With the end of the winter maintenance season finally upon us, now is the time to think of how this change from one season to the next brings on a need to change gears in our operations before tackling the next work season. As workers lay aside the parkas, heavy gloves, and five-buckle boots for lighter and less cumbersome clothing, now is the time to service and prepare the various winter maintenance equipment for their summer hibernation. Motor graders give up their heavier accessories and return to a stripped down version of their former selves to take on typical summer duties. Single and tandem axle dump trucks shed their sanders and snowplows and begin new assignments like hauling gravel, asphalt, guardrail beams and posts, sign materials, culverts, and a host of other materials such as hot mix for patching potholes or borrow for filling washouts left by early spring runoff. Also, now is the time to service and prepare those units of machinery that will be needed, not just for the immediate spring work, but also for the upcoming summer and early fall use. Tractors, mowers, air compressors, distributors, self-propelled rollers, brush cutters, concrete power screeds, lay-down machines, and a multitude of other machines and power tools need to be gone over and made ready for what’s ahead.

Let’s take a minute to look at some of the many activities that come along with the change of the seasons when winter gives way to spring.

**Bridges**

Winter operations often leave an accumulation of icing sand along the curb and gutter of bridge decks, as well as on top of the curb and around the bridge guardrail posts. After sweeping the deck with a power broom, it is a good idea to come along with a power washer to thoroughly remove the residual sand from expansion seals/joints and from around the base plates of the rail posts. The power washing operation will also clean areas of the steel railing and components that have been scratched or in some way damaged by the plows during winter. These areas of cosmetic damage can then be prepared for touchup painting in an
Editor's Corner

This issue is primarily focused on the change of seasons (though as I look at the snow flying outside my window, and the thermometer that reads 11° F, I wonder if spring will ever start showing itself). A change in season brings with it a new set of challenges for those that need to shift gears and prepare themselves and their equipment for warmer-weather activities. I started out on page 1 with an article highlighting the various things that need to be considered while preparing to shift your operations. One of those items includes spring roadside cleanup. Whether this is typically done using your road crews, Department of Corrections labor teams, or even Adopt-A-Highway programs, the threat of encountering debris left behind from illegal methamphetamine labs is rising at an alarming rate. I’ve included some basic guidelines in recognizing the items commonly left behind from these meth labs in the article on page 3. The information presented on page 6 is brought to you with a heavy heart, as the world recently lost two former Michigan Tech TTAP employees. I’ve done my best to honor their memories with excerpts from their obituaries. May their souls find peace. As usual, I wrap up with a quick rundown of some upcoming events that may interest you on page 8. As I get ready to bundle up and face the cold and snow, I’m warmed by the thoughts of fishing and golf that await me in the hopefully not-to-distant future. For now, anyway, I’ll forget about my own spring cleanup activities.

-Scott

The deadline for contributing suggestions, corrections, or information for publication in the next Pathways, Volume 14, No. 1, is May 15, 2008. Any contributions made after that date will appear in Volume 14, No. 2. You may contribute information for publication on www.ttap.mtu.edu at any time.
Beware of Meth Lab Waste
The basics about Methamphetamine waste that all roadside cleanup crews should know.

Adapted by Scott Bershing
Michigan Tech TTAP Editor

Editor’s Note: Unfortunately, given the ever-increasing use and production of methamphetamine (meth), road crews are suffering an overlooked side effect - stumbling upon the waste by-products from meth production. Although this isn't meant to be a totally comprehensive guide, it will hopefully assist you in preparing your road crews in recognizing the debris typically associated with meth production that are commonly found within the right-of-way.

Volunteers and road agency personnel who clean up roadside litter are being urged to watch for potentially toxic debris discarded from methamphetamine labs.

Meth is a highly addictive stimulant that can be made using household chemicals and equipment and common cold remedies containing ephedrine or pseudoephedrine.

Safety Concerns
Clean-up crews who come across materials that were used to make the drug can be burned, or their lungs damaged from inhaling fumes. If you encounter any of the signs of a meth lab, mark the spot, leave the area immediately, and call the police. Do not touch anything if you suspect it may be meth lab waste. The waste can be extremely dangerous and may even be booby-trapped. Entire labs can be found in tool boxes, coolers, or other storage containers. Mobile meth labs are becoming more common, and labs are sometimes run out of car trunks and RVs.

