



NDSU

UPPER GREAT PLAINS  
TRANSPORTATION INSTITUTE  
NORTH DAKOTA LOCAL TECHNICAL ASSISTANCE PROGRAM

# Welcome to the Western Dakota Energy Roundtable

## Lori Tabor –Dunn County Highway Department 2016 NDACo County Employee of the Year





## Vicky Steiner, Former WEDA Executive Director





# New WDEA Executive Director – Geoff Simon

## ND ENERGY COUNTIES MEET

A new Executive Director and a new name headlined the October 26 Annual Meeting of the North Dakota Association of Oil and Gas Producing Counties and Coal Conversion Counties Association. The group represents counties, cities and schools in the energy producing areas primarily located in the western third of the state.

### New Name

A long process of strategic discussions by the Executive Committee about the association's name culminated in a vote to change the organization's name to **Western Dakota Energy Association**.

There was a desire to come up with a name that was all-inclusive of energy because the association tends to be identified with the oil-producing counties, but it is involved in a lot more than just oil and gas. It also represents the coal counties and their interests. And recently there's been some interest among counties that have seen a lot of wind energy projects.

The association also operates a county truck permit program, which has seen growing interest among non-member counties.

### New Director

The association recently hired Geoff Simon to serve as its Executive Director. Simon joins the group with nearly two decades of experience in public affairs in the energy industry. Prior to that he was a reporter and news director focusing on government issues and served as a city commissioner in Pierre, SD before moving to North Dakota in 2003.

Simon starts at a time of great challenges, with oil prices down and uncertain for the future, and a nationally prominent protest against an oil pipeline. "It's essential that association members be ready and able to communicate the ongoing needs in our communities," he told members.

Longtime Executive Director Vicky Steiner stepped down earlier this year. She also represents District 37 in the North Dakota House of Representatives. Steiner feels good progress has been made and is optimistic about the future. "What is good now is we have been able to start growing some more of our single family homes in this area. That is what needs to happen next," says Steiner.

In addition to the name change and new leadership, the association entertained presentations from several speakers, including Lynn Helms of the North Dakota Oil and Gas Division. Helms provided a county-by-county forecast of projected rigs, wells and industry-related jobs to county commissioners, auditors and local officials.

Legislators also spoke about the budget challenges they will be facing in the upcoming legislative session.



Geoff Simon, Executive Director of the Western Dakota Energy Association

## SNOW PLOWING POLICIES

### Suggested Policy – Snow Plowing

#### Districts

Each equipment operator is assigned a certain area for snow plowing during the year. When need arises, operators will assist in other areas of the County, depending on snow conditions.

#### School Bus Routes

School bus routes are given first priority. Hospitals and other emergency routes may also be included.

#### High-Use Roads

High Volume Roads are given second priority.

#### Other Roads

Paved roads that are not school bus routes are given third priority. Gravel roads which are not school bus routes are given fourth priority. Unimproved dirt roads, if plowed, will be given the lowest priority.

#### Snow Removal for State Highway or other Jurisdiction

Contract services with providers or cooperative agreements, Federal Agencies, Townships, or private parties, when utilized will follow contract terms.

#### Operations

Equipment used for snow removal includes snowplows, motor graders, loaders, trucks, and chemical applicators.

Abrasive material used to improve snow, ice or frost traction will be rock salt, proprietary products, coal combustion by-products, or similar fine materials.

Liquid Products: Salt brine, Magnesium Chloride, Calcium Chloride, may also be used for a variety of applications.

Applications include:

1. Anti-icing
2. De-icing
3. Treatment with abrasives

Snow Fences, snow windrows and shelter belts may be used in areas to prevent drifting of snow on roadways.

