

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
4	1	1	173-219-010	Definitions	All the words defined should be assigned a number/subsection.
5	2	1	173-219-010	Definitions	The proposed rule repeats some but not all of the statutory definitions found in Ch. 90.46 RCW. Defining some statutory definitions in the rule, but not all, may lead to confusion. We recommend not repeating the statutory definitions and just reference. Or if the definitions from statute are used in the rule, use all of them. Secondly, a rule definition of a word defined in the statute can not be different than the statute. For example, "domestic wastewater" is defined in rule differently than in statute.
6	3	3	173-219-010	Definitions	For "groundwater" we suggest you use the same definition found in RCW 90.44.035(3) and or WAC 173-100-040(3)
7	4	10	173-219-090(3)	Water rights protection	Subsection 3 states, "Existing water rights include any permits, claims, certificates, instream flows established by rule pursuant to chapters 90.22 and 90.54 RCW,...." A water right claim is not a water right. A claim under chapter 90.14 RCW is an assertion of a right. We suggest rule language that might say "vested rights asserted by a water right claim". Many basins have numerous water right claims in the Claims Register that ultimately will not become adjudicated rights. We should ensure that potential uses of reclaimed water are not precluded because of claims to a water right that are specious. And that any investigation of asserted claimed rights is limited to those that a tentative determination of validity might show a water right exists.
8	5	11	173-219-090(4)	Water rights protection	If a mitigation plan is being submitted to mitigate for impairment to a senior water right holder, shouldn't there be documentation that the water right holder accepts the mitigation? This seems especially important if the mitigation is being accepted by a private water holder rather than a state-owned water right (e.g., instream flow rule).
9	6	11	173-219-090(5)	Water rights protection	This subsection requires that a permit renewals must demonstrate compliance with RCW 90.46.130. We suggest this requirement be limited to the first permit renewal after a final rule is in place. It seems like a lot of extra work and not necessary for compliance with the code, to repeatedly demonstrate compliance with RCW 90.46.130. If the assessment is done for the initial permit and perhaps the first renewal for those permits issued prior to this rule-making, that should be sufficient. Given how slowly new water rights are created and that any new right created downstream of a permitted reclamation facility after it is generating reclaimed water is not going to be impaired, this additional analysis for each renewal is redundant.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
10	7	12	173-219-130	Public meeting and hearing request	The rule should describe the differences, if any, between a "public meeting" and a "public hearing". If there is no difference, then use one term only.
11	8	12	173-219-150(2)	Regulatory action for noncompliance	173-219-150(2)(a) and subsection (c) should be combined to be one subsection given most of the language/idea is repetitive
12	9	16	173-219-170	Preplanning and project application	Subsection 2 references a fee payable to Health but nowhere in the rule is there a statement on what the fee is for filing an application. How would an entity know what the fee is for a reclaimed water permit?
13	10	17	173-219-180	Feasibility Analysis	It is unclear what potable distribution facilities mean. Pipes? Pump Stations? If the purpose of identifying potable water suppliers and sources is to identify reclaimed water service issues and cross-connection protection concerns, then it could be stated in plainer language to something to this effect: "List all potable water suppliers that provide water to the reclaimed water generation, storage and distribution facilities in addition to proposed reclaimed water use areas. Describe proposed methods to coordinate with potable water suppliers on reclaimed water service including cross-connection prevention actions in design and operation of the reclaimed water system."
14	11	17	173-219-180(2)	Feasibility Analysis	As written, copies of all local state plans would need to be included with the feasibility analysis. This could easily be several boxes worth of documents or many dvds of plans that will not be read by the lead agencies. Recommend requiring that the feasibility analysis include a summary of discussion of reclaimed water in existing state and local plans: "Coordination of state and local planning": The use of reclaimed water must be considered and coordinated under other planning requirements in state law, including RCW 90.46.120 as well as other local codes and ordinances. List and briefly summarize recommendations regarding reclaimed water in relevant planning documents. Relevant planning documents include, but are not limited to the following..."
