolids.	
(i) The freque	ncy of monitoring for the pollutants listed in Table 1, Table 2,
	the pathogen density requirements in Section 31 (a) and in
	81 (b) (iv); and the vector attraction reduction requirements
	n) shall be the frequency in Table 1 of Section 17. Any person
	ids shall conduct the monitoring required by this section.
pp	
Table 1 of Section 17	
Frequency Of Monitoring Land A	pplication
Amount of biosolids*	
(metric tons per 365 day period)	<u>Frequency</u>
Greater than zero but	Once per year
less than 290	
Equal to or greater than	Once per quarter
290 but less than 1,500	(four times per year)
Equal to or greater than	Once per 60 days
1,500 but less than 15,000	(six times per year)
Equal to or greater than	Once per month
15,000	(12 times per year)
* Either the amount of bulk biosolic	ls applied to the land or the amount of biosolids received by a
	are sold or given away in a bag or other container for
application to the land (dry weight l	
(ii) After the biosolide	have been monitored for two years at the frequency in Table
	ority may reduce the frequency of monitoring for pollutant
	density requirements in Section 31 (a) (v) (B) through (I) but

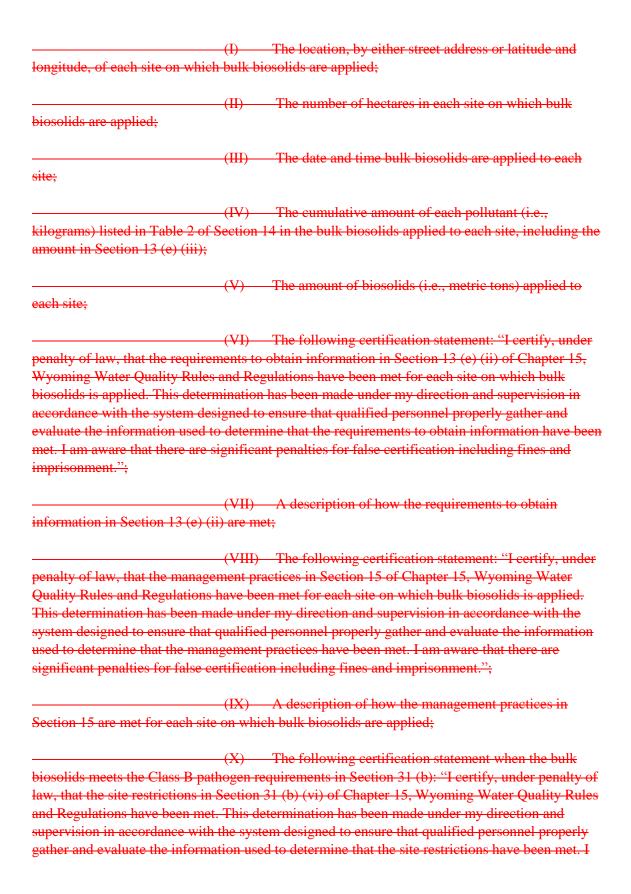


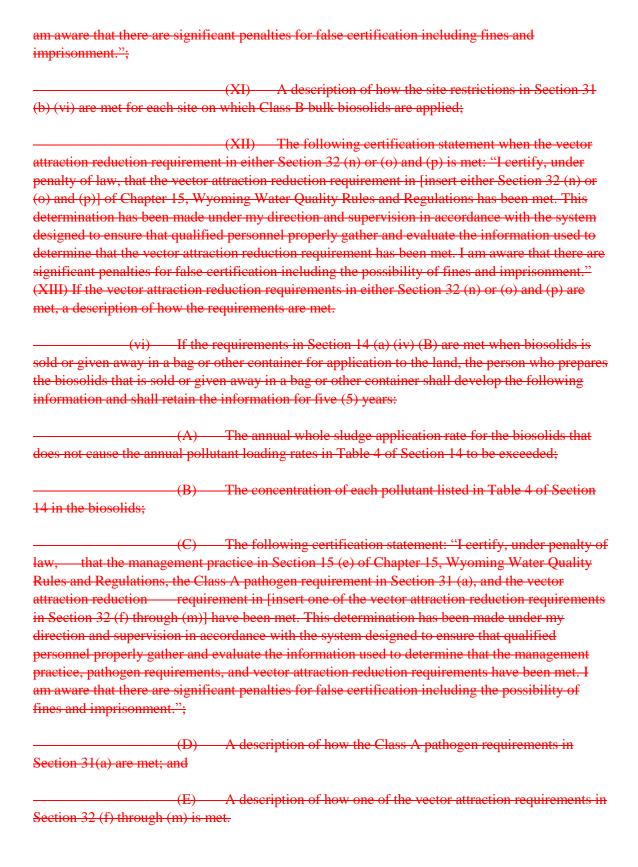
met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and the vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."; A description of how the Class A pathogen requirements in Section 31 (a) are met; and (D) A description of how one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) is met. If the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements Section 31 (a), and the vector attraction reduction requirements in either Section 32 (n) or Section 32 (o) and (p) are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site: The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five (5) years: The concentration of each pollutant listed in Table 3 of Section 14 in the bulk biosolids: The following certification statement: "I certify, under penalty of law, that the pathogen requirements in Section 31 (a) of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."; and (III) A description of how the pathogen requirements in Section 31 (a) are met. (B) The person who applies the bulk biosolids shall develop the following information and shall retain the information for five (5) years: The following certification statement: "I certify, under penalty of law, that the management practices in Section 15 of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirement in [insert either Section 32 (n) or Section 32 (o) and (p)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fines and imprisonment.";

