

COMMUNITY FOCUS: MAKING AN IMPACT

Better Infrastructure. Better Environments. Better Life!

CHLORIDE REDUCTION: WHAT YOU NEED TO KNOW

Sleet. Snow. Ice. Winter in Illinois can be hard on the public in more ways than one. Winter weather can cause roads and walkways to become serious safety hazards. To combat these dangers, municipalities rely on the most common and economical deicer, sodium chloride, or salt. However, excessive use of road salt can cause environmental problems and can become a hazard itself. Salt aids in the erosion of infrastructure and causes damage to water bodies, groundwater, and roadside vegetation. High chloride levels impair the plants natural ability to absorb water and nutrients. Melting snow and ice causes water runoff that contains chemicals from applied deicing agents. This runoff is discharged directly into local bodies of water. The only way to address this issue is at the source, the application of salt.

A truck driving down a dirt road

Description generated with very high confidenceMEI Senior Project Manager, John Kawka, spent 36 years with DuPage County Highway Department, as Manager of Highway Operations. As a member of DuPage River Salt Creek Work Group, he has twice been awarded with Low Salt Community Awards. John is an expert at developing and implementing best management practices for chloride reduction. Under John’s guidance, DuPage County reduced salt application rates 25%-35%, saving thousands of county dollars. Additionally, they received recognition from the Sierra Club and EPA for the DuPage River Salt Creek Workgroup program efficiency and, to date, have not had to apply for a chloride variance. Utilizing shared services to reduce costs, the County established good working relationships with other local municipalities.

Via the National Pollution Discharge Elimination System (NPDES), the United States Environmental Protection Agency (EPA) passed regulations to improve water quality by reducing nonpoint source pollution in urban stormwater. The Municipal Separate Storm Sewer Systems (MS4) Permit is required for municipalities to obtain NPDES coverage. Municipalities applying for an MS4 are required to address six minimum pollution control measures:

* Public Education and Outreach
* Public Participation / Involvement
* Illicit Discharge Detection and Elimination
* Construction Site Runoff Control
* Management of Post-Construction Site Runoff
* Good Housekeeping in Municipal Operations

So, how do you reduce chlorides to help meet the MS4 requirements? First and foremost, all employees should be made aware of the requirements and the methods that will be utilized to minimize contaminants. These methods can include proper maintenance of municipal facilities and property, the inspection of stormwater management systems and other areas that may impact stormwater runoff. Employees should be well-versed on spill prevention and response as well as proper storage and handling techniques. A well-developed snow fighting plan should be implemented and reviewed often to assess what is working and what needs to be revised. It is important to be flexible and to adjust to conditions, as no one method works in all situations.

A successful snow removal plan should include several policies, including, but not limited to, the following:

* Avoid applying dry salt to pavement that is below 15°F. It will not melt fast enough to prevent ice and it will blow off the surface into vegetation.
* Never plow or blow snow into bodies of water, wetlands, traffic, or into streets.
* Remove snow from surfaces as quickly as possible to reduce compaction.
* Plow first before applying deicers to avoid dilution of salt.
* Limit the use of salt during a snow storm; only use it to reduce bonding.



If you are interested in more detailed information about chloride reduction, best management practices, NPDES and MS4; John Kawka is available to meet with your key staff or make a presentation at your facility. Contact Jessica Neu, jessica@ecivil.com, for more information and available presentation dates.