



U.S. Department of Transportation  
Federal Highway Administration

# ROAD BUSINESS



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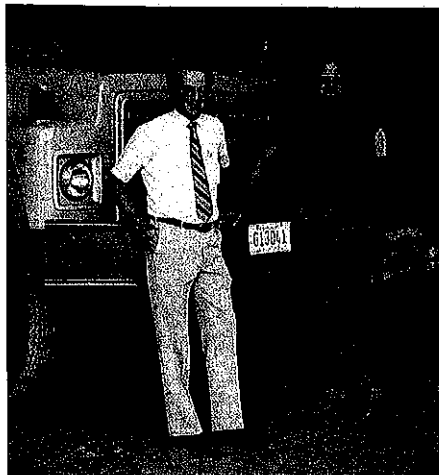
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(out of state) (in New Hampshire)

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Summer End 1987



Above: From left to right are Bob Greer and Lester Cressy standing in front of Hopkinton's town garage.

## On The Road In New Hampshire

*Hopkinton is now hopping with a new paving approach*

Recently, I heard that the town of Hopkinton has been changing their basic approach to paving. Another reliable source told me that after adopting the Hopkinton approach in their own town they were able to save a lot of time and money.

Saving time and money is always a good thing to know about; so I went to Hopkinton to talk with Lester Cressy, Superintendent of Public Works; and Bob Greer, one of the town Selectmen. Lester

told me in dollars and cents what they've been doing: "In '86 we did 1.75 miles for a total paving cost of \$30.80/ton and this year we did 3+ miles for a total paving cost of \$29.42/ton. That's a pretty good buy when material costs alone run \$28.00/ton, and I didn't have to do any of the preparation work such as sweeping."

What Lester was talking about was going out to bid. It can be cost effective. In the case of Hopkinton, an average project would include a 1/2 inch to 1 inch binder course plus a 3/8 inch finish. "We estimate that by going out to bid this last year we were able to save about 300 man hours. On top of this, we saved by not having to rent equipment and not adding extra wear to or extra maintenance on our own equipment. Another cost savings will be realized over a period of years," added Bob. "We can pave every 10 to 15 years with this method versus putting on a new seal every three years."

Hopkinton began this program when after noticing that the town's paving jobs were getting worse and worse. "It's hard for us to find good aggregate and without a good aggregate it's hard to make a good mix," said Lester.

With the new paving program, Hopkinton has been getting a good quality product that seems to work for a variety of road types. Lester explained: "We've tried this process on small subdivisions with an average daily traffic of 20 cars and we've tried it on a road that has an average daily traffic of 500 cars and 50 trucks (this road had a good base to start with). So far, I've gotten nothing but compliments."

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## Check Your Mailbox

*Posting your bridges can help you avoid liability claims*

There are some important mailings that you should know about. Your town office has received a letter and two reports from the Bureau of Municipal Highways. This information explains the revised law — RSA 266:18 — relative to increased truck weights and bridge restrictions. Also, your town office has received two pamphlets from the Technology Transfer Center containing information on tort liability and posting weight limits on your bridges. Tort liability may not seem like something you need to learn about, but

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### — ALSO IN THIS ISSUE —

- Soft Does Not Mean Easy \_\_\_\_\_ 3  
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- R.A.A. News \_\_\_\_\_ 7  
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Hopkinton...  
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"The budget committee wanted to increase the appropriation for this program," added Bob, "and that doesn't happen very often."

It all sounded pretty good, so I asked them the big question: "What would you recommend to other road agents or selectmen that may want to try this paving approach in their own towns?" Bob and Lester gave me some good pointers:

"Start early -- we start in early May right after the town meeting. Our goal is to be done by June. The state is eating up a lot of the contractors' time in July and August.

"Fix major problems before paving -- we make sure we fix all culverts, remove large rocks, etc.

"Make sure you actually go out to bid -- just asking for a quote may cost the town \$4.00 more per ton.

"Put a completion date in the contract -- this will help to reduce delays. We use a \$150.00 per day penalty for each day over due.

"Number estimates need to be fairly accurate -- its important to stay within appropriations. We have a road committee appointed by the selectmen that comes up with the basic paving program. Our supervisor of public works does the estimating.

"Be careful of what roads you pave -- it's a good idea to spread it around a little in the town or do a road that everybody uses. Don't pave the roads that will break-up in a year. Pave a little bit better road, but obviously do the ones that need it.

"Prices are variable -- tonnage and distance from the plant will change the price. You may not get as good a price as Hopkinton."