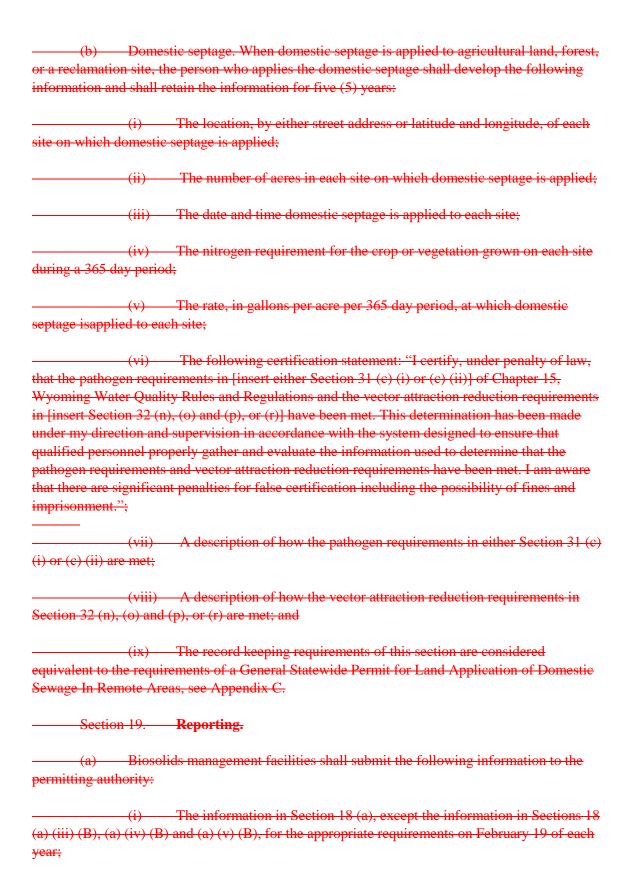
the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) have been