Clues Indicating Dumpsites Include:
- Anhydrous ammonia tanks or corroded propane tanks, often with brass tank valves that are bluish-green
- Loose pills that look like common cold pills or diet pills, or packaging from cold pills that contain ephedrine or pseudoephedrine
- Empty or full containers that are labeled as Muratic acid, Freon, or Starter Fluid
- Alcohol or methanol ("Heet" brand gasoline additive or rubbing alcohol)
- Camp stove fuel ("Coleman" fuel) or lantern fuel cans
- Red-stained coffee filters, bed sheets, pillow cases, or old clothing
- Iodine crystals (grayish-black and shiny)
- Containers that held sodium hydroxide, sulfuric and hydrochloric acid ("Red Devil" lye), or other drain cleaners
- Red phosphorus (in match books or sticks), or unused matches without striker plates
- Ether (engine starting fluid)
- Cans of solvents such as Acetone, Benzene, Toluene, Methyl Ethyl Ketone or Xylene
- Disassembled lithium batteries
- Clear glass containers that look like they're from a laboratory, with rubber or plastic hosing
- Smell of ammonia, cat urine, ether, nail polish remover (acetone), or similar chemicals
- Garbage bags with cat litter (can contain deadly gases and are sometimes called "death bags")

Meth lab waste is very serious. Your safety comes first!

Reference

Numerous informational resources are available on the web in regards to meth lab waste. In an effort to assist you in finding some of these resources, we have created a web page with a listing of some of the more commonly used sites, PowerPoint presentations, links to instructional videos, pre-configured google searches, etc. It can be found at <http://www.ttap.mtu.edu/index.php?p=meth>
effort to minimize any damage from corrosion. It is especially important to maintain the protective coating around base plates and anchor bolts since water and slush tend to set there for extended periods of time. Make sure that any deck drains are cleaned out and check any superstructure elements beneath the deck that need cleaning, painting or some other type of attention.

Spring is also when minor accident damage and deck spalls that were not so evident during the winter become more apparent. Now is the time to begin developing a work schedule for the coming weeks to address these issues. Other activities that will need to be considered around bridges in the spring work plan are things like vegetation control. Small willows, etc. seem to come out of nowhere and need to be removed from beneath the structure before causing channel flow problems or growing to a height that begins to impede inspection or even the functioning of the structure itself. Sometimes it is advantageous to chemically treat some areas to stem the proliferation of undergrowth instead of fighting the problem by continually mowing or using the chainsaw. It is also the best time to review your most recent bridge inspection reports and see what the engineer’s recommendations were in regard to scour repair, weight limit postings, etc. Try to take care of all the maintenance at once to be efficient.

**Signs and Delineators**

Winter operations can do a number on roadside markers such as signs and delineators. This is especially true on rural highways that lack shoulders of any size thus making it necessary to locate them nearer to the edge of the traveled way than would be desirable. Those signs and markers that have not fallen victim to misalignment or complete destruction can still be in need of attention. The melting snow combined with the dust and grit accumulated on the road surface provides the wheels of passing vehicles with a murky slush to deposit on the face of any object within range. Signs and delineators that have been splattered lose the reflectivity needed for night time visibility. An effort should be made to clean them once the slush season has passed. If there is sufficient right-of-way area for signs, you might want to consider moving them further away from the edge of the roadway surface. In particularly splash-prone areas this could be an activity scheduled for the upcoming months to minimize damage and the need for as much cleaning in the following years.

**Guardrails**

Runs of guardrail along the highway are subjected to the same winter conditions that result in a need for attention in the spring that were mentioned above relative to bridge approach railing. With much of the guardrail located on hills and curves, these same areas typically receive the bulk of the sanding during winter maintenance operations. Consequently, the icing sand buildup around the posts and beneath the rail itself must be removed and hauled away. Leaving this buildup can eventually create a ramp effect for an errant vehicle to be vaulted to a height that reduces the guardrail’s effectiveness. While there are some machines designed specifically for removing this material from beneath the rail and from around the posts, most crews employ a more labor intensive method which involves pulling the material out towards the roadway and loading with the use of a small skid loader. Simply shoving the material out from under the rail and over the inslope is not a recommended procedure, especially from an environmental standpoint or where appearance of the roadside is a consideration. Guard-
rails should also be inspected for snowplow or accident damage.

