

March 2019

Buffers

Q: (2.2.1 and G-3, G.2.2) To what extent does coverage under a CWA section 404 permit exempt a project from the 50ft buffer? For example, if I have a road project that includes a bridge. The bridge is the reason for the 404 permit, but is the whole project exempted because of that permit or only the bridge section? If only the bridge section, what are the "extents" of the coverage of the 404 permit exemption in relation to the bridge?

A: Coverage under a 404 permit is for the area of impact directly related to the 404 permit (i.e. bridge work). Any construction outside the area of the 404 work would be subject to the buffer requirements

Q: (G-3, G.2.2 and G-, G.2.4) All compliance alternatives reference maintaining a "50ft buffer". This does not allow for situations where a 50ft buffer does not exist prior to construction. G.2.4 last sentence states that to comply with alternatives 2 or 3 you will provide controls that achieve an equivalent sediment load reduction as a 50ft buffer. In some cases you will not be starting off with a 50ft natural buffer.

A: It is correct that you are not required to artificially create a 50-foot buffer. However, the requirement is to retain and protect from disturbance the existing 50-foot buffer area. So, if there is only a 20 foot area of natural buffer adjacent to the surface water on your site, and the remaining 30 feet is un-vegetated or has been paved over, you can meet the Part 2.2.1 requirement simply by not conducting any new disturbances in the 50 foot area next to the surface water. This is consistent with the following from the buffer appendix on G-5, G.2.3: "...any preexisting structures or impervious surfaces are allowed in the buffer provided you retain and protect from disturbance the vegetation in the buffer outside the preexisting disturbance." However, if disturbances are conducted within 50 feet of the surface water, you would be required to provide the sediment removal equivalency compliance alternative for that disturbance, but for the purposes of calculating the sediment load reduction you would not be required to compensate for the reduction in buffer function from the preexisting disturbances. For example, if you are conducting disturbances within the 30 foot area of preexisting disturbance (i.e., re-disturbing), your sediment removal equivalency would be the 20 feet area of natural vegetation, which would be met without any additional BMPs.

Q: (G-8, Steps 1 and 2) What are accepted removal efficiencies of standard BMPs for use in buffer equivalency calculations? This information is not readily available from manufacturers.

A: EPA recognizes that BMP efficiency information is not readily available. EPA relied on values available in the RUSLE2 model in the buffer examples provided in Appendix G. EPA would accept BMP efficiency values from this model or other models, or values determined using good engineering judgment taking into account such factors as soil type, slope, rainfall, etc. EPA

hopes to provide better guidance on the sediment removal equivalency compliance option in the future.

Q: (G-9-G-10, Step 2) The CGP states that "you should use a model or other type of calculation" to calculate buffer efficiency. Can we do the calculation by hand or do we have to use software?

A: Correct, you can calculate this by hand if you take into account factors such as soil type, slope, rainfall, etc. and document the information you relied upon in making your calculation in your SWPPP. Note also that flexibility is provided to linear projects for this requirement.

Q: (G-16, Table G-8 (see also G-8, note 1)) 50ft buffer table does not delineate the type and efficiency of perimeter control used in conjunction with the buffer strip to achieve the posted removal efficiencies. This is a large variable depending on what type of perimeter control is installed. The cheapest of controls receives the same rating as the most expensive. Depending on what type of perimeter control is used, efficiency may increase or decrease. This doesn't accurately reflect the effectiveness of the buffer. If I use a better perimeter control, I rely less on the buffer and therefore don't really need to replace that much efficiency if I remove it. If our slope is greater than 9% and we have to create our own table, how do we duplicate if we do not have any idea of how these numbers were calculated?

A: The numbers modeled in the buffer tables were intended to provide assistance to permittees in calculating their removal efficiency, understanding that many assumptions have been made (e.g., vegetation quality, perimeter control effectiveness, etc.). In designing controls to match the equivalency in the table, EPA recommends you take into account the actual controls you will install on your site using a model or good engineering judgment. If you are able to demonstrate that the perimeter control on your site provides 75% sediment removal, and that only 25% is from the natural buffer, then you can achieve compliance by providing controls that achieve the additional 25% removal.

Q: (G-16, Table G-8) Is buffer efficiency in Table G-8 cumulative or independent of location? Is there a direct correlation per foot, meaning efficiencies can be interpolated? How do I calculate the efficiency of a buffer width less than 50ft?

A: In EPA's research we found that although sediment removal increases with buffer width, the relationship is not linear. To calculate a buffer of less than 50 feet you would need to calculate using a model or good engineering judgment. In the examples provided in the buffer appendix, the first step is to determine the efficiency that would be achieved if a 50 foot buffer existed using the buffer tables. Then, you would need to use a model or good engineering judgment to calculate that the buffer width retained on your site combined with the additional controls achieves that equivalent removal.

Q: All buffer calculations and efficiencies are based on the assumption that stormwater flow into a buffer will be perpendicular to the receiving water body. This is not always the case. Focus is on buffer width but what if you are impacting a buffer from the side and reducing length (along water body) not width (away from water body)? Example: Divided highway crossing a river. Area between highways is a

buffer and if we were to widen the highway we would be impacting the existing buffer length but not the width essentially making the buffer a thinner slice but still 50ft long. This reduces efficiency.

A: Impacts should be minimized but **no calculations are required** because the site could also qualify for the linear project flexibility. To clarify, the buffer requirements are triggered for any disturbance within 50 feet perpendicular from the surface water. If the impact to the buffer is a disturbance to the buffer length, and if there are not exemptions, the requirement would be to treat stormwater discharges from earth disturbances occurring within 50 perpendicular feet from the surface water, regardless of the direction of stormwater flow.

Q: Are the buffer requirements applicable to man-made waterways like canals?

A: Yes, if they meet the definition of "waters of the U.S."