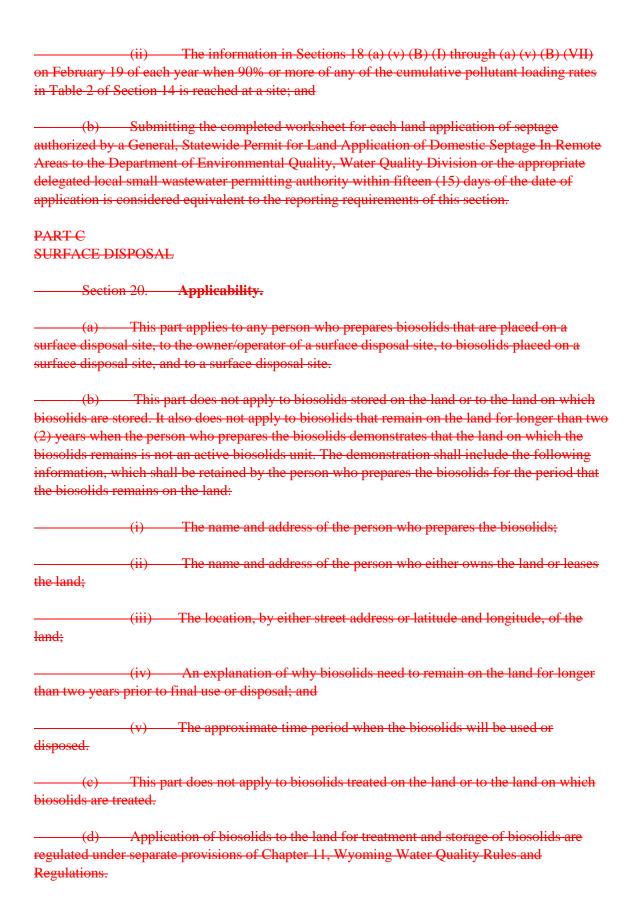


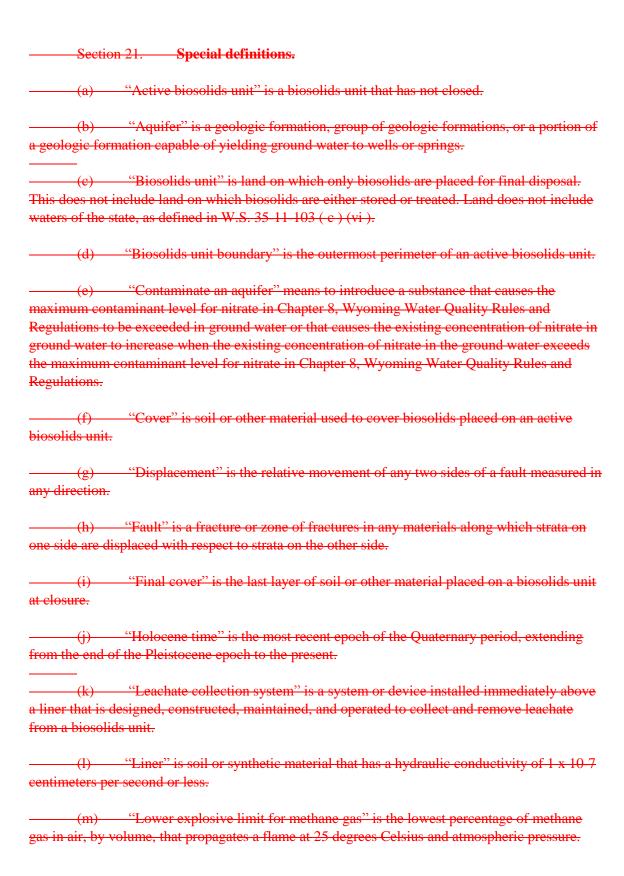


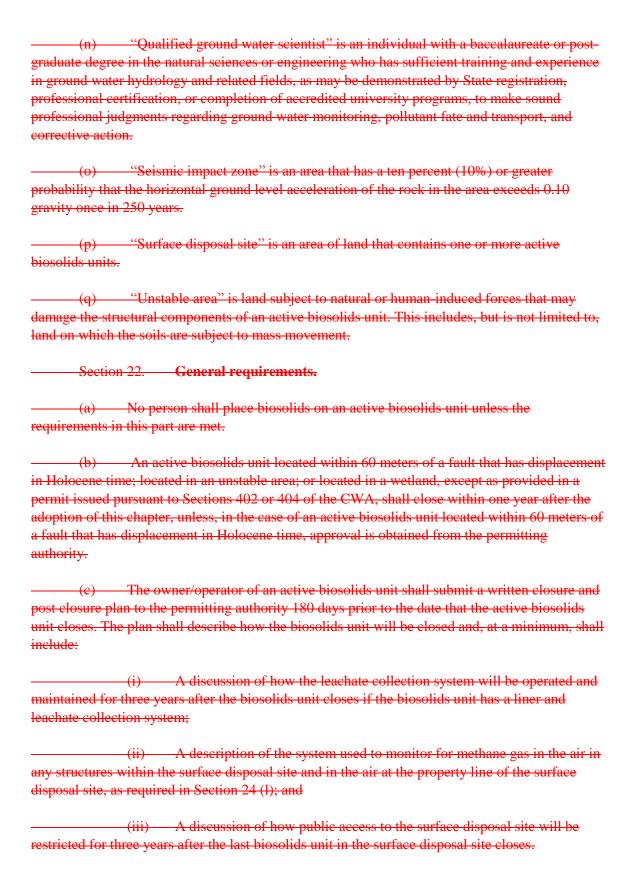












\$ 7		rface disposal site shall provide written notification to the iosolids were placed on the land.
Section 23.	Pollutant	limits (other than domestic septage).
——————————————————————————————————————	ve biosolids u	nit without a liner and leachate collection system.
each pollutant listed	in Table 1 of S	provided in Section 23 (a) (ii) and 23 (b), the concentration of Section 23 in biosolids placed on an active biosolids unit shall for the pollutant in Table 1 of Section 23.
		Table 1 Of Section 23
	Pollutant	Concentrations - Active Biosolid Unit
	Without a	Liner And Leachate Collection System
		Concentration
<u>Pollu</u>	ıtant	(milligrams per kilogram*)
Arse	nic	73
o.m.o	mium	600
Nick	el	420
* Di	ry weight basis	}
listed in Table 1 of S than 150 meters from	Section 23 in bin the property	provided in Section 23 (b), the concentration of each pollutant iosolids placed on an active biosolids unit with a boundary less line of the surface disposal site shall not exceed the e following procedure.
the property line of t	* *	he actual distance from the active biosolids unit boundary to posal site shall be determined.
23 in the biosolids sl the actual distance in	hall not exceed	he concentration of each pollutant listed in Table 2 of Section I the concentration in Table 2 of Section 23 that corresponds to a) (ii) (A).

Table 2 Of Section 23

Pollutant Concentrations - Active Biosolids Unit Without a Liner and Leachate Collection System That Has a Unit Boundary to Property Line Distance less than 150 Meters

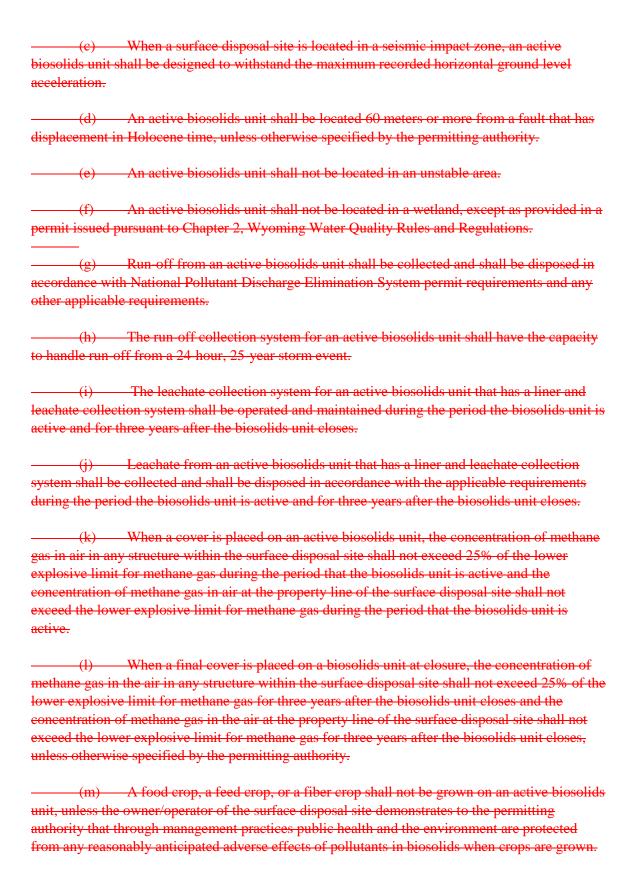
Pollutant concentration*

		1 onutant concentration	<u> </u>
Unit boundary to			
property line	Arsenic	Chromium	Nickel
distance (meters)	(mg/kg)	(mg/kg)	(mg/kg)
0 to less than 25	30	200	210
25 to less than 50	34	220	240
50 to less than 75	39	260	270
75 to less than 100	46	300	320
100 to less than 125			
	53	360	390
125 to less than 150	62	450	420
* Dry weight basis	}		
Ç			
(b) Active bio	solids unit without a	liner and leachate collection	on system site specific
limits.	bollas allit without a		m system site specific
mints.			
(i) A	4 41- 2 41		
	_	epplication, the owner/oper	
disposal site may request s	* *		
active biosolids unit without		•	•
site parameters specified b	• •	•	
parameters used to develop	the pollutant limits	in Table 1 of Section 23 an	d when the permitting
authority determines that s	ite-specific pollutant	limits are appropriate for t	he active biosolids unit.
•	•	• • •	
(ii) T	he concentration of e	ach pollutant listed in Tabl	le 1 of Section 23 in
biosolids placed on an acti		_	
not exceed either the conce			
as specified by the permitti			•
	•	existing concentration of the	e ponutant in the
biosolids, whichever is low	√er.		
Section 24. M	lanagement practice	S.	
(a) Under the	provisions of 40 CFF	R Part 503, the United State	- Environmental
Protection Agency is author	orized to ensure that t	oulk biosolids shall not be a	applied to the land if it
is likely to adversely affect			* *
and the state of t		o F	

(b) An active biosolids unit shall not restrict the flow of a base flood (i.e., a flood with a magnitude equaled once in 100 years).

Water Quality Division, Department of Environmental Quality.

