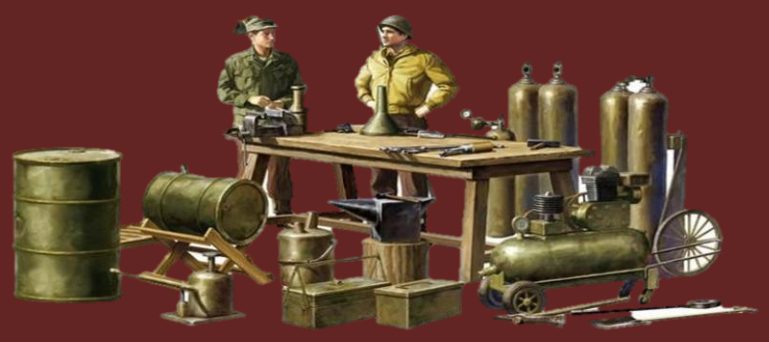
VEHICLE MAINTENCE YARDS and MATERIAL STORAGE

One of the six minimum control measures included in the SWMP is "Good Housekeeping". What does this mean and why is it so important? Good housekeeping means storing products so that they are organized, sealed, and don't have any potential to accidentally end up in a storm drain. It means spills are cleaned up promptly using an appropriate spill kit. And it means preventative measures are taken wherever feasible.



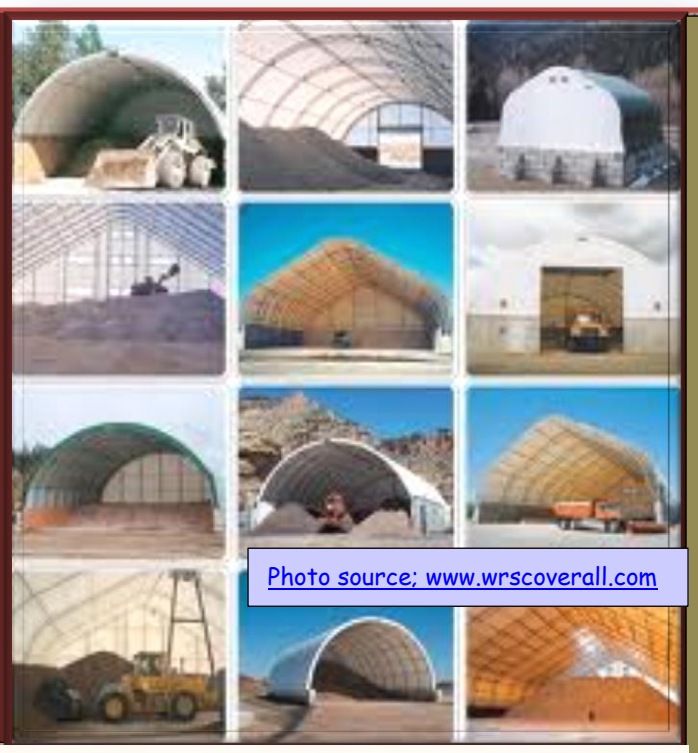


Photo source; www.wrscoverall.com

Proper salt storage is one of the most important aspects of a vehicle maintenance yard. It's a bit of a confusing matter, given that every winter we dump tons of salt on our roadways. Knowing that every grain will likely end up as a component in runoff seems to conflict with the notions that while it's at maintenance yard salt needs to be protected. The difference is really in "dosage" at point of impact. The amount of road salt applied for any given storm varies depending on the intensity and temperature. When it washes of, it enters the watershed in a dispersed manner. Exposed salt piles can deliver a concentrated slug. The level of toxicity of any substance depends on either long term exposure, or an acute dose. We value the safety of our citizenry and so continue to use salt to deice our roads despite being fully aware of the consequences of that choice; which is why it becomes even more important to reduce or eliminate any potential to potentiate the impact we have chosen as acceptable.

Improper salt storage isn't just a potential stormwater impact. When exposed to the elements, salt piles have equal potential to contaminate ground water aquifers. In Michigan, chloride levels are one pollutant that has consistently risen as much as 30% over the past few decades, in both surface and ground waters. Source: Steve Aichele USGS

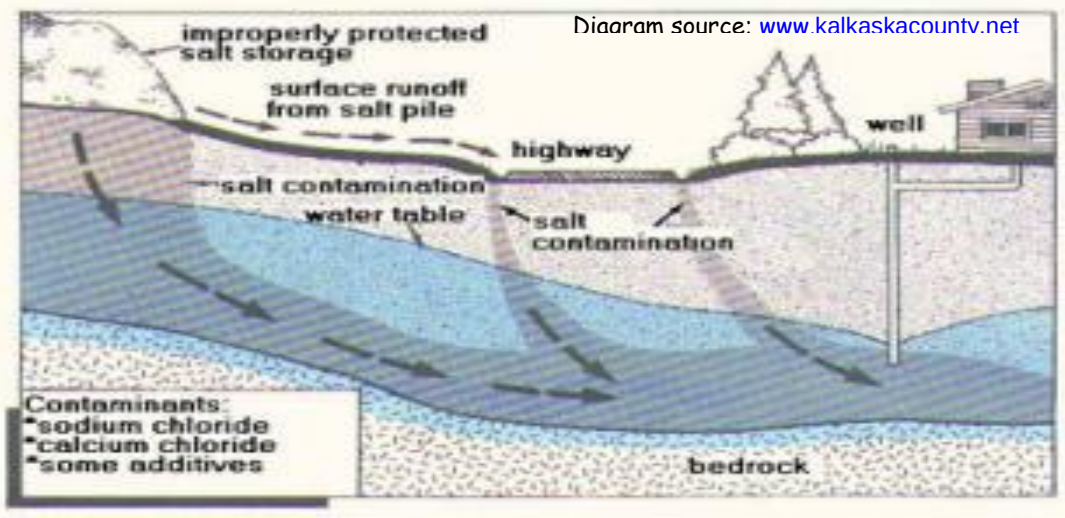


Diagram source: www.kalkaskacounty.net

SEMCOG has put together guidance to help reduce impact from salt piles to the maximum extent practicable. Proper storage and loading techniques can help minimize the negative impacts of salt to the environment.