#### Procedures

Jurisdiction roads will be kept as passable and as safe as natural occurrences allow. Winter storms vary in duration and severity. Officials will use forethought, judgment and skill to match maintenance application to winter storms and allowable budget. As a storm moves in, a likely sequence might be:

1. Observe weather predictions
2. Apply anti-icing chemicals
3. Observe presence of snow and ice
4. Plow to remove excessive snow
5. Continue to plow and apply chemically treated abrasives in key areas such as intersections and approaches

6. De-ice with chemicals in key areas using care not to use chemicals where drifting snow could cause freezing
7. Repeat Steps 1 and 2 as well as pray for sunshine

#### General Policies

Normal snow plowing shall be conducted during daylight hours five days per week.

Upon the discretion of the Road & Bridge Superintendent, snow plowing roads shall occur during early morning hours and/or weekends.

The "Department" will not plow snow during high winds, unless it is an emergency.

The "Department" will not be liable for any fence damage that occurs to fences which lie within the County's right-of-way.

The "Department" will not be liable for any mail boxes knocked over or damaged due to snow being plowed. However, the "Department" will replace any mail boxes which are physically hit by the "Department's" snow plows with standard system components, in part detailed in NDDOT Standard Drawing D-766-1.

Paved roadways will be plowed when there is a significant accumulation of snow.

Gravel roadways will be plowed when there is a significant accumulation of snow according to the priority list.

The "Department" will sand subdivision approaches inside the County right-of-way during emergency situations only.

When necessary, paved roads will be sanded on a regular basis at major intersections, hills, curves, etc.

#### Training New Drivers

1. Become familiar with designated snow routes
2. Become familiar with School Bus routes
3. Drive routes in summer or fall when roads are clear to become aware of hazards
4. Keep driver consistent with route when possible
5. Have new driver ride with experienced operators
6. Inform driver to get proper rest and nutrition. If driver is unable to perform safely he should not be used

This information was derived from various county road departments' snow plowing policies and Montana LTAP. The information is offered as a starting point in developing your Snow Plowing Policy.

NDLTAP is available to help tailor this policy to meet your County needs. Let us know how we can help.

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## Williams County

### **39-12-03. Director or local authorities may limit use of vehicles on highways. Exceptions for inclement weather.**

Whenever any highway will be seriously damaged or destroyed by reason of deterioration unless the use of vehicles is prohibited or the weight of the vehicle thereon is limited, the director or employees authorized by the director by an order, and local authorities by ordinance or resolution, may prohibit the operation of vehicles upon such highway or may impose restrictions as to the weight of vehicles. The director or employees making such order and local authorities enacting any such ordinance or resolution shall erect or cause to be erected and maintained signs designating the provisions of the order, ordinance, or resolution. Such signs must be erected and maintained at each end of that portion of any highway affected thereby, and such order, ordinance, or resolution is not effective until such signs are erected and maintained, except this requirement does not apply to changes to existing posted restrictions in instances of inclement weather as determined by the local authorities. In instances of inclement weather as determined by the local authorities, and before any change to existing posted restrictions shall be effective, the local authority shall be required to:

- a. Give public notice of a change in the posted restrictions on any portion of any highway by publishing the inclement weather restriction on the local authority's website and through the uniform county permit system, or other similar permit system, **within one (1) hour after the initial determination of inclement weather under this section**; and
- b. Within five days of the first date of inclement weather, erect and maintain a sign at each end of that portion of the highway affected thereby with the inclement weather restriction.

The operation of trucks or other commercial vehicles or limitations as to the weight thereof on designated highways may be prohibited or limited in the same manner.















# Dust Abatement

## Curtis Glasoe



## NDAOGPC Inks Two Year Contract with LTAP

NDAOGPC Executive Committee members approved a \$22,600 two year contract to at the meeting yesterday in Center, N.D. to continue the work of LTAP and Curt Glasoe. This team works on oil county road best practice, gravel specifications, binders, road grader staff training, signage best practice and radar for truck weights. The contract begins in January 2016. The previous contract expires December 31, 2015.

Dale Heglund, LTAP Director, presented an overview of all the projects underway to create communication and sharing of best practice techniques among the county road superintendents with the aim of lowering costs and increasing public safety.