15	12	17	173-219-180(2)e	Feasibility Analysis	The feasibility analysis is to consider groundwater and aquifer protection plans, under WAC 246-290-130, chapter 36.70A RCW, and WAC 365-190-100. WAC 246-290-130 has nothing to do with groundwater protection and is a wrong citation. We suggest a citation to RCW 90.44.400 and chapter 173-100 WAC instead.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
16	14	17	173-219-180(2)(d)	Feasibility Analysis	The proposed rule says, "A regional water supply plan or plans addressing water supply service by multiple water purveyors under RCW 90.46.120." RCW 90.46.120 is not an authority to conduct regional planning. Rather that section of the code requires coordination between a generator of reclaimed water and a regional plan, if there is one, and if the proposed use of reclaimed water is to augment or replace potable water supplies or to create the potential for the development of an additional new potable water supply.
17	15	17	173-219-180(2)(e)	Feasibility Analysis	The proposed rule states, " Groundwater and aquifer protection plans, under WAC 246-290-130, chapter 36.70A RCW, and WAC 365-190-100." Is WAC 246-290-130 the right reference? It appears that section of rule has nothing to do with groundwater protection plans or aquifer protection plans. We suggest you reference groundwater protection plans under RCW 90.44.400 and or chapter 173-100 WAC which do relate to and authorize the existing groundwater protection areas and plans.
18	16	20	173-219-180(2)c(ii)	Engineering report	It is unclear what "system facilities" means in this section? Are maps in the engineering report supposed to show all potable water pipelines, pump stations? Or is intent to show only potable sources of supply (e.g., wells, surface water intakes)?
19	17	20	173-219-180(2)(i)	Engineering report	Delete "and consistent with pressurized distribution systems in the most recent edition of health's Water System Design Manual." Not all reclaimed water distribution systems are pressurized (including King County's Brightwater reclaimed water distribution system) and there is no requirement that a reclaimed water system must be pressurized for non-potable uses.
20	18	20	173-219-180(2)(g)	Engineering report	This provision reads that it applies only to surface water augmentation projects. If so, recommend moving this to fall under 2 (t) so that it aligns with other required elements of an Engineering Plan for surface water augmentation projects.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
21	19	22	173-219-210(2)(t)(iv)	Engineering report	The proposed rule states, "(iv) If the intended beneficial use is for an instream flow per chapter 90.22 RCW, a draft or final mitigation plan is required." We recommend citing chapter 90.54 RCW as additional statutory basis for instream flow rules. Second, a mitigation plan is only required if the reclaimed water is being used to mitigate for new consumptive out-of-stream uses. It is conceivable that an entity wants to use the reclaimed water for surface water augmentation or instream flow enhancement just to improve flows. In those cases is a "mitigation plan" required? Also there will likely be a need for other mitigation plan documentation needed for water right permits that are subsequently issued using the surface water augmentation water as mitigation source water. We recommend these changes to the last sentence to capture these thoughts: "If the intended beneficial use is to mitigate for flow impairments to instream flows established under 90.54 and 90.22 RCW, a draft mitigation plan is required to be submitted with the Engineering Plan. A final mitigation plan must be submitted with the reclaimed water permit application. Additional mitigation plan documentation may be required as part of the water rights application process for new water right applications that will use the surface water augmentation for mitigation water. "
22	20	22	173-219-210(2)(v)	Engineering report	Shouldn't the Engineering Report also require documentation on the anticipated volume of recovered water and the feasibility of recovering the water? Additionally, does a reclaimed water ASR project also require project proponents to file an obtain an ASR permit? Or does the reclaimed water permit suffice for authorization from the state? The ASR WAC (173-157) should be referenced and the relationship between ASR permit and the reclaimed water permit should be discussed in the rule and the Purple Book.
