

**TOWN OF PARADISE SNOW AND ICE CONTROL PLAN
DEICING MATERIAL USAGE GUIDELINES
REVISED DECEMBER 11, 2007**



Skyway, Above Magalia, 2007

Deicing materials, such as salt, magnesium chloride treated sand, or other propriety products such as IceSlicer, are used by the Town of Paradise to control the buildup of ice on the roadways during winter weather events. While each event will be different, in terms of weather and traffic conditions, the following general guidelines should be used to assist street maintenance employees with making sound, consistent decisions with regards to deicer material usage.

GOAL:

Our goal, when applying deicing materials, is to apply just enough material to control the buildup of ice. The ice buildup needs to be controlled, especially at critical intersections and grades, to allow for the free flow of traffic and to prevent gridlock from stalled automobiles.

TECHNIQUES:

Two approaches are utilized with respect to deicer application. The first approach is the “preventative” approach. Deicer is applied just as the snow begins, but before there is enough snow to plow (the roads are just starting to turn white). What this accomplishes is that the deicing material melts when it contacts the snow, and creates a brine solution on top of the roadway. This brine solution prevents snow from bonding to the roadway, which will help prevent the formation of ice on the roadway.

The second approach is the “reactive” approach. This involves using a typical snowplow response to a storm until the snow has stopped falling. Then a final plowing is done, and the icy spots are treated with a mixture of deicer and abrasives.

TYPICAL STORM RESPONSE:

Storms in Paradise typically will fall into one of four intensity classifications, and one of three temperature classifications, and one of two traffic classifications.

Intensity

Minor, less than 4 inches of total accumulation predicted. Generally will have a special weather statement issued or a snow advisory

Significant, between 4 and 8 inches of total accumulation predicted. Almost always will have a snow advisory issued, possibly a winter storm warning.

Major, between 8 and 18 inches of total accumulation predicted. Almost always will have a winter storm warning issued by the National Weather Service.

Extreme, greater than 18 inches of total accumulation predicted. Will have a winter storm warning issued by the National Weather Service.

Temperatures

Warm – average nighttime temperatures predicted 30 degrees or warmer during the event.

Moderate – average nighttime temperatures predicted between 20 degrees and 30 degrees F.

Cold – average nighttime temperatures predicted less than 20 degrees F.

Traffic

Low traffic - storm is expected to occur during late evening or early morning, with a significant accumulation by first light. Weekend storms will usually fall into the low traffic category.

High traffic – storm is expected to occur during daylight hours, especially on weekdays, when a significant amount of commute traffic can be anticipated.

“LOW TRAFFIC” SNOWSTORM DEICING GUIDELINES

STORM TYPE	TEMPERATURE	DEICING RESPONSE
MINOR	WARM	NO DEICING MATERIALS, ABRASIVES ONLY AS REQUIRED
	MODERATE	DEICING MATERIALS APPLIED TO PRIORITY ONE ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY TWO AND THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
SIGNIFICANT	WARM	ABRASIVES WILL BE PRIMARY MATERIAL, USE DEICER ONLY AS REQUIRED FOR SPOT TREATMENT OF ICE.
	MODERATE	DEICING MATERIALS APPLIED TO PRIORITY ONE ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY TWO AND THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
MAJOR	WARM	ABRASIVES WILL BE PRIMARY MATERIAL, USE DEICER ONLY AS REQUIRED FOR SPOT TREATMENT OF ICE.
	MODERATE	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
EXTREME	WARM	ABRASIVES WILL BE PRIMARY MATERIAL, USE DEICER ONLY AS REQUIRED FOR SPOT TREATMENT OF ICE.
	MODERATE	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. . ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.

“HIGH TRAFFIC” SNOWSTORM DEICING GUIDELINES

STORM TYPE	TEMPERATURE	DEICING RESPONSE
MINOR	WARM*	DEICING MATERIALS APPLIED TO PRIORITY ONE ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY TWO AND THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	MODERATE	
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
SIGNIFICANT	WARM*	DEICING MATERIALS APPLIED TO PRIORITY ONE ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY TWO AND THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	MODERATE	
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
MAJOR	WARM*	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	MODERATE	
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
EXTREME	WARM*	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. . ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.
	MODERATE	
	COLD	DEICING MATERIALS APPLIED TO PRIORITY ONE AND TWO ROADWAYS AS REQUIRED, BOTH PRE AND POST EVENT. ABRASIVES WILL BE APPLIED TO PRIORITY THREE ROADWAYS AT COMPLETION OF FINAL PLOWING.

Note – deicers will not be applied as a preventative measure when snow events are anticipated to begin as rain, and then turn to snow. Deicers will only be applied once the temperature is approaching 32 degrees, and the precipitation has turned to snow (or ice).