Curt Glasoe

In other news, LTAP announced the [Truck Weight Calculator](#). It provides a convenient way to determine the maximum legal weight that any set of axles on a vehicle/vehicle combination may carry on ND interstate and state highways. The allowable weight on a vehicle/vehicle combination may increase by either adding additional axles or by increasing the distance between axles. The formula for the calculator is a weight-to-length ratio. This formula was enacted by Congress and the State to limit the weight-to-length of a vehicle crossing a bridge.

## ANSWERS FROM AN EXPERT

### Application Rate of MagChloride Used for DUST Abatement

By Ken Skorseth, SD LTAP Special Projects Manager

Author: Gravel Roads Maintenance & Design Manual & Gravel Construction & Maintenance Guide

CO LTAP received the following technical assistance question. Gravel Roads expert, Ken Skorseth, submitted the following reply and supplemental photos.

*What is the recommended amount and application rate of Magnesium Chloride used for DUST abatement for a second treatment applied about a year later?*

[Ken] It is hard to give a concise answer due to these factors:

- The quality of the surface gravel has so much impact on this. Good surface gravel prepared well for MagChloride ( $MgCl_2$ ) generally performs well, but ---
- The rate of application of *initial* treatment also has an impact on following treatments. We generally use between 0.45 and 0.6 gallons per square yard for the initial treatment,
- Thereafter, traffic volume and moisture received through the season will have some impact on the succeeding year as well.
- Having said all of the above, we often see second year treatment at the same rate as the first year, or 0.1 to 0.2 gallons per square yard *less* than the initial treatment.
- In succeeding years, we sometimes see treatments down to half of original application rates.
- The local agencies who do this very well nearly always say something like this, "there isn't a set rate for treatment; you have to observe the road and use field judgement to determine it."
- These photos show several different situations to demonstrate.



1/4  
GOOD: 6-6-13 Just after treatment at 0.5 gal per sq yd. Commercial dairy road. Heavy truck traffic - AADTT 30 - 40. Road looks good.



2/4  
POOR: 7-16-13 Same road, already failing!



3/4  
POOR: 7-16-13 Almost total dust control failure



4/4  
POOR: 10-7-13 After another 0.3 gal per was applied same season still not performing well. This is such poor surface material it won't go into a bound state no matter how you maintain it. There is no way the  $MgCl_2$  can work even with 0.8 gal per sq yd applied in one year!

**Here's the critical issue:** It was applied to poor material (reclaimed concrete) usually not compatible with chloride treatment.



GOOD: Residential road, initial treatment 0.5 gal per sq yd. Same treatment Year 2. Gets 0.25 - 0.3 gal treatments in succeeding years. Treated annually 10 yrs. Performs very well.

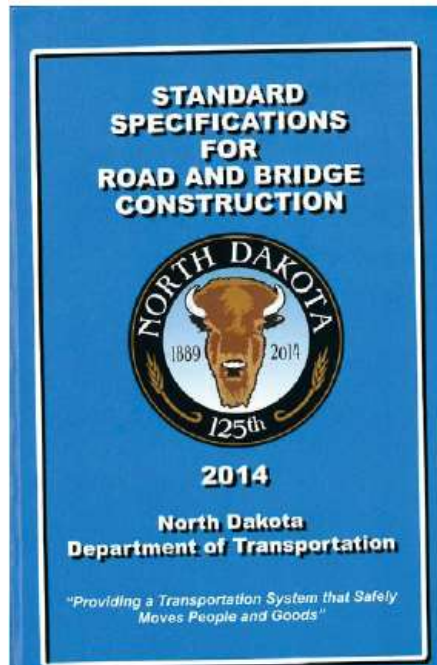


GOOD: Treated with  $MgCl_2$  continuously since 1988. Initial treatments of 0.5 gal per sq yd in first 2 years; 0.25 to 0.4 treatments since. Applied in May, 1,000 ADT



