

## Stream/Waterway Guideline

The Opencut Act states that the Department cannot accept a plan of operation unless the plan provides that surface water and ground water will be given appropriate protection, consistent with state law, from deterioration of water quality and quantity that may arise as a result of the Opencut operation (MCA 82-4-434 (3)(l)). This guideline provides recommendations regarding Opencut operations proposed to be conducted in any river, stream, creek, intermittent stream, ephemeral drainage or any other waterway with a defined and/or eroded channel, hereafter referred to as waterways.

In addition, Opencut operations conducted in waterways could have the potential to cause adverse impact to the site and adjacent land. For example, disturbing the drainage by removing vegetation and material could exacerbate lateral channel migration and erosion on-site; and changing the channel shape, dimensions, or gradient could cause both headward erosion upstream and excessive sedimentation downstream.

Due to the potential for Opencut operations conducted in waterways to negatively impact the site and adjacent land, the Department strongly recommends avoiding mining or other operations within any waterway and that at least a 50-foot wide buffer zone along both sides of the waterway will be left undisturbed. This buffer may vary depending on existing easements, the size of the waterway and significance of the waterway, among other potential factors. Regardless, any planned buffer zone must be shown on the site map.

Alternatively, the operator may choose to adjust the proposed permit boundary entirely so that the waterway is excluded.

If you decide to propose mining or other Opencut operations in any waterway, you may need to retain the services of a professional scientist or engineer to design your Plan of Operation to meet the requirements of the Opencut Mining Act and its implementing rules. A list of environmental consultants is available at <http://deq.mt.gov/Land/lust/consultantlist>.

In such case, the scientist or engineer will need to revise, amend, and augment sections of the Plan of Operation as necessary depending on the activities, mitigations, stabilization methods, and reclamation procedures proposed. Technical reports presenting additional data and analyses, calculations, modeling results, and engineering and/or scientific evaluations may need to be attached to the plan.

Under the Opencut Mining Act and its implementing rules, it is the Operator's responsibility to provide a complete, thorough, and comprehensive design for the proposed operations, mitigations, and reclamation methods, and to provide adequate bond to ensure that impacts resulting from the proposed operations could be remedied. Also be advised that the Act and rules include both broad provisions and specific requirements that may apply to proposals to conduct mining and other operations in the waterway. These provisions and requirements include, but are not limited to, the following:

- a. The Plan of Operation must provide that the Opencut operation will:
  - i. Provide procedures, that will be implemented to prevent significant physical harm to the affected land or adjacent land, structures, improvements, or life forms (MCA 82-4-434(3)(n)), including monitoring that may be necessary for assessment.
  - ii. Provide appropriate measures to prevent, minimize, or mitigate adverse impacts to on- and off-site surface water and ground water systems and structures that could be caused by Opencut operations (ARM17.24.218(1)).
  - iii. Prevent sedimentation onto adjoining lands or streams by constructing and maintaining catchments, ponds, or other reasonable devices to control water drainage and sediment (MCA 82-4-434(3)(b)).

- iv. Provide water management and erosion control plans for surface disturbances that will intercept a waterway, significant runoff, or ground water (ARM 17.24.218(1)).
  - v. Keep mine material stockpiles out of drainage bottoms (ARM 17.24.218(1)(d)).
  - vi. Provide appropriate pollution prevention measures to protect surface water and ground water from deterioration of waterways (MCA 82-4-434(3)(l) and ARM17.24.218(1)). Note that the Department may require on- and off-site surface water and ground water quality and quantity monitoring before, during, and after Opencut operations.
  - vii. Leave reclaimed surfaces and roads in a stable condition that blend into the surrounding topography and drainageways/waterways (ARM 17.24.219(1)(c)). Note that the Department may require water-table-level monitoring to ensure that appropriate reclaimed surface elevations are established.
- b. Reclaimed waterways must:**
- viii. Be located in their approximate pre-mine locations;
  - ix. Have channel and floodplain dimensions and gradients that approximate pre-mine conditions;
  - x. Connect to undisturbed drainageways/waterways in a stable manner (ARM 17.24.219(1)).
- c. When Opencut operations will cause the diversion, capture, or use of water, the Operator shall consult with the regional office of the Department Of Natural Resources and Conservation, Water Resources Division, concerning water rights and submit a summary of that consultation with the Plan of Operation. The Plan must describe measures to be used to protect the water rights of other parties or to replace an adversely affected water source that had a beneficial use (ARM 17.24.218(1)(g)).**