Endangered Species Act or its designated critical habitat. No similar authority is provided to the



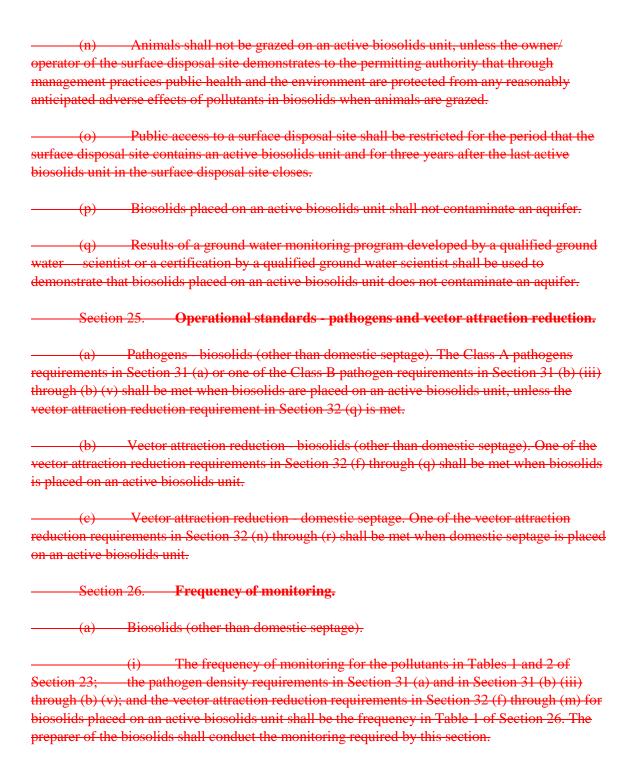


Table 1 Of Section 26 Frequency of Monitoring - Surface Disposal

Amount of biosolids* (metric tons per 365 day period) **Frequency** Greater than zero but less than 290 Once per year Equal to or greater than Once per quarter 290 but less than 1,500 (four times per year) Equal to or greater than Once per 60 days 1,500 but less than 15,000 (six times per year) Once per month Equal to or greater than 15,000 (12 times per year) * Amount of biosolids placed on an active biosolids unit (dry weight basis). (ii) After the biosolids have been monitored for two years at the frequency in Table 1 of Section 26, the permitting authority may reduce the frequency of monitoring for pollutant concentrations and for the pathogen density requirements in Section 31 (a) (v) (B) through (I), but in no case shall the frequency of monitoring be less than once per year when biosolids are placed on an active biosolids unit. (b) Domestic septage. If the vector attraction reduction requirements in Section 32 (r) are met when domestic septage is placed on an active biosolids unit, each container of domestic septage shall be monitored for compliance with those requirements. — Air. Air in structures within a surface disposal site and at the property line of the surface disposal site shall be monitored continuously for methane gas during the period that the surface disposal site contains an active biosolids unit on which the biosolids is covered and for three years after a biosolids unit closes when a final cover is placed on the biosolids. Section 27. Record keeping. (a) When biosolids (other than domestic septage) are placed on an active biosolids unit: (i) The person who prepares the biosolids shall develop the following information and shall retain the information for five (5) years: (A) The concentration of each pollutant listed in Table 1 of Section 23 in the biosolids when the pollutant concentrations in Table 1 of Section 23 are met; (B) The following certification statement: "I certify, under penalty of law, that the pathogen requirements in [insert Section 31 (a), (b) (iii), (b) (iv), or (b) (v) when one of those requirements is met] of Chapter 15, Wyoming Water Quality Rules and Regulations and

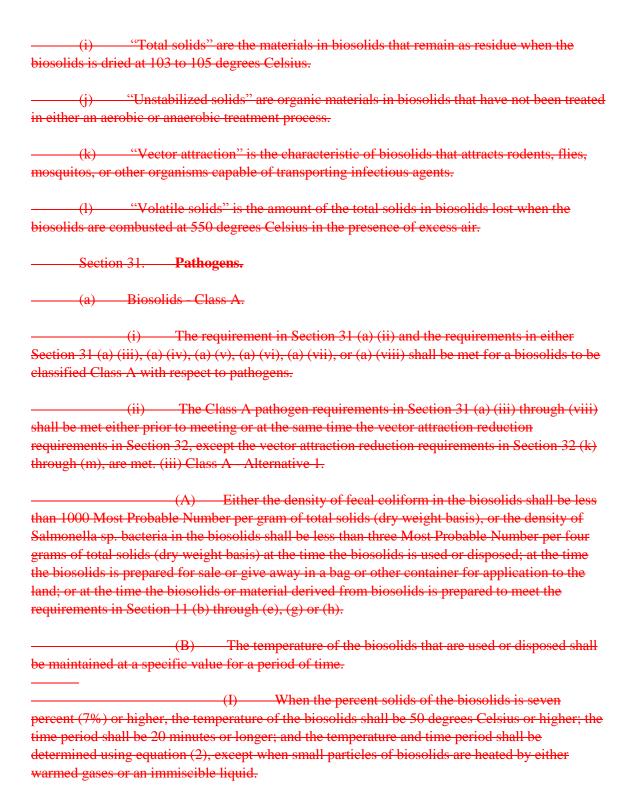
the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine the [pathogen requirements and vector attraction reduction requirements if appropriate have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."; A description of how the pathogen requirements in Section 31 (a), (b) (iii), (b) (iv), or (b) (v) are met when one of those requirements is met; and (D) A description of how one of the vector attraction reduction requirements in Section 32 (f) through (m) is met when one of those requirements is met. (ii) The owner/operator of the surface disposal site shall develop the following information and shall retain the following information for five (5) years: (A) The concentration of each pollutant listed in Table 2 of Section 23 in the biosolids when the pollutant concentrations in Table 2 of Section 23 are met or when site-specific pollutant limits in Section 23 (b) are met; (B) The following certification statement: "I certify, under penalty of law, that the management practices in Section 24 and the vector attraction reduction requirement in [insert one of the requirements in Section 32 (n) through (q) if one of those requirements is met] of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices [and the vector attraction reduction requirements if appropriate] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."; (C) A description of how the management practices in Section 24 are met; and (D) A description of how the vector attraction reduction requirements in Section 32 (n) through (q) are met if one of those requirements is met. When domestic septage is placed on a surface disposal site: If the vector attraction reduction requirements in Section 32 (r) are met, the person who places the domestic septage on the surface disposal site shall develop the following information and shall retain the information for five (5) years: (A) The following certification statement: "I certify, under penalty of law, that the vector attraction reduction requirements in Section 32 (r) of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my