# Gravel Specifications

## GRAVEL SURFACE SPECIFICATIONS



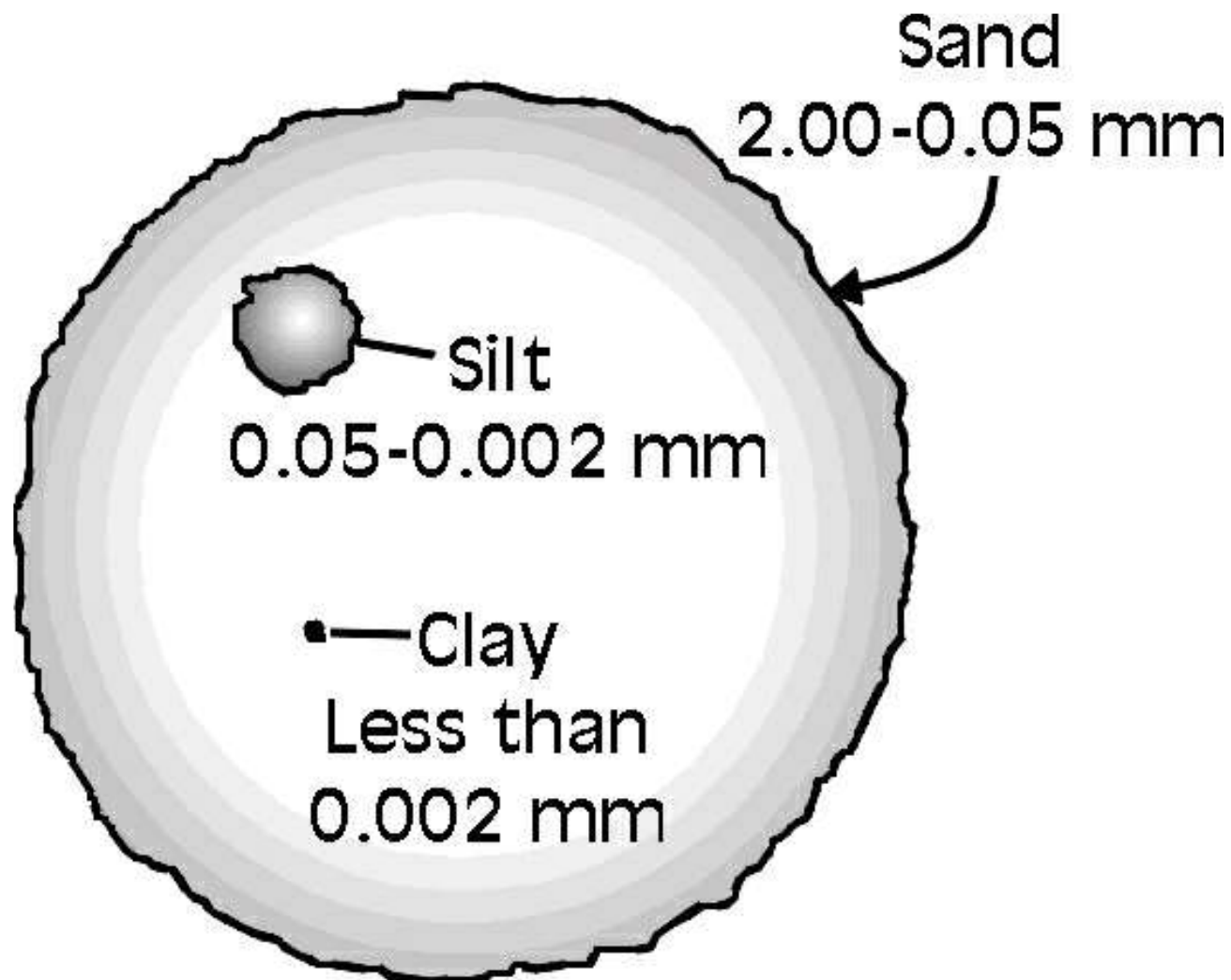
### ND Aggregate Surface Spec (Class 13)

