

**Building the New Reclaimed Water WAC
Proposed Draft Rule Language - work in progress (WIP)
for Rule Advisory Committee Use Only – June 24, 2009**

PART VI Use-Based Requirements (version 1.0 – begin 6-24-2009)

Note: This is incomplete by the deadline to send to the RAC members of the 6-24-09 meeting. Ecology decided that it still provides a useful introduction to use-based requirements and a basis to begin thought for more in depth discussion. Ecology staff will continue to work on the content and provide an update when available.

Intent of Part VI

1. Identify the applicability of class-based requirements to different categories of reclaimed water use. Categories include:
 - Commercial and industrial uses
 - Irrigation (land application) uses
 - Impoundments
 - Wetlands
 - Surface water augmentation
 - Ground water recharge

 2. Specify the special requirements (standards and best management practices) that apply to each category (and applicable subcategories) of use.
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Proposed Sections: (section numbers may change)

173-219- 500 Commercial and industrial uses.
173-219- 530 Land application (irrigation) uses.
173-219-560 Impoundments.

173-219- 600 Wetlands. (future meeting)
173-219- 700 Streamflow augmentation.(future meeting)
173-219- 800 Ground water recharge (future meeting).

Proposed Content:

WAC 173-219-500 Reclaimed Water for Commercial and Industrial Uses

1. **Applicability.** This section applies only to reclaimed water used as a source of supply for commercial and industrial non-irrigation purposes that do not otherwise require potable water.

2. Minimum Class Requirements.

a. **Class A Uses.** Nonpotable water uses that have unrestricted human contact or a similar high potential for public exposure require a minimum of Class A quality water. Typical uses include, but are not limited to:

- i. Urban water features such as decorative fountains.
- ii. Spray washing to clean streets.
- iii. Fire protection in hydrants and in sprinkler systems at non-residential commercial or industrial facilities or buildings, hotels, motels or in residential buildings (such as apartments and condominiums) where the residents do not have access to the plumbing system for repairs or modifications.
- iv. Flush toilets and urinals in commercial or industrial facilities or buildings, hotels, and motels or in residential buildings (such as apartments and condominiums) where the residents do not have access to the plumbing system for repairs or modifications.
- v. Industrial cooling purposes where aerosols or other mist are created
- vi. Industrial processes with exposure of workers.
- vii. Washing yards, lots, and sidewalks on corporate grounds.

Comment [CLR1]: RAC request to allow fire sprinklers for residential installations

Comment [CLR2]: Allow for residences with controlled access to plumbing & cross connection control approved by PWS?

Comment [CLR3]: See below re: determination of exposure to workers.

c. **Class B Uses.** Nonpotable water uses that have restricted human contact or similar reduced potential for public exposure require a minimum of Class C quality water. Typical uses include, but are not limited to:

- i. Street ~~and parking lot~~ sweeping ~~by dampening brushes and street surfaces.~~
- ii. ~~Construction d~~Dust control ~~by dampening unpaved roads and other surfaces.~~
- iii. Dampening soil for compaction at construction sites, landfills, and elsewhere
- iv. Fire fighting by dumping from aircraft
- v. Ship ballast water
- vi. Washing aggregate and making concrete.

~~vii.~~ **vii.** Industrial processes without exposure to workers.

~~viii.~~ **viii.** Industrial cooling towers with mist arrestors

Comment [CLR4]: Is this direct exposure, exposure to occasional spills, aerosol or mist exposure? How is this determined?

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e. **Exceptions.**

The departments may consider exceptions ~~(higher or lower)~~ to these class requirements on a case-by-case basis.

Factors used ~~for~~ in consideration are included in the “Purple Book Guidance”?

The lead agency must approve any such exceptions in writing.

3. **Additional water quality requirements.** Additional treatment required to produce water quality necessary for the final use shall be the responsibility of the end user. Solid and liquid treatment residuals shall be collected and transported to permitted waste management or waste treatment facilities.

~~4. Add TAP recommendations, EPA guidance, etc. for discussion.~~

~~5. Submittals?~~

~~6. Permit Conditions?~~

~~7.4. Other special requirements.~~

*Add TAP recommendations, EPA guidance, etc. for discussion
Submittals?
Permit Conditions?*

Comment [CLR5]:

WAC 173-219-530 Land Application (Irrigation) Uses

1. **Applicability.** This section applies to the non-potable use of reclaimed water for agricultural food and non-food crop irrigation and the watering of landscape features such as lawns, golf courses, and highway medians.
2. **Minimum Class Requirements.**
 - a. Class A Uses. Nonpotable water uses that have unrestricted human contact or similar high potential for public exposure require a minimum of Class A quality water. Typical uses include, but are not limited to:
 - i. Food crop irrigation uses except as otherwise listed in this section.
 - ii. Irrigation of public landscape areas including parks, golf courses, and playgrounds.
 - iii. Irrigation of residential landscapes.
 - b. Class B Uses. Nonpotable water uses that have restricted human contact or similar reduced potential for public exposure require a minimum of Class B quality water. Typical uses include, but are not limited to:
 - i. Freeway landscapes, cemeteries.
 - ii. Agricultural irrigation of non-food crops.
- ~~2. Pasture with access to milking animals.~~

