

COLD-CLIMATE CONSTRUCTION

Preparing for winter-weather site management



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As spring turns to fall, we often consider winter site conditions, and in northern climates especially, industry professionals begin preparing. Although not impossible, preparing for winter construction site management can be a costly issue and needs to be engaged at the correct time. When there is frozen ground and snow cover, the time is too late; proper planning and site management for winter conditions begins in the fall, and this process is often overlooked.

In most areas under National Pollutant Discharge Elimination System permit coverage, stabilization and inspection practices need to continue until work has ceased or soil has been stabilized. Frozen soil conditions generally are not considered stabilized, so it is important to become educated on local requirements. Also, winter conditions make site drainage areas more concentrated, so it is key to understand a site's drainage pattern and defend discharge points.

During the construction phases of a project, one must consider the current phase of activity in relation to the site stabilization practices specified in the storm water pollution prevention plan (SWPPP) for that phase. In addition to the areas being actively worked, it remains imperative to plan ahead. What are the next few months of activities, and how do those activities affect the stabilization plan?

Site stabilization and perimeter controls are the easiest to manage, but they may cost substantially more to install when the ground is frozen and outdoor temperatures are -25°F. Allocating budget dollars for construction practices during the winter months remains a critical measurement of success.

Consider longer-term objectives an integral part of effective winter site management. For example, if a site has a temporary or permanent storm water pond that might need side-slope stabilization, consider doing this type of work in non-winter conditions. This type of seasonal phasing activity will be more cost-effective and increase a project's propensity to remain environmentally compliant.

Protection of seeding work is critical to its successful expression in the spring. In addition to vegetation, straw mulching and hydromulching can be applied in very adverse conditions. Runoff conditions will most likely be too critically wet for equipment to work on them during spring conditions, so remember to stabilize with the right best management practice—and often.

Down-gradient perimeter control is often referred to as silt fence, which is effective and can be installed in adverse conditions. With the onset of machine-type installation equipment, the overall ability to install under frozen conditions has changed dramatically. Compaction is the critical element of success; allowing for large clods of frozen soil to be used as compaction is not an acceptable practice.

In addition to silt fence, there are several other items that require little or no earthwork. Items such as wood chip berms, compost berms, rock logs, biodegradable rolls and structures are available if alternative methods are necessary. Whatever you need to install for down-gradient perimeter protection, remember to update the SWPPP map to reflect field activities. Documentation and inspection records are required in most jurisdictions whenever there is an active permit on each job site. **SWS**

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