



**Washington Association
of Sewer & Water Districts**

EDUCATE ■ ADVOCATE ■ COLLABORATE

November 9, 2023

Department of Ecology
Water Quality Section

RE: Comments on proposed 2024 NPDES MS4 Stormwater Permits and Stormwater Management Manual

Thank you for the opportunity to comment on the proposed Phase I and II permits and the stormwater manuals (SWMM). The Washington Association of Sewer and Water Districts (WASWD) represents more than 180 public sewer and water districts in the state, serving nearly 25% of our state's population. These districts provide cost-effective sewer and water services—ranging from the state's largest population centers, to the smallest rural communities. Clean water is a major concern to both our membership and the customers they serve. Stormwater issues are of particular concern to our membership due to the potential to carry surface generated pollutants into drinking water aquifers.

Drinking water source protection, like other safe drinking water requirements, is premised on the multiple barrier approach to protection of drinking water and public health. The EPA's guidance "Consider the source: A pocket guide to protecting your drinking water" states:

"Ensuring Safe Drinking Water Through the Multiple-Barrier Approach Whether your tap water comes from surface or ground water, all drinking water sources are vulnerable to a variety of contaminants from a variety of activities. The origin of contaminants might be in your neighborhood or many miles away. When rain falls or snow melts, it picks up and carries away pollutants, depositing them into lakes, rivers, wetlands, coastal and even underground sources of drinking water. Because we know these activities have the potential to contaminate the source of our drinking water, we have created four major barriers to protect our source water from contamination. Preventing pollution is critical to protecting drinking water from contamination and reducing the need for costly treatment...."

The four barriers in this multiple-barrier approach include: risk prevention, risk management, risk monitoring and compliance, and individual barrier.

Deep UIC wells reduce barriers to protecting drinking water for several reasons. Deep UIC wells penetrate at least one confining layer, which removes one of the layers of protection, thereby increasing the risk to the aquifer. Use of the vadose zone as treatment does not allow risk to be managed, because the effectiveness of the vadose

zone treatment capacity and long-term viability varies greatly from site to site. The science related to treatment capacity of the vadose zone is also not well documented or complete. Finally, reliance on human controls (site control, operation and maintenance, and inspections) limits risk management because they depend on the actions of the proponents or the site occupant and have no clear long-term oversight.

WASWD staff and members have appreciated discussions with Ecology on the risk that deep underground injection control (UIC) wells pose when they are located in Groundwater Protection Areas (GWPA)s given that the majority of stormwater is known to carry pollutants, site control is known to fail, shallow groundwater is already contaminated, and deep UIC wells provide a pathway to contaminate drinking water aquifers in contradiction to principles of protection in WAC 173-160. BMPs are also known to not remove all contaminants. Understanding the existence of these conditions makes the improvements contained in the proposed permits and manuals that enhance requirements for siting, drilling and operating deep underground injection control wells (UICs) very important. These revisions are a good step in the right direction in some of the five key areas we had previously expressed concern about. There is, however, additional work needed. These areas of concern are outlined below, identifying where we see improvement and where gaps remain in drinking water source protection.

1. Determining if a Project can be Rule Authorized, or if it Needs a Permit

Table 1-4.1: Prohibitions and Additional Conditions for Facilities and Activities Within the Area(s) Draining to a Deep UIC Well provides a succinct summary of requirements and prohibitions on activities that generate pollutants with a potential to reach drinking water aquifers. It is a good starting point for deep UIC proponents to see if their project is allowed, or what the general requirements will be, including the possibility of state waste discharge permits. Adding specific activities and time of travel as factors for determining requirements, including conditions that warrant a state waste discharge permit, makes the guidance more rigorous. For instance, non-commercial airports, automotive refueling stations and industrial roof runoff are now required to have a state waste discharge permit at the 10 year time of travel from a wellhead. While any activity is a risk for drinking water sources, the addition of requirements for some specific uses reduces that risk. Requiring additional disclosure, cleanup, and better treatment BMPs is also helpful. However, conditions such as a lack of any confining layer remains a concern.