<u>Sieve Size</u>	<u>% Passing</u>
1"	100
3/4"	70 - 100
#4	38 - 75
#8	22 - 62
#30	12 - 45
#40	-
#200	7 - 15
P.I.	-
LA Abrasion	50%
Shale	12%
Process Required	-
Fractured Faces	10%*



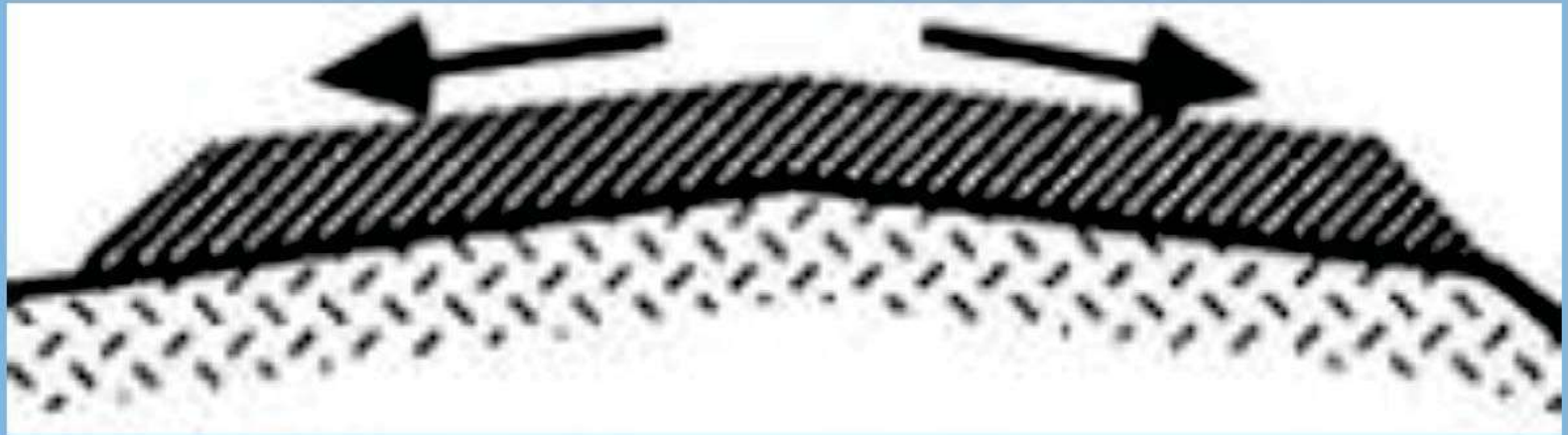


Sieve Size		Montana Gravel Surfacing	SD & FHWA Gravel Roads Manual	Sample County Spec	Proposed ND Gravel Surfacing
3"					
1-1/2"					
1"	100	100		100	100
3/4"	70-100	80-90	100	90-100	70-100
1/2"		60-80			
3/8"				50-90	
No. 4	38-75	50-70	38-75	35-80	38-75
No. 8	22-62	37-60	37-67		22-62
No. 10				20-70	
No. 30	12-45				12-45
No. 40		13-35	13-35	10-40	
No. 200	7-15	4-18	4-15	8-15	7-15
PI		4-12	4-12	4-12	4-12
Shale (max %)	12.0				12.0
LA Abrasion (max %)	50				50
NDDOT 4, Fractured Faces	10				10