23	21	23	173-219-210(2)(t)(x)	Engineering report	Subsection (x) provides, "Conveyance in waters of state. For projects proposing conveyance in waters of the state, ecology must approve the conveyance report portion of the engineering report." However, there is nothing in Section 210 requiring a conveyance report portion of an engineering report. It would be helpful for Ecology to provide any standards or qualifications to using waters of the state for conveyance of reclaimed water and the generator subsequently withdrawing the reclaimed water back out of the water of the state.
24	22	24	173-219-240(2)€	Operations and maintenance	This provision should provide more detail on what notification procedures to potable water systems entails. Is it general communications on the program or does it only relate to permit violations? Will this be specified in the permit? It seems most important to include contact information for all affected agencies including affected potable water suppliers in the O & M manual.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
25	23	29	173-219-270(7)€	Reclaimed water permit terms and conditions	Again, helpful to clarify the relationship between ASR authorized in a reclaimed water permit and the ASR WAC for ASR permits. See comment on WAC 173-219-210(2)(v).
26	24	30	173-219-270(11)	Reclaimed water permit terms and conditions	This subsection provides, "Water rights impairment. The permit must require proof of continuing compliance with RCW 90.46.130, including the ecology final determination of impairment and adequacy of compensation or mitigation and, if necessary, enforceable provisions to ensure compensation or mitigation is implemented by the permittee." We question whether or not Ecology has an interest and or authority to determine the adequacy of any compensation offered by a generator of reclaimed water to any private water right holder. RCW 90.46.130 does not provide authority to Ecology with regard to private water rights. This idea of determining adequacy of compensation for State held rights is reasonable, but not reasonable for private transactions. If compensation or mitigation for any impairment is agreed to by the holder of the affected private water right, then Ecology should not be involved nor determine if the compensation is adequate.
27	25	30	173-219-290	Use Agreements	Should include provision on adding new users. The language from the 2015 draft rule was good and workable for both regulatory agencies and reclaimed water generators and distributors. Add: " (3) Template Use Agreements. A template use agreement may be submitted to the lead agencies for review and approval. Template Use Agreements must be approved by the agencies prior to implementation. (4) Adding new users. The reclaimed water permit may include conditions authorizing the addition of new users or similar uses without reopening the permit. For adding new users to previously authorized kinds of uses, a copy of the use agreement should be submitted to the regulator agencies prior to use. If the use has not been previously authorized, the permittee must provide a new user agreement for approval by the lead agency before the new use can begin. "
28	26	31	173-219-310	Cross-connection control	This section is very difficult to read and track. Therefore, we recommend a reorganization and reordering if the cross-connection control section centered around two primary goals of cross-connection control: protecting potable water from cross-connection with reclaimed water and protecting reclaimed water from lower quality water. See supplemental document for the exact wording and replacement.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
29	27	31	173-219-310(d)	Cross-connection control	We recommend that this requirement for notice to a potable water purveyor be limited to connections within the water service area of potable water systems: "Reclaimed water distributors must provide the local water purveyor written notification prior to providing reclaimed water service to any property within the potable water service area to ensure compliance with the Drinking Water Rules (WAC 246-290-490)."
30	28	32	173-219-310(2)(a)i-iv	Cross-connection control	We recommend moving these reference documents to the Purple Book. See also revised comment in the supplemental suggested revisions to 173-219-310 document.
31	29		173-219-320(3)	Cross-connection control	We don't feel that a developing a cross-connection program to protect reclaimed water from lower quality water needs to follow all the cited elements from the drinking water cross connection control requirements. We question whether all elements are applicable to the level of risk of contamination to reclaimed water in comparison to drinking water. For instance, adopting a local ordinance for a cross-connection control program is laborious and doesn't make sense since so many of cross-connection controls to protect reclaimed water are located at our facilities we would be adopting a regulation to regulate ourselves which seems unnecessary. Additionally, we question whether a CCS or associated drinking water cross-connection control guidance is appropriate for reclaimed water applications as cross-connection of a potable water source is a much higher risk that protecting non-potable sources. Following all of the recommend elements we may overly cautious compared to public health risk. Therefore, we recommend deleting this subsection and tasking the RAC to work specific reclaimed water protection guidance in the refinement of the Purple Book.