**Snow Fence**

Having served its purpose, snow fence that has been placed far outside the right-of-way on private land must, in most cases, be taken up and hauled to storage. Landowners of cultivated land, hay land and pasture alike look to the return of the land for their own needs and sometimes ask that the fence be removed for the season.

**Litter Pickup**

As the last of the winter's snow cover disappears, several months of roadside trash begins to show up in the ditches and along fence lines. Spring is when the litter is most visible because the vegetation on the inslopes and in the ditches has not begun to grow to provide a cover for even the smallest, low lying objects. Many departments plan for this annual event by calling on the Department of Corrections to furnish inmate labor which can be a great source of the manpower needed for this labor intensive work.

**Road Surface Repair**

Early spring work often consists of temporary repairs to the road surface in order to place it in an acceptable condition until the weather patterns settle down enough to permit major maintenance projects. Pot holes in asphalt and spalls in concrete often need to be addressed with a “quick fix” such as filling with cold mix until a more permanent repair can be made. Be sure to have patch material on hand or have quick access to it.

**Culvert Inspection and Cleanout**

Early spring runoff can result in conditions around smaller drainage structures that need to be addressed in order to allow them to function as intended. The accumulation of debris around the inlet will impede the flow of the water entering the culvert. Culverts that have not been properly sized or installed can develop problems at the outlet end that require constant attention. Water velocity through the pipe that is too high can result in a deep scour hole where the water exits the pipe. If the velocity is too low, water borne silt will tend to settle at the outlet and if allowed to build up will eventually reduce the carrying capacity to the point of burying that end of the culvert.

The scour hole problem can sometimes be corrected using rip-rap so that the water velocity is dissipated before entering the natural drainage channel further down stream. The silting problem can generally only be addressed by periodically inspecting and cleaning out the channel when the situation requires that something be done.

**Gravel Road Reshape**

Spring is the best season of the year to do a reshape of the surface and shoulders of a gravel road. Wait until the roadway has stabilized after the Spring thaw. Once that has happened, take advantage of the in-place moisture that is usually present in the material to cut and reshape the surface. Small potholes and ruts should be cut and filled. Often the roadway crown needs to be restored. It is also the best time to "pull shoulders" to restore good drainage from the roadway to the ditch. Again, the job is much easier before vegetation begins to grow and interfere with the job. It may be impossible to do this on every road. Survey the road system and handle the critical areas first, particularly those roads with extreme high shoulders and/or those that are scheduled to have a fresh coat of gravel placed on them later in the season.

Do you have any Spring cleanup activities that your agency does that aren't listed here? If so, let us know at <ttap@mtu.edu>
Robert was born on June 4, 1969 in Berkeley, California. He passed away on January 26, 2008 in Marquette, Michigan.

During his early years, Robert's family moved to Turkey, then to Kenya, and then, while in his early teens, his family moved to England. The Gagnons returned to the United States and settled in Rochester, Michigan. Upon graduating from Brother Rice High School, Robert started college at the Colorado School of Mines in Golden, Colorado. He finished his civil engineering degree at the University of Michigan with a focus in hydraulics.

After college, Robert returned to Kenya for two years as a volunteer in the Peace Corps. Robert designed and implemented water drinking systems in cooperation with the local villages. It was during this time that Robert met his wife, Hilary. Upon his return to the United States, Robert moved to Sault Saint Marie, Michigan, and began work with the Indian Health Service as a water systems engineer. In September 1997, Robert and Hilary were married in Colerain, Northern Ireland. A daughter, Kate, was born on February 17, 1999 and a son, Mathurin, was born on January 9, 2001. He is survived and missed deeply by his wife and children, his brothers, and his parents.

Patricia was born on September 21, 1946 in Ishpeming, Michigan. She passed away October 19, 2007 at Angels Grace Hospice in Oconomowoc, Wisconsin.