the vector attraction reduction requirements in [insert one of the vector attraction reduction requirements in Section 32 (f) through (m) when one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with

	n in accordance with the system designed to ensure that qualified
personnel properly gathe	er and evaluate the information used to determine that the vector
attraction requirements	have been met. I am aware that there are significant penalties for false
certification including th	ne possibility of fines and imprisonment."; and
	(B) A description of how the vector attraction reduction
requirements in Section	
(ii)	The owner/operator of the surface disposal site shall develop the
following information a	nd shall retain that information for five (5) years:
	(A) The following certification statement: "I certify, under penalty
of law, that the manager	ment practices in Section 24 of Chapter 15, Wyoming Water Quality
Rules and Regulations a	nd the vector attraction reduction requirements in [insert Section 32 (n)
	those requirements is met] have been met. This determination has been
- · ·	n and supervision in accordance with the system designed to ensure that
	perly gather and evaluate the information used to determine that the
	and the vector attraction reduction requirements if appropriate] have been
met I am aware that the	re are significant penalties for false certification including the possibility
of fines and imprisonme	
	(B) A description of how the management practices in Section 24
are met; and	() I I I I I I I I I I I
	(C) A description how the vector attraction reduction requirements in
Section 32 (n) through (q) are met if one of those requirements is met.
Section 28.	Reporting.
(a) Biosolio	ds management facilities shall submit the information in Section 27 (a) to
the permitting authority	on February 19 of each year.

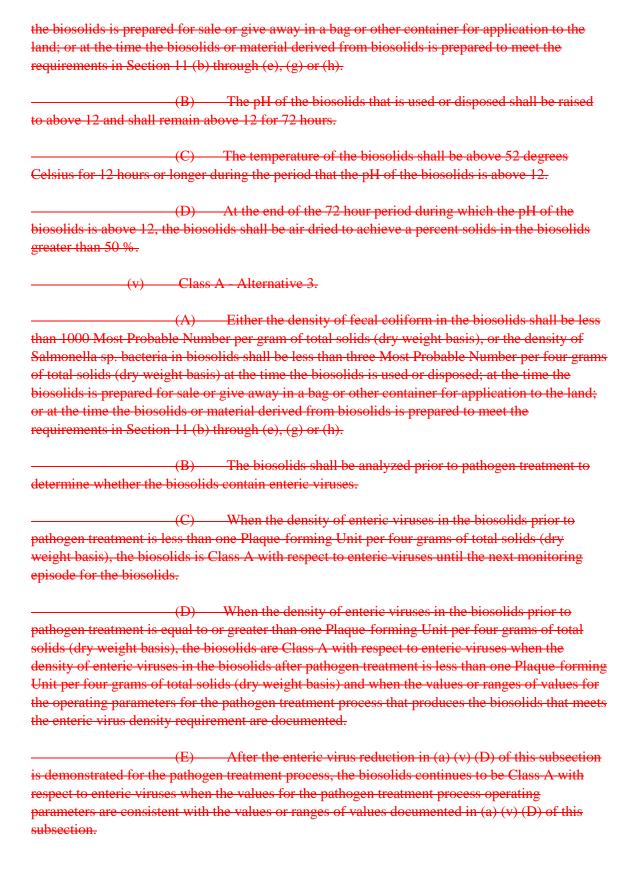
PART D PATHOGEN AND VECTOR ATTRACTION REDUCTION

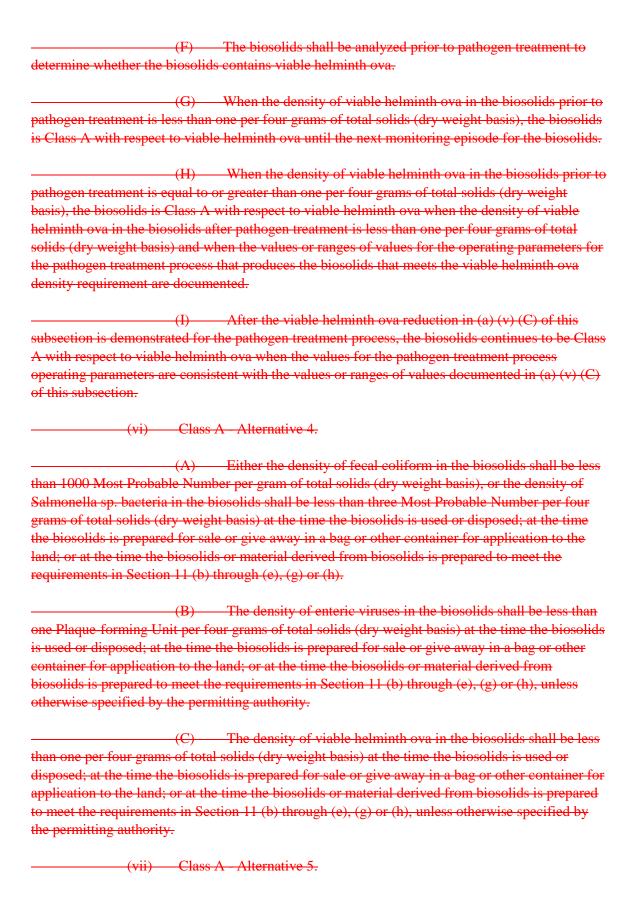
Section	29. Scope.
	This part contains the requirements for a biosolids to be classified either Class A respect to pathogens.
	This part contains the site restrictions for land on which Class B biosolids are
	This part contains the pathogen requirements for domestic septage applied to l, forest, or a reclamation site.
	This part contains alternative vector attraction reduction requirements for eapplied to the land or placed on a surface disposal site.
Section	30. Special definitions.
* *	"Aerobic digestion" is the biochemical decomposition of organic matter in arbon dioxide and water by microorganisms in the presence of air.
	"Anaerobic digestion" is the biochemical decomposition of organic matter in methane gas and carbon dioxide by microorganisms in the absence of air.
	"Density of microorganisms" is the number of microorganisms per unit mass of weight) in the biosolids.
frequently. This	"Land with a high potential for public exposure" is land that the public uses includes, but is not limited to, a public contact site and a reclamation site located rea (e.g, a construction site located in a city).
infrequently. Th	"Land with a low potential for public exposure" is land that the public uses his includes, but is not limited to, agricultural land, forest, and a reclamation site populated area (e.g., a strip mine located in a rural area).
	"Pathogenic organisms" are disease causing organisms. These include, but are ertain bacteria, protozoa, viruses, and viable helminth ova.
(g)	"pH" means the logarithm of the reciprocal of the hydrogen ion concentration.
(h)	"Specific oxygen uptake rate (SOUR)" is the mass of oxygen consumed per unitass of total solids (dry weight basis) in the biosolids.