In section *1-4.9 Demonstrative Approach*, new language helps clarify what is expected and in which circumstances when using this approach. However, it could use some extra language to make it consistent with the last paragraph in *1-4.8 Presumptive Approach*. We propose the following be added:

New UIC wells must meet the demonstrative approach to meet the non-endangerment standard if the presumptive approach is not completely followed or if the presumptive approach is inadequate to protect groundwater quality or if

for any reason a project proponent chooses not to directly apply all of the requirements of this manual (or an equivalent manual).

2. Notification of Water Purveyors/Well Owners/Water Districts When Deep UIC Well is Proposed

We appreciate the new language in 1-4.15 in the manual that highlights the importance of protecting drinking water sources, requires early notification to water providers, and includes guidance and accountability measures for pre-application steps to take with water utilities.

This is an improvement over past practices which placed the onus on local water purveyors to keep watch on local and state construction and permit applications to see when a project was proposed in their area that might have an impact on drinking water. Since many water districts are small, and do not have staff available for that type of “watchdog” activity, the improvement allows for more equitable protection across the state.

The revised language of the permit and manual falls short in that there is no appeal process for the district if they anticipate possible impacts from the project and Ecology allows it to proceed regardless of the district concerns for their aquifer. Additional language, starting with phone consultations with Ecology staff, and leading to a formal appeal process would be warranted to protect drinking water. We recognize that this may currently be tied to issuance of a permit. Nonetheless, Ecology should ensure at initial contact with the deep UIC proponent that the requirement for non-endangerment is met and does not burden the water district.

3. Monitoring

Because stormwater permits are applicable to the municipal separate storm sewer system (MS4), the monitoring emphasis is on surface waters impacted by runoff from these systems. In the case of raingardens and shallow infiltration, some research has been done to document efficacy and longevity, especially with engineered soils. When it comes to deep UIC wells, as we have indicated previously, we strongly believe there needs to be monitoring at depth in these wells to indicate if pollutants are breaking through any treatment regime at the top of the well. We know, for example, that traditional treatment methods in the form of BMPs are not effective at removing PFAS from water, and every day we hear of new, unexpected sources of these compounds that could easily contribute to stormwater runoff. NPDES permittees are being required in the new permit to develop PFAS management plans, but beyond attempting to control discharges of the legacy AFFF foam still at some facilities, it is unclear what these plans will accomplish when PFAS comes from many sources in an urban environment and treatment options are so limited.

The potential for these compounds to enter aquifers via stormwater is well documented, which makes monitoring at deep UIC wells essential to head off contamination impacting drinking water wells. Monitoring at depth in these wells would determine which current

and future pollutants are getting through surface treatment BMPs and when vadose zone treatment capacity is exhausted, necessitating well replacement. While WASWD agrees with Ecology that additional research would be beneficial on this topic, drinking water quality protection through monitoring is preferred now over the potential need to replace or expensively treat a drinking water source.

4. Mitigation

Utility concerns about mitigating contamination of groundwater drinking water sources from deep UIC wells that have been allowed is not addressed in the proposed SWMM. Given the potential for contaminants like PFAS to infiltrate drinking water aquifers, they should not be put at risk nor should utilities be responsible for paying for expensive treatment or finding a new drinking water source as a result of it being contaminated by pollutants in stormwater. We understand that Ecology does not have authority to require mitigation obligations through the permit, but a warning about potential CERCLA responsibility to deep UIC well applicants would at least put the applicants on notice of this potential future obligation.

5. Inspections

Another continuing concern is the uncertainty of when a site changes hands, either through purchase or rental. If the site were issued a permit instead of being rule authorized for the deep UIC, then this would be identified at the next reissuance of the permit. Being rule authorized, however, it is unclear how this change would be identified, at least until an inspection is performed. An obvious concern would be takeover by a business that would not be allowed to discharge to a UIC, or need to make modifications to do so. As rule authorized, clear instruction for inspection for deep UIC wells is lacking.