Patricia was married to Carl Hendrickson and he preceded her in death. She married Gerald Wisniewski in L’Anse, Michigan in 2003. She was a member of the L-A Girls Red Hat Society and a past member of the Ancient American Artifact Preservation Foundation. Patricia will be remembered by those who knew her as a sweet soul who had a propensity for touching the hearts of those she met. Her love for life extended across a whole range of activities including, boating, gardening and especially painting. In addition, she had a passion for minerals and crystals, which were something that were part of her everyday life. Her zest for life and uplifting presence will be deeply missed by family and close friends. She was an inspiration for many and will live in the hearts of those who had the pleasure of knowing her.

Mrs. Wisniewski is survived by her loving husband, Gerald, her son, Carl Ladd (Megan) Hendrickson, grandchildren, Makenna Maye, Nolan Ladd and Allyson Paige Hendrickson, and sisters, Betty Matz and Rita Burra.

Robert John Gagnon

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Patricia Ann Wisniewski

Scott Bershing
Michigan Tech TTAP Editor

I first met Pat in 1997 while I was working with Michigan's Local Technical Assistance Program. She was one of the sweetest people I had ever met, and though we didn't have the opportunity to work together much, she always had a smile on her face and was always genuinely concerned about how I was doing, how my family was, how things were going, and she always had something nice to say. When we heard the news of her passing last October, our emotions ran the gamut of being saddened by the news, to in some way being thankful that her pain and suffering had finally come to an end.

Robert was hired as the Michigan Tech TTAP Program Manager in 1999, and his eclectic style and personality made an instant impression on everyone that met him. Robert left the Michigan Tech TTAP in 2003, but his presence is still felt by many in the national LTAP/TTAP community. When news spread last month of his passing, most of us were a bit shocked, to say the least.

From all of us in the Michigan Tech TTAP, we would like to extend our condolences to all those who's lives were touched by these two individuals, especially to their families and friends. They may be gone, but they will never be forgotten.
The ninth annual National Work Zone Awareness Week will be held April 7-11, 2008. The theme for this year is "Slow for the Cone Zone." The national kickoff for this event will be held on April 8 at 11:00 am in Sacramento, California. This marks the first time that the kickoff will be held outside the Washington, DC area.

The Michigan Tech TTAP has a number of posters, publications, cards, and CDs available in our resource library to support that effort. Check out the selections below, or check out our library resources on our website at <http://www.ttap.mtu.edu/index.php?p=library>.

In addition, there are numerous resources available on the Internet. Check out the following websites for more background information and resources:


Roadway Workzonesafety.org - <http://www.workzonesafety.org>

**Know the Signs Poster**

This poster was created to illustrate the various work zone safety signs that drivers will encounter, it is designed to look like a work zone sign and is 14.5 x 14.5 in.

We have a limited number of these available. In addition, they can be requested from the Workzonesafety.org website.

*Roadway Workzonesafety.org*
*More information available at:*
*<http://www.workzonesafety.org/public_awareness/know_the_signs_poster>*
*Michigan Tech TTAP Library Reference No. 1874*

**Brochure for the National Work Zone Safety Information Clearinghouse**

The clearinghouse brochure describes the mission of the clearinghouse, and the resources and services available.

*Transportation Development Foundation, American Road & Transportation Builders Association*
*Roadway Workzonesafety.org*
*in cooperation with:
U.S. Department of Transportation, Federal Highway Administration*
*Texas Transportation Institute*
*More information available at:*
*<http://www.workzonesafety.org/about/clearinghouse_brochure>*
*Michigan Tech TTAP Library Reference No. 1876*
Training Requests for 2010 are due by October 3, 2008.

Upcoming Events

**Minnesota Advocacy Council on Tribal Transportation (ACTT) Meeting**
April 18, 2008
Shoreview, MN

**TTAP Region 2 Meeting**
April 30-May 1, 2008
Catoosa, OK

**BIA Eastern Region Summit**
May 13-15, 2008
Charleston, SC

**Title I Contracting, Uniform Templates, Advance Payments, BIA Construction Contracts**
May 15, 2008

**NCAI/ITA Joint Meeting TRB Native American Issues Subcommittee Mid-Year Meeting**
June 1-4, 2008
Reno, NV

For more details, registration, and hotel information, check out the Michigan Tech TTAP website: http://www.ttap.mtu.edu