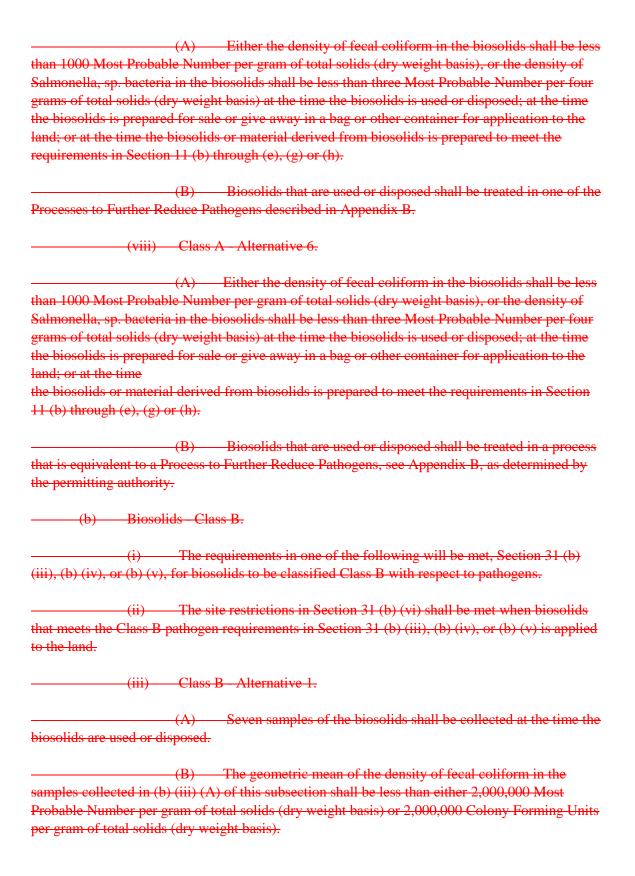


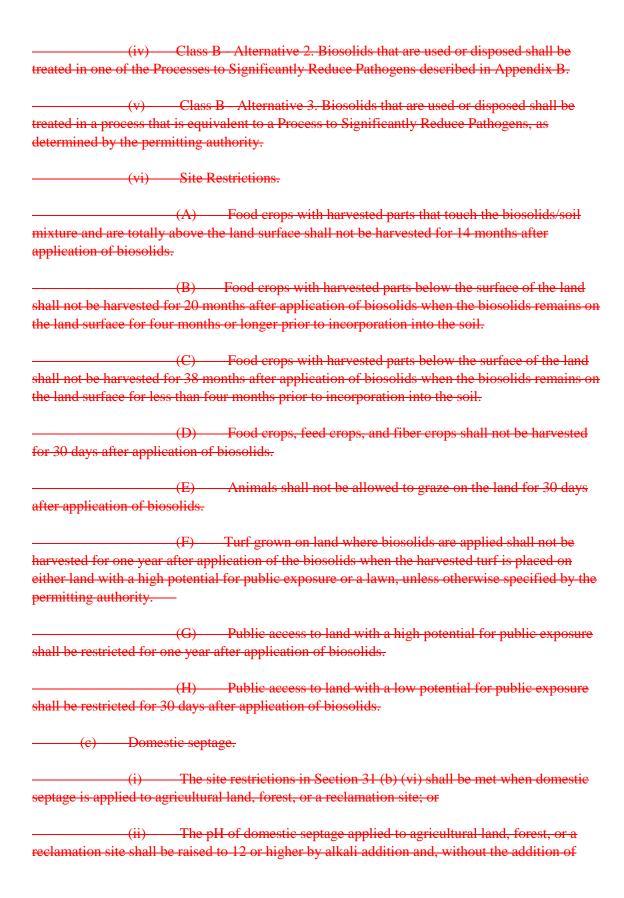
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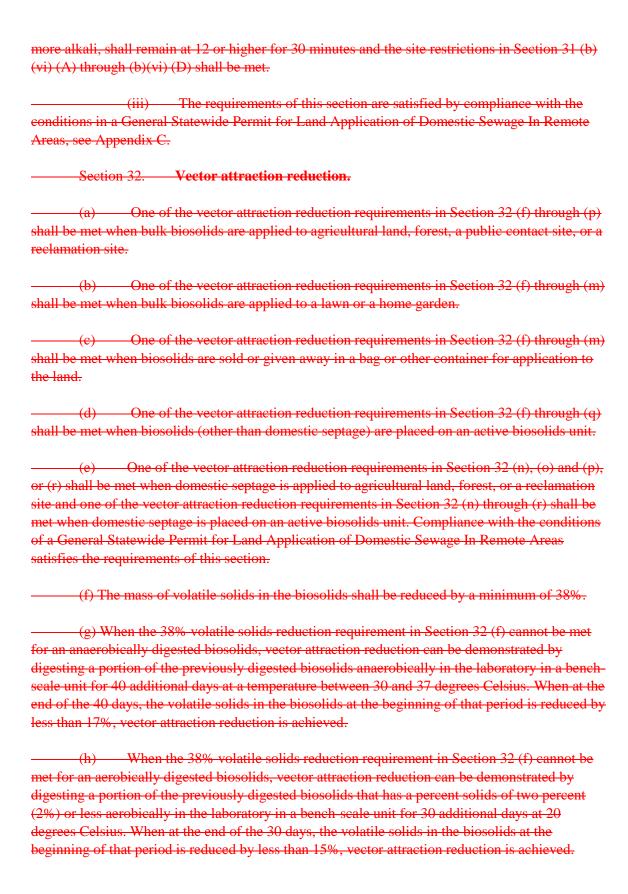
Where,	
D = time in	days.
t = temperat	ure in degrees Celsius.
immiscible liquid, the tempe	(II) When the percent solids of the biosolids is seven percent ticles of biosolids are heated by either warmed gases or an rature of the biosolids shall be 50 degrees Celsius or higher; the time r longer; and the temperature and time period shall be determined
	(III) When the percent solids of the biosolids is less than ime period is at least 15 seconds, but less than 30 minutes, the shall be determined using equation (2).
	(IV) When the percent solids of the biosolids is less than perature of the biosolids is 50 degrees Celsius or higher; and the time er, the temperature and time period shall be determined using Eq.(3)
	$D = \frac{50,070,000}{10^{0.1400t}}$
Wh	ere,
	time in days.
t=t	emperature in degrees Celsius.
——————————————————————————————————————	ess A Alternative 2.
than 1000 Most Probable Nu Salmonella sp. bacteria in th	Either the density of fecal coliform in the biosolids shall be less umber per gram of total solids (dry weight basis), or the density of e biosolids shall be less than three Most Probable Number per four ight basis) at the time the biosolids is used or disposed; at the time