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- ~~3-iii. Surface irrigation of orchards and vineyards provided the fruit is not harvested if it contacts either the irrigation water or ground.~~
- ~~4-iv. Spray or surface irrigation of restricted access trees, fodder, fiber and seed non-food crops provided pasture is not used for milking animals. (same as wastewater discharge permit?)~~
- ~~5-v. Spray or surface irrigation of restricted access food crops provided the food crops undergo physical or chemical processing sufficient to destroy all pathogenic agents prior to distribution or sale and the use is specifically authorized by DOH or Ecology.~~

Comment [CLR6]: These are old Class D uses that should be rolled into new CLB

- ~~i-vi. Exceptions. The departments may consider exceptions (higher or lower) to these class requirements on a case-by-case basis. The lead agency must approve any such exceptions in writing. Factors considered to be considered for exceptions are included in the "Purple Book Guidance":~~
 - ~~i. Surface irrigation of orchards and vineyards provided the fruit is not harvested if it contacts either the irrigation water or ground.~~
 - ~~ii. Spray or surface irrigation of restricted access trees, fodder, fiber and seed non-food crops provided pasture is not used for milking animals. (same as wastewater discharge permit?)~~
 - ~~iii. Spray or surface irrigation of restricted access food crops provided the food crops undergo physical or chemical processing sufficient to destroy all pathogenic agents prior to distribution or sale and the use is specifically authorized by DOH or Ecology.~~

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3. Additional water quality requirements.

Add TAP recommendations, EPA guidance, etc. for discussion.

Reclaimed water must be applied at agronomic rates. This depends on type of crop, soil characteristics, salinity, sodicity, ion toxicity, nutrients, trace elements, and irrigation method. Guidance is available.

*Submittals?
Permit conditions?*

4. Other special requirements.

- a. Hydraulic loading rate. The hydraulic loading rate of reclaimed water shall be determined based on a detailed water balance analysis that assures agronomic application rates. Reclaimed water must be applied at agronomic rates. This depends on type of crop, crop nutrient and toxicity tolerances, and irrigation method. Guidance is available.

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~~a.~~ b. The calculated loading rate(s) and the parameters and methods used to determine the loading rate(s) shall be submitted to the Washington Departments of Health and Ecology for approval. (*submittal requirements*)

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~~b-a.~~ c. There shall be no application of reclaimed water for irrigation purposes when the ground is saturated or frozen.

Add TAP recommendations, EPA guidance, etc. for discussion.
Submittals?
Permit Conditions?

WAC 173-219-560 Impoundments

1. **Applicability.** This section applies to the non-potable use of reclaimed water for landscape impoundments such as ponds and golf course water hazards and public water features such as fish ponds, man-made "lakes", and constructed "wetlands".
2. **Special Use Advisory.** Reclaimed water shall not be used as a source of supply for swimming pools unless specifically authorized by Health and Ecology under a reclaimed water permit.
3. **Minimum Class Requirements.**
 - a. Class A Uses. Reclaimed water used in recreational impoundments with unrestricted public contact or similar potential for public exposure shall, at a minimum, meet the Class A requirements. Such uses include, but are not limited to recreational lakes and public water features, fishponds and constructed ~~treatment~~ beneficial use wetlands.¹
 - b. Class B Uses. Reclaimed water used in recreational or landscape impoundments with restricted public contact or similar potential for public exposure shall, at a minimum, meet the Class B requirements. Such uses include golf course water ponds/hazards, landscape ponds and vegetative landscape (lily) ponds, fishing and boating and other non-body contact uses including constructed ~~treatment~~ beneficial use wetlands.
 - c. Exceptions.
 - i. Reclaimed water that does not meet Class A or B reclaimed water standards may be discharged into constructed treatment wetlands provided a lesser standard is specifically authorized by Health and Ecology and the project includes a
 - ii. The departments may consider exceptions to these class requirements on a case-by-case basis. The departments must approve any such exceptions in writing.

Comment [CLR7]: 90.46.090(1)&(2) allows for Class A & B to be "used" in constructed treatment wetlands, but 90.46 also defines 'constructed treatment wetlands' as part o the treatment process provided to polish RW. The definition prohibits CTW as a "use". There is a conflict between a possible use that is defined as not being a use.

¹ RCW 90.46.XXX until new rule adopted and 1997 WRR Standards Article 2, Section 4 state that constructed treatment wetlands shall meet Class A or Class B.

Factors considered:

Comprehensive monitoring plan to evaluate the effectiveness of the project and the degree of water quality improvement provided.

3. Additional water quality requirements.

- a. Phosphorus and Nitrogen. Nutrient removal to reduce levels of phosphorus and/or nitrogen is recommended for reclaimed water used as a source of supply for recreational impoundments to minimize algal growths and maintain acceptable aesthetic conditions.
- b. Groundwater Protection. Reclaimed water impoundments and storage ponds shall not result in contamination of groundwater that is used as, or suitable to be used as, a source of water supply for domestic purposes. Reclaimed water impoundments and storage ponds that are not lined or sealed to prevent seepage are acceptable if it is demonstrated to the satisfaction of the Washington Departments of Health and Ecology that such contamination will not occur.
- c. Surface Water Protection. Impoundments with an outlet flowing-discharging to surface waters must requirements for a surface water discharge.

Comment [CLR8]: Should a recommendation be included in a rule?

Comment [CLR9]: How is "contamination" defined? If this goes to trace organics and 173-200, how will these parameters be monitored – some or all of them? Could limit the potential for wetland development. If there is a conflict, is this included in the assessment of "net environmental benefit"?

*TAP, EPA and other recommendations
Submittals?
Permit Conditions?*

4. Other Special Requirements.

*TAP, EPA and other recommendations
Submittals?
Permit Conditions?*