The proposed permit contains minimum requirements listed below for above ground treatment section of the well that should also be required for deep UIC wells:

1. Well owners will perform a monthly walk-thru inspection of the surrounding area and BMPs protecting the well.
2. Owners will look for items noted in the maintenance manual for the well, such as staining, materials stacked near the well, erosion, sediment levels and oil in the separator, etc.
3. A check list will be used and recorded and made available to Ecology and local inspection personnel upon request.
4. Annual inspections shall be performed by local or Ecology personnel to ensure BMPs are being properly maintained and to note any changes in occupancy of the site. These inspections shall be in accordance with established practices of the local jurisdiction as outlined in their respective Stormwater Management Program.

In addition to the five areas of concern outlined above, we offer additional comments on the permit and SWMM:

Phase I and II Permits:

- In both permits, there is a requirement to develop a new Stormwater Management Action Plan for a new single subbasin or catchment as identified in the previously done watershed plan. As part of these plans, as applicable to existing development, Permittees should be required to address groundwater and wellhead protection from surface pollutants in discharges from the MS4, particularly where infiltration is being utilized in a basin.
- We recognize that the permits are applicable to the MS4 owned and operated by a jurisdiction. Source control programs in both permits perform a valuable service in preventing pollutants from reaching the MS4. NPDES-required training for source control inspectors working on private property should include looking for problems near wellheads and in sensitive areas.
- The Education and Outreach programs are recognized as being of great value. For our members, this is particularly true in addressing discharges to infiltration systems which could potentially discharge to drinking water sources.

Stormwater Management Manual:

- There is a lack of discussion of PFAS in the manual. This could be improved in conjunction with discussions on PCBs. Contamination by PFAS is widespread in the environment, and with no BMPs to prevent it from reaching groundwater via UIC wells, there is urgency to find methods to treat water, but also to prevent it from ever reaching groundwater. Authorization of any infiltration of stormwater must take into account the widespread occurrence of these compounds and their impact on human health.
- The manual is lacking in methods for controlling microbial pathogens in stormwater being discharged into UICs. Ecology should review the 2023 Water Research Federation Report 5034 and utilize this knowledge to improve BMPs.
- With recent legislation requiring middle housing in single family zones, stormwater exemptions for single family areas should be reconsidered for the UIC provisions, and the manual in general. These housing types that increase density in single family zoned areas, may result in stormwater development more similar to multi-family that warrant regulation more similar to multi-family zones.
- Section 1-3.1, and Flowcharts 1-3.1 and 1-3.2 for determining requirements for new development and redevelopment, indicate that if ALL runoff is infiltrated, then the proponent must proceed to UIC Guidance and utilize

that for the project. It does not indicate what the requirements are if the flows are split between infiltration and surface runoff. This is confusing. If any portion of the flow is going to a UIC, then the UIC requirements need to be followed as part of the overall development.

- Section 1-4.15 on Deep UIC wells calls for hydrogeologic studies. There should be a requirement for these being done by a licensed hydrogeologist, not simply a civil engineer, due to the complexities of the data analysis.

The following comments refer to page numbers in the redline version of the Western Washington Stormwater Management Manual

- Page 51- *Equivalent Manuals*
There is a statement regarding equivalent manuals that warrants some clarification:

Some regulations or programs (e.g. the Phase I Municipal Stormwater Permit, the UIC Program) may allow the use of an “equivalent manual” for compliance with that regulation or program. When a regulation or program allows the use of equivalent manuals, that regulation or program will dictate the steps necessary for an alternative technical manual to gain equivalency for use in that regulation or program. If it is an Ecology regulation or program, an Ecology review is often (but not always) required. Refer to the regulation or program you are complying with for details on if equivalent manuals are allowed, and if so, which alternative technical manuals are considered equivalent for use with that specific regulation or program.