Facilities:

o All salt piles should have a roof made of a permanent material. If a permanent material is not available, cover the salt pile with a tarp.

o All salt storage, loading, and transfer areas should be on an impermeable surface like asphalt, concrete, or impervious fabric.

o Storage surfaces should slope to let water drain away. Surfaces should have a slope of ¼-inch per foot away from the center. Ensure drainage is properly contained to prevent run-off into storm drains. Install curbs, sandbags, or hay bales, if needed.

o Solid salt should be stored at least 50 feet from a designated wetland, lake, or stream.

o Salt containment structures located within a 100-year floodplain should be designed and constructed to remain effective during a 100-year flood.

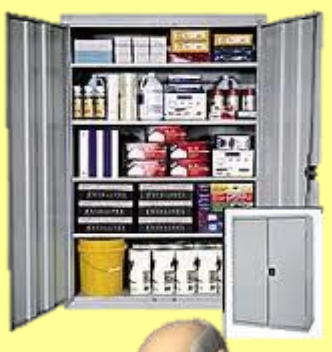
o When possible, there should be enough room to store 100 percent of the estimated mount of salt to be ordered each winter season.

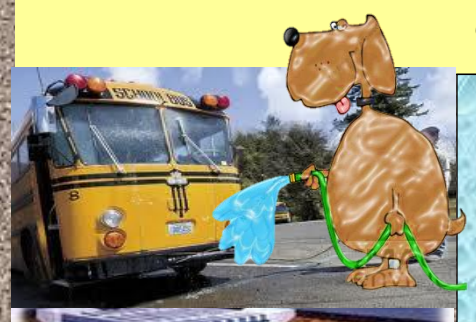
o Recommended building designs for salt storage can be found in a detailed guide, The Salt Storage Handbook, www.saltinstitute.org.

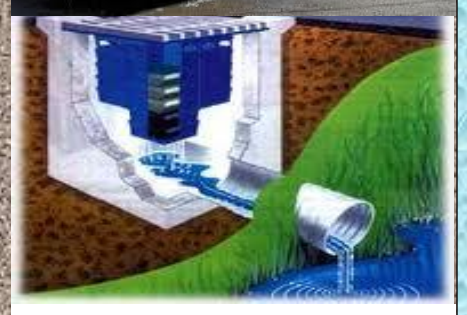
For additional information on loading and regulations, please see this helpful SEMCOG guidance Document, the source of this information. http://www.semcog.org/uploadedFiles/Programs_and_Projects/Water/Stormwater/Municipal_Training/Streets_and_Parking_Lots/Road%20Salt%20Application.pdf

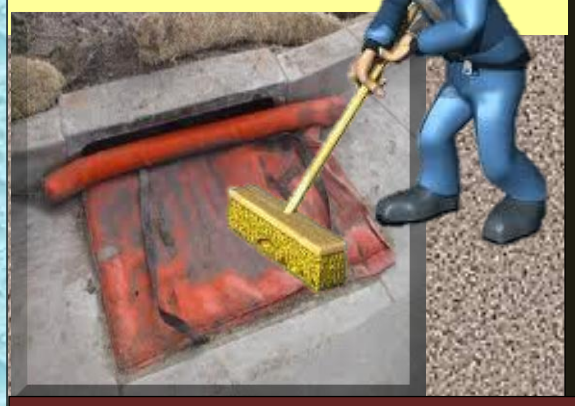
Photo source; www.serc.carleton.edu

Drums that are left out in the elements have the potential to corrode and leak, exposing chemicals to the environment. To the greatest extent possible, products should be kept inside, or in a covered shelter, away from exposure to the elements. There are many products on the market that assist with organization and containment of drips or spills. Cabinets can keep chemicals that can react with one another separated and when properly labeled, provides and extra measure of safety. And no matter how careful, any crew has the potential to cause a spill. Prepared with spill kits appropriate for whatever is on site is an effective risk management tool. Regulatory requirements tend to be about risk management at the basic level. By understanding the intent of the law, effective risk management along with effective environmental protection can become intuitive.









One of the elements in the SWMP is a commitment to train all contractors and employees that have even the slightest potential to impact stormwater. Bus drivers need to know not to wash a bus over a storm drain, and to make sure soapy water drains away or the drain is covered. Janitorial staff needs to understand that it's improper to sweep dirt or trash into a storm, but good to sweep a protective cover off. Training staff and contractors to the "lowest common denominator" is just another BMP!

IF IT'S ON THE GROUND
IT'S IN THE WATER

It should be obvious, but just in case it's not, doing maintenance inside and under cover is a great BMP. If this isn't possible, covering storm drains until work is completed and spills cleaned up would be a good second best.

Included in proper storage are pesticides and herbicides. Although commercially useful, they are poisons and need to be managed properly. All products on site in a maintenance yard must be properly signed, even those deemed harmless, and especially herbicides and pesticides. Herbicides are linked to a phenomenon known as drift damage, where non targeted plants show damage, such as not bearing fruit. These chemicals need to be used sparingly and kept out of our waterways. Sign them visibly, use sparingly, dispose of properly.

Don't forget to visit our BMP and 7 simple steps pages. And check out our SWMP to see everything we're doing to protect water