32	30	35	173-219-320	Class A and B reclaimed water	Class A and Class B requirements should be separated into two sections. It is confusing to have them both in the same section since it implies Class B water must achieve 4-log virus removal.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
33	31	35	173-219-320(2)	Class A and B reclaimed water	<p>The draft rule contains several references requiring 4-log virus removal/inactivation. It is unclear what the basis is for this requirement. The only reference we could find were for 4-log virus removal/inactivation came from the Safe Drinking Water Act treatment regulations. While we understand the need to disinfect for public health, we question the appropriateness of applying drinking water standards to non-potable water sources.</p> <p>Furthermore, requiring reclaimed water systems using traditional treatment processes such as those listed in (2) (a), (b), and (c) to demonstrate 4-log virus removal/inactivation places a burden on the recycled water generator to conduct a demonstration study. Many reclaimed water systems may not have the financial means to fund a study and for those that do, it may be impractical to perform since seeding the source water with an indicator virus would likely be needed to determine virus removal. Additionally, virus testing is not typically performed by in house laboratories. Does Ecology intend to provide credits for conventional treatment processes so that systems can determine compliance with the virus requirement? To do so would likely require significant effort.</p> <p>Requiring 4-log virus removal/inactivation will have a major impact to existing systems and the benefit of imposing the requirement is unclear. The USEPA's 2012 Guidelines for Water Reuse state "there have been no documented cases based on limited epidemiological studies of viral disease resulting from water reuse operations in the United States." (<a href="https://nepis.epa.gov/Adobe/PDF/P100FS7K.pdf">https://nepis.epa.gov/Adobe/PDF/P100FS7K.pdf</a>)</p> <p>Suggestion: remove 4-log virus removal/inactivation requirement for 2 a-c. We agree that adding more protective virus removal/inactivation for Class A + reclaimed water would be more appropriate.</p>
34	32	36	173-219-330	Table 2: Class A and B performance Standards	Remove reference to virus removal for reasons stated previously
35	33	37	173-219-340	Disinfection process standards	<p>The statement "All Class A reclaimed water generation disinfection processes must result in a minimum of 4-log virus removal or inactivation" implies that 4-log removal/inactivation must be achieved in the disinfection process only. Is this the intent?</p> <p>Suggestion: remove 4-log virus removal from this section, see supplemental document with proposed wording and reordering of this section.</p>

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
36	34	37	173-219-340	Disinfection process standards	The following statement is very confusing: "The disinfection process may use any or all of the following." Does this mean that the 4-log virus removal/inactivation requirement is assumed to be achieved if a system is using one of the disinfection processes listed in (a) or (b)? Suggestion: Change wording to "Acceptable disinfection methods are:" Also see supplemental rewritten section
37	35	37	173-219-340(1)(a)	Disinfection process standards	(1)(a) The chlorine residual requirement is silent on the form of chlorine residual. Unless a wastewater plant is consistently fully nitrifying, and therefore has RW source water low in ammonia, the chlorine residual will primarily be in the form of chloramines (measured as total chlorine), not free chlorine. Extremely high doses of chlorine would be necessary to achieve breakpoint chlorination in order to obtain a free chlorine residual. By remaining silent on the type of chlorine residual required, it leaves systems vulnerable to the potential of having to comply with a free chlorine residual during permit renewal cycles. While it is well documented that chloramines are not as effective against viruses when compared to free chlorine, requiring 4-log virus removal for RW systems would have a severe impact resulting in impractical increases to chlorine dosage and contact time. Suggestion: Specify total chlorine residual, see supplemental document with proposed wording and reordering of this section.