This needs to be clarified as to whether or not equivalent manuals will contain the enhancements to deep UIC wells and treatment BMPs that are contained in the proposed State manuals. For the purpose of drinking water protection, we ask that these sections be identical to the state manual. If all jurisdictions under NPDES Municipal Stormwater permits are now intending to use the state manuals, and not seek equivalency, then this will be a moot point, and the paragraph should be removed.

- Page 1039 – *Treatment Prior to Infiltration BMPs*
This has another new helpful section that reflects our discussions with Ecology. It discusses presettling, catch basins with downturns for oil, etc. It fills a need for frank explanation of what is needed prior to infiltration. However, in light of what we have all learned about PFAS over the last few years, there should be an acknowledgement made that there is presently

no protective, effective or permanent pretreatment BMP for PFAS in the Manual.

- Page 1057 - We appreciate the language below included as part of SSC-1 *Setback Criteria*:

Infiltration BMPs upgradient of drinking water supplies and within 1, 5, and 10-year time of travel zones of a public drinking water well must comply with Health Department requirements (DOH, 2010) and local ordinances. To locate wellhead protection areas and the associated water purveyors in each county, see the Washington State Department of Health Source Water Assessment Program maps at the following website:

<https://fortress.wa.gov/doh/eh/dw/swap/maps/>

Information related to sole source aquifers and critical aquifer recharge areas, including requirements, is managed by the local jurisdiction.

This language helps to clarify the role of DOH with regard to drinking water supplies, and points proponents to the appropriate places to obtain information. With compounds like PFAS able to travel long distances unimpeded by the soil column, we would still maintain that the total contribution area should be included, not just the designated time of travel zones.

To accommodate the recent work to update the 2010 document, we suggest just putting in the title of the document, followed by “latest version”.

- Page 1060 – *SSC-9 Previously Contaminated Soils or Unstable Soils*: This is a new section that we very much welcome. We agree that infiltration on these sites should be avoided. Instructions to the proponent to investigate and remediate sites containing contaminants from prior use, or choose an alternative site reinforce the recommendation against infiltration on these sites. A review of any remediation to ensure its adequacy will be particularly important when the site is within the vicinity of Well Head Protection Area.
- Page 1061 – *V5.7 Screening Criteria for Infiltration BMPs*: We welcome this new section as well in helping to reduce the risk to drinking water sources because it provides a very comprehensive list of situations to look out for when evaluating a site for infiltration suitability. It goes well beyond wellheads, septics, etc. and should be well utilized by proponents looking to ensure the success of a project.

- Page 1109 – *BMP T5.21 Infiltration Swales:*
We view this as another instance of all new text very much in the spirit of our discussions with Ecology on groundwater protection. The language similar to what is indicated below, now found in several sections of the SWMM and BMP's in large font, acts as a good wakeup call to proponents of projects:

Identify pollutants, particularly in industrial and commercial area runoff, that could cause a violation of WSDOE's groundwater quality standards (Chapter 173-200 WAC).

Our members continually refer to the Safe Drinking Water Act as the guiding principle for how to take care of groundwater:

40 CFR 144.12(a)

"No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this paragraph are met."

Further, protection of drinking water sources requires a multi-barrier approach to protect public health since prevention of contamination is more reliable for safe drinking water than trying to treat water after it has been contaminated, especially as the availability of drinking water sources becomes more challenging. For that reason, while we applaud the improvements in this manual, we continue to be concerned about shallow UIC infiltration, particularly where there is a lack of a confining layer to go through. Unfortunately, PFAS contamination has already impacted water purveyors in this state through surface infiltration alone.

Thank you for your work in revising the manual to clarify and extend protections for drinking water. We look forward to future discussions to address shallow UIC wells and infiltration.

Sincerely,



Judi Gladstone
Executive Director
WASWD