



Minnesota
Pollution
Control
Agency

Construction Stormwater Permit

Buffer Zones

wq-strm2-30 • March 2009

An undisturbed buffer zone of not less than 100 linear feet from a Special water is required in the construction stormwater general permit. Special waters are defined in Appendix B of the permit. Determining if your site is near special water can be quickly determined using the online mapping tool: www.pca.state.mn.us/water/stormwater/stormwater-c.html#specialwaters

Riparian buffers

Riparian buffers are vegetated zones adjacent to streams and wetlands that represent a best management practice (BMP) for controlling many pollutants found in typical stormwater runoff. Many studies have shown that by maintaining a buffer around surface waters pollutant impacts from sediment, phosphorus, nitrogen and thermal impacts can be greatly reduced. In addition to the benefits of buffers as a long term stormwater BMP, maintaining a buffer during construction reduces the risk of a sediment discharge when it rains.

Permit requirements

When working near Special Waters, the general permit requires that an undisturbed buffer zone of at least 100 feet be maintained at all times. However the permit is clear regarding certain exceptions to this requirement such as water crossings or limited water access. There may be other situations where construction within the buffer is unavoidable. Some other examples include work being done to restore the buffer or remove refuse from within the buffer zone. Existing impervious surfaces (structures or pavement, e.g.) can

be replaced by new impervious surfaces of the same size or smaller. The new impervious surface may be located in a different area within the buffer but should not be moved closer to the water body.

If the project involves the relocation of impervious surfaces, any environmental or scenic impacts over the existing conditions must be mitigated. If the impervious surface cannot be sited on a parcel without encroaching upon the buffer, the project may still be allowed coverage under this general permit if all water quality and scenic impacts are mitigated and documented in the SWPPP. An entire structure or a majority of a structure must not be located within the buffer zone unless it is a replacement. Scenic impacts must consider the aesthetic change caused by the project from all views from outside the project area.

Contact the MPCA during the design phase of the project to determine what additional BMPs may be necessary. If, after discussing the proposed project with the MPCA, and a determination is made that the project will qualify for the listed exception, restoration of the buffer zone must blend into and match the adjacent landscape visually. BMPs must also be selected to blend into the surrounding area as much as possible. Restoration of the buffer must be with the same/similar vegetation that existed prior to disturbance

or would exist in a natural condition if not previously altered by human activities.

Trout streams

Trout are a unique species of fish that rely on cold water habitats for survival. Exposure to sunlight can cause adverse warming of the water. The shade provided by trees is very important to minimizing thermal impacts to trout streams. The removal of woody vegetation and replacement with grassy vegetation is not allowed by this permit unless the reasons are absolutely necessary and completely documented in the SWPPP.

Encroachment on the buffer zone

Construction activity under this general permit is not allowed when encroaching on the buffer zone if additional stormwater treatment BMPs are not possible. BMPs must address both erosion-prevention and sediment-control during construction and post-construction stormwater treatment if new impervious surfaces are being created. For example, in some areas it may not be possible to construct stormwater treatment systems such as an infiltration area because of the proximity to bedrock. In this situation, an enhanced swale or another practice may be used as an alternative.

If encroachment into the buffer zone is necessary, additional BMPs must be utilized to mitigate any water-quality or scenic impacts or to preserve the wilderness, scientific, recreational or other special characteristics that make the water an Outstanding Resource Value Water.

BMP selection

BMPs should be selected with the designation of the receiving water in mind.

For example, if the receiving water is designated as a trout stream, as much stormwater as possible should be infiltrated or other methods of minimizing stormwater temperature increases must be used. If the receiving water is designated as a Scenic or Recreational River Segment, the SWPPP should include methods of minimizing the aesthetic impacts from structures within the buffer such as screening with trees in addition to water quality BMPs.

Consider another example: If a portion of a structure must be located within the buffer zone, stormwater should be routed away from the Special Water whenever possible. If stormwater cannot be directed away, it should be routed using BMPs such as enhanced grass swale or flow over vegetated areas. For design information on enhanced swales, see the “Protecting Water Quality in Urban Areas” design manual, found on the MPCA Stormwater Web site: www.pca.state.mn.us/stormwater

Buffer zone design

The buffer zone area is designated as 100 feet, measured horizontally from the water’s ordinary high water (OHW) mark. The OHW for Lake Superior is the water line at an elevation of 601.5, as defined in the North Shore Management Plan. The Minnesota DNR has established the OHW for all other Special Waters. The elevations can be found on the DNR’s website or by calling a local DNR-area hydrologist.

Local requirements

In addition to the requirements for buffer impacts set forth by the NPDES program, permittees should be aware of additional local requirements. Examples include Mississippi River Management Plan, North Shore Management Plan or any state or local shoreline ordinance.

More information

For more information, call the MPCA Stormwater Hotline at 651-757-2119 or 800-657-3804.