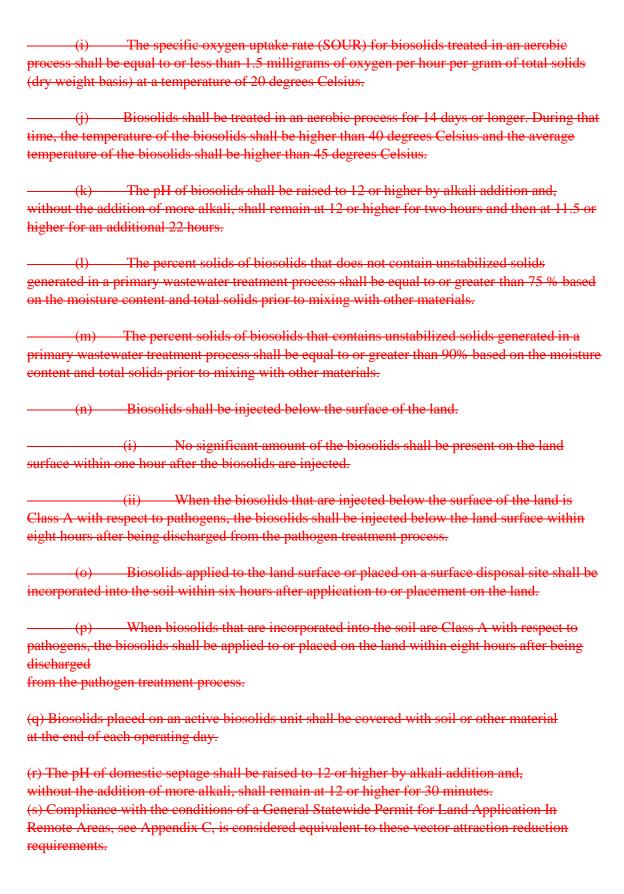












APPENDIX A

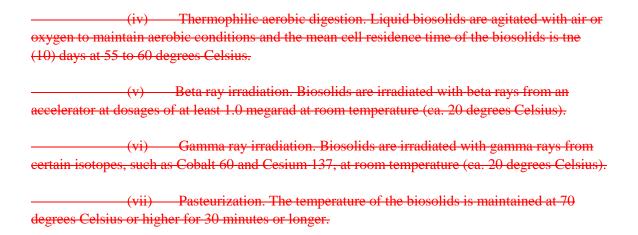
Procedure to Determine The Annual Whole Sludge Application Rate For Biosolids

Section 14 (a) (iv) (B) requires that the product of the concentration for each pollutant listed in Table 4 of Section 14 in biosolids sold or given away in a bag or other container for application to the land and the annual whole sludge application rate (AWSAR) for the biosolids not cause the annual pollutant loading rate for the pollutant in Table 4 of Section 14 to be exceeded. This appendix contains the procedure used to determine the AWSAR for a biosolids that does not cause the annual pollutant loading rates in Table 4 of Section 14 to be exceeded. The relationship between the annual pollutant loading rate (APLR) for a pollutant and the annual whole sludge application rate (AWSAR) for a biosolids is shown in equation (1).

$\frac{APLR = C \times AWSAR \times 0.001}{Where:} $ (1)					
Λ DΙ D =	Annual pollutant loading rate in kilograms per hectare per 365 day				
TH EX =	period.				
—— <u>C</u> =	Pollutant concentration in milligrams per kilogram of total solids (dry				
	weight basis).				
AWSAR = Annual whole sludge application rate in metric tons per hectare per 36 day period (dry weight basis).					
0.001 =	A conversion factor.				
To determine the AWSAR, equation (1) is rearranged into equation (2):					
	$AWSAR = \frac{APLR}{C \times 0.001} \tag{2}$				
The procedure used to determine the AWSAR for a biosolids is presented below.					
PROCEDURE:					
(i) Analyze a sample of the biosolids to determine the concentration for each of the pollutants listed in Table 4 of Section 14 in the biosolids.					
(ii) Using the pollutant concentrations from Step 1 and the APLRs from Table 4 of Section 14, calculate an AWSAR for each pollutant using equation (2) above.					
(iii) The	AWSAR for the biosolids is the lowest AWSAR calculated in Step 2.				