38	36	37	173-219-340(2)	Disinfection process standards	This section implies that systems using disinfection method (a) chlorine or (b) UV must also perform a virus validation study. We think it is more appropriate to require the validation study only for those using other disinfection methods. See supplement for suggested rewrite on this section.
39	37	38	173-219-340(2)(c)	Disinfection process standards	"Existing reclaimed water facilities are exempt from the validation requirement unless a disinfection system is modified, replaced, or the facility expects an increase in hydraulic capacity." Does this mean that existing systems are assumed to meet the 4-log virus removal/inactivation as long as they meet the requirements in 173-219-340 (a) or (b) and their RW permit requirements? We recommend clarifying, see supplemental document with proposed wording and reordering of this section.
40	38	41	173-219-380(1)	Maintenance of Chlorine Residual	What kind of benefit would warrant a waiver of the residual? Environmental? Operational? User benefit? There could many different reasons why a lower residual is beneficial and it would be helpful if the Purple Book expands on the criteria Ecology and Health would use to assess a waiver or modification request.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
41	39		Publication 17-10-022	Preliminary Regulatory Analyses	We disagree with the characterization that Section 173-219-340 represents a baseline condition of existing conditions. As written, the language is unclear if there is a new regulatory disinfection standard. If facilities must have a 1 mg/L of free chlorine after a contact time of 30 minutes, many reclaimed water facilities would need to increase chemical dosing for systems using chlorine disinfection, increasing production costs. Higher chlorine dosing would also increase disinfection by-products and cause negative benefits to users. De-chlorination systems might need to be developed for certain users. It's unclear from reading the rule text if the existing disinfection standards will continue to be applied or if reclaimed water producers would need to change current practices. See also comments 31-37.
42	40		Publication 17-10-022	Preliminary Regulatory Analyses	We disagree with the characterization that Section 173-219-310 represents a baseline condition of existing conditions. As written, it appears that reclaimed water generators would have develop comprehensive cross-connection programs including hiring Cross-Connection Control Specialist to review the program. Developing the program would result in costs to reclaimed water generators. Also, as written, the draft rule requires protections that are designed to protect drinking water in all circumstances even though the concern may be protecting reclaimed water from lower quality waters. See comments 26-29. In summary, we do think that, as written, the rule requires practices outside of the current reclaimed water standards and would result in costs to reclaimed water generators.
43	41		Publication 15-10-024	Reclaimed Water Facilities Manual	Groundwater Recharge- the changes to the groundwater recharge section and highlighting constituents in the table where the groundwater standards would apply is helpful. However, it would be helpful to have reference and guidance on AKART and OCPI process as applied to groundwater standards and monitoring in the Purple Book. It is inevitable that a groundwater recharge project will have certain standards and monitoring requirements that are determined on a project by project basis. However, the process for evaluating exceptions to certain standards needs to be better defined so project proponents, regional permitting staff and interested stakeholders understand the assessment criteria for determining exceptions for challenging parameters.
44	42		Publication 15-10-024	Reclaimed Water Facilities Manual	Disinfection: There should be guidance on disinfection in the Purple Book or the Orange Book on disinfection and particularly the 4-log virus inactivation/removal, if that remains.

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
45	43		Publication 15-10-024	Reclaimed Water Facilities Manual	Chlorine Residual: Recommend more guidance on criteria for when a lower residual could be granted.
46	44		Publication 15-10-024	Reclaimed Water Facilities Manual	Cross-Connection: the Purple Book would be a good place for guidance on protecting reclaimed water from lower quality water and how to select backflow prevention devices for lower-risk non-potable uses.
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					
66					
67					
68					

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
101					
102					
103					
104					
105					

	A	B	C	D	E
1	<b>King County Reclaimed Water Preliminary Draft Rule Comments (Chapter 173-219 WAC)</b>				
2	8/29/2017				
3	<b>Comment #</b>	<b>Page #</b>	<b>Section</b>	<b>Sec Title</b>	<b>Comment</b>
106					
107					
108					
109					
110					