## Typical Section – Good Road surface, 4% Crown

Gravel at or near 4%



# Measuring Slope/Crown





## Adequate Crown on Road Surface



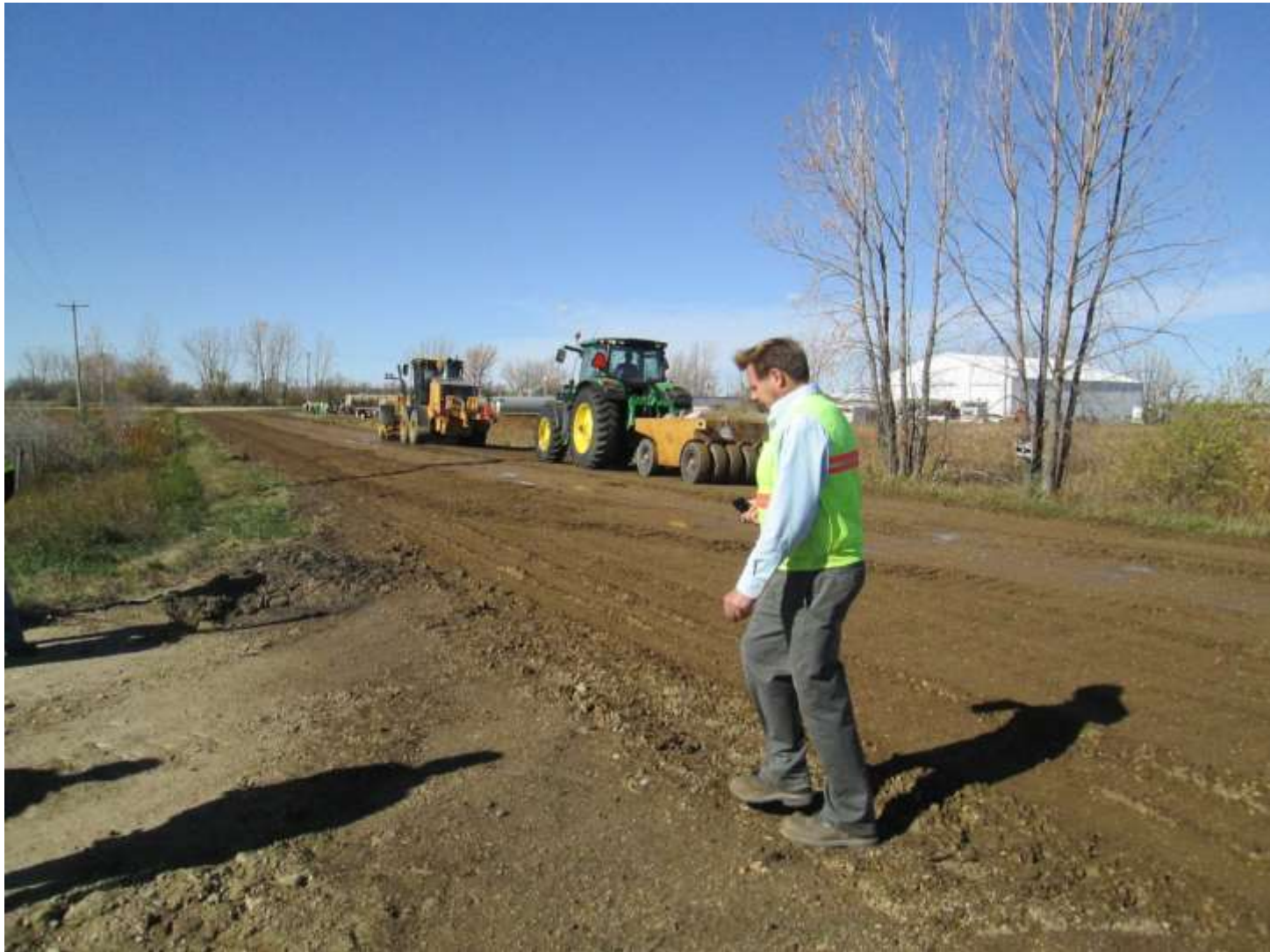
# Importance of Watering

**Obtain Proper Surface Moisture Before  
Applying Chloride Application**













# Applying Dust Abatement


Reyier(1972): Determined that 30% magnesium chloride and 34.5% calcium chloride solutions would be expected to be similarly effective when applied at equal volume with prevailing conditions in north central USA



# Soy Bean Dust Control





A sunset scene with a bright sun on the left, casting a warm glow over a line of dark evergreen trees. The sky is a mix of orange, yellow, and blue. The top of the slide has a dark teal header with white curved lines.

# Thank You for Attending