APPENDIX B Pathogen Treatment Processes

(a) Process t	to Significantly Reduce Pathogens (PSRF).
aerobic conditions for a s mean cell residence time	Aerobic digestion. Biosolids are agitated with air or oxygen to maintain specific mean cell residence time at a specific temperature. Values for the and temperature shall be between 40 days at 20 degrees Celsius and 60
days at 15 degrees Celsiu	lS.
basins. The biosolids drie	Air drying. Biosolids are dried on sand beds or on paved or unpaved es for a minimum of three months. During two of the three months, the mperature is above zero degrees Celsius.
specific mean cell resider	Anaerobic digestion. Biosolids are treated in the absence of air for a nee time at a specific temperature. Values for the mean cell residence all be between 15 days at 35 to 55 degrees Celsius and 60 days at 20
windrow composting me higher and remains at 40	Composting. Using either the within vessel, static aerated pile, or thods, the temperature of the biosolids is raised to 40 degrees Celsius or degrees Celsius or higher for five days. For four hours during the five the compost pile exceeds 55 degrees Celsius.
	Lime stabilization. Sufficient lime is added to the biosolids to raise the after two hours of contact.
(b) Process t	to Further Reduce Pathogens (PFRP).
	Composting. Using either the within-vessel composting method or the sting method, the temperature of the biosolids is maintained at 55 for three days.
55 degrees or higher for	ow composting method, the temperature of the biosolids is maintained at 15 days or longer. During the period when the compost is maintained at re shall be a minimum of five turnings of the windrow.
gases to reduce the moist temperature of the biosol	Heat drying. Biosolids are dried by direct or indirect contact with hot ure content of the biosolids to ten percent (10%), or lower. Either the ids particles exceeds 80 degrees Celsius or the wet bulb temperature of e biosolids as the biosolids leaves the dryer exceeds 80 degrees Celsius.
(iii) degrees Celsius or higher	Heat treatment. Liquid biosolids are heated to a temperature of 180 of 1



APPENDIX C

General Statewide Permit

For Land Application of Domestic Septage in Remote Areas

Department of Environmental Quality/Water Quality Division

Septage Land Application Worksheet

To qualify for the land application of domestic septage (domestic septage being defined as either liquid or solid material removed from a septic tank result from normal household wastes) in remote areas the following requirements must be met.

DEFI	NITIONS .
* throug	"Permanent waterbody" means perennial streams, lakes, wetlands, etc. that have water shout the year
<u>*</u> table f	"Intermittent stream" means a stream or part of a stream that is below the local water for some part of the year but is not a perennial stream.
	"Ephemeral stream" means a stream which flows only in direct response to precipitation immediaste watershed or in response to snow melt, and has a channel bottom that is always the prevaling water table.
*	"Wetland" means those areas having all three essential characteristics:
	(A) Hydrophytic vegetation;
	—(B) Hydric soils;
	— (C) Wetlands hydrology.

LOCATION RESTRICTIONS

- A minimum distance of at least 1,000 feet must be maintained from all adjacent properties.
- Only domestic septage generated on the property owner's location may be land applied on the same property owner's location.
- No land application of domestic septage may occur within 300 feet of a permanent waterbody, intermittent stream, ephemeral stream or wetland.
- No land application of domestic septage may occur within 300 feet of public road.
- No land application of domestic sewage may occur within 1000 feet of a residence.

SITE RESTRICTIONS

- The land application of domestic septage may only occur on those sites with established vegetation such as rangeland, pasture or hay meadows.
- No more than 5,000 gallons of domestic septage per acre per year may be land applied.
- No land application of domestic septage may occur where the depth from the surface to groundwater is less than four (4) feet.
- No land application of domestic septage may occur where site slopes exceed five percent (5%).
- The land application of domestic septage may not occur between November 1 and May 1, or any other time when frozen or saturated ground conditions exits.
- No public access shall be allowed for one (1) year to any site where domestic septage has been applied.
- Lime stabilization of the septage to pH 12 for 30 minutes prior to land application is optional.
- No grazing animals shall be allowed access for 30 days to any site where domestic septage has been land applied.

CROP RESTRICTIONS

- No root crops shall be harvested for 38 months from soils where domestic septage has been land applied.
- No truck crops (harvested parts touch land surface) shall be harvested for 14 months from soils where domestic septage has been land applied.
- No commodity crops (other food, feed, and fiber crops whose harvested parts do not touch land surface) shall be harvested for 30 days from soils where domestic septage has been land applied.
- No turf shall be harvested for one (1) year from soils where domestic septage has been land applied.

REPORTING REQUIREMENTS

- The property owner shall notify the appropriate Department of Environmental Quality,
 Water
- Quality Division (DEQ/WQD) District Office prior to the land application of domestic septage to confirm requirements, and arrange a possible DEQ/WQD inspection of land application.
- All records concerned with each septage application will be maintained for at least five (5) years.
- This worksheet must be completed, signed and returned to the Department of Environmental Quality, Water Quality Division or the appropriate delegated local permitting authority within 15 days of the land application.

•	Provi	de the following information concerning your site. Enter NA if not applicable.
	1)	Date of the application:
		Number of acres receiving septage:
-	3)	Number of gallons of septage land applied:
	4)	Type of vegetation receiving:
	5)	Name, address and telephone number of septage hauler:
		If septage was optionally alkali stabilized, please indicate what material was used abilization and how pH was measured:
		Please indicate that the site sketch on the back of this sheet has been completed
	and co	omplies with the site restriction distances yes/no:
		— Please indicate if photos of the land application site will be sent to the istrict Office: Yes/no
	9)	Please provide physical address or legal description of land application site:
		Please give the name of the DEQ/WQD representative contacted, and time and This contact needs to be made prior to the domestic septage land application:

8		
	STE SKEICH	
		REQUIRED ISOLATION DISTANCES FROM LAND APPLICATION SITE.
) 1,300 feet from adjacent properties.) 1,600 feet from any dweling.) 300 feet from any live water, informittent stream or drainage
I certify that the information provided i	in this worksheet is accurate and meets the	e requirements set forth herein.
Signature of landowner	Date	
Name (printed)		
Signature of applicator	Date	
Name (printed)		
∕ pjb		
70253.doe		