The town of Hopkinton sent its paving projects out for bid by using the format shown on the right of this page. They sent this paper to all contractors in NH, Associated General Contractors, and placed an ad in the Concord Monitor. If you would like any further information about Hopkinton's paving approach, such as the process for estimating numbers, please contact the Technology Transfer Center by calling toll free 1-800-423-0060.

Below is a sample pavement project bid format. It has been provided by the town of Hopkinton.

### TOWN OF HOPKINTON PAVING PROJECT - 1987

Sealed proposals clearly marked "Town of Hopkinton Paving Project - 1987" will be accepted by the Town of Hopkinton at the Town Office until 4:00 o'clock p.m., prevailing time, on the 6th day of May 1987. All portions of this contract shall be submitted, all bid prices filled in and signed by an appropriate official.

The work shall consist of constructing a Hot Bituminous Concrete Leveling Course and overlaying the roadways listed herein as resurfacing projects and constructing New Hot Bituminous Concrete Pavements on the roadways listed herein as new pavement projects. All work shall be constructed as outlined in this contract and as directed by the Town's Superintendent of Public Works.

#### Proposal

The construction includes the following roadways (see attached map -- not included in this newsletter):

#### Resurfacing Projects

1. Farrington Corner Road -- From Jewett Rd. to Brockway Rd. (1.7 miles long, 18 feet wide).

Item	411.1 Hot Bituminous Concre leveling course	<u>755</u> Tons
Item	411.43 Plant Mix Surface Treatment (Asphalt Cement 3/8 inch)	<u>380</u> Tons

2. Woodland Drive -- Total length (2100 feet long, 18 feet wide)

Item	411.1 Hot Bituminous Concrete leveling course	<u>150</u> Tons
Item	411.43 Plant Mix Surface Treatment (Asphalt Cement 3/8 inch)	<u>90</u> Tons

3. Lower Spring Street -- From a point approximately 0.3 miles west of Kearsarge Ave. to the end of the existing pavement (1200 feet long, 18 feet wide).

Item	411.1 Hot Bituminous Concrete leveling course	<u>85</u> Tons
Item	411.43 Plant Mix Surface Treatment (Asphalt Cement 3/8 inch)	<u>50</u> Tons

4. Sugar Hill Road -- From Routes 202 & 9 southerly (3000 feet long, 18 feet wide).

Item	411.1 Hot Bituminous Concrete leveling course	<u>260</u> Tons
Item	411.43 Plant Mix Surface Treatment (Asphalt Cement 3/8 inch)	<u>130</u> Tons.

#### New Paving Project

1. Farrington Corner Road -- From Stickney Hill Road to Brockway Road (3200 feet long, 20 feet wide)

Item	403.11 Hot Bituminous Pavement, Machine Method (2 inch single course)	<u>800</u> Tons
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2. Lower Spring Street -- From end of existing pavement to I-89 (350 feet long, 18 feet wide)

Item	403.11 Hot Bituminous Pavement, Machine Method (2 inch binder course)	<u>80</u> Tons
Item	411.43 Plant Mix Surface Treatment (Asphalt Cement 3/8 inch)	<u>15</u> Tons

continued on p. 3

## -- Soft Does Not Mean Easy --

### *What to look for when buying software*

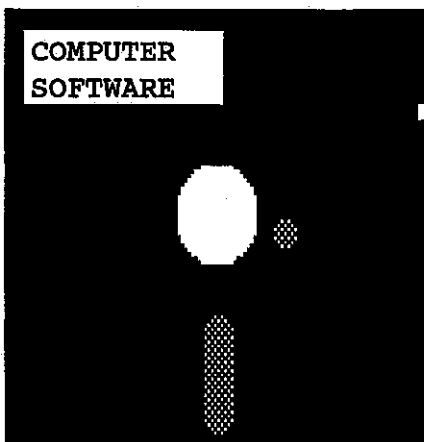
Software is the most important part of the microcomputer. As I explained in the last Road Business article, software refers to any program or set of computer instructions that controls the operation of the computer.

According to the dictionary, something that is "soft" has a soothing or quietly agreeable quality. Unfortunately, this description does not always apply to computer software; many software packages are very difficult to use.

But don't be discouraged. There are some good computer software programs that are very easy to use. In fact, certain programs actually tell the computer operator exactly what to do step-by-step. These types of software packages are referred to as being "user-friendly."

Because the concept of user friendliness varies significantly from one program to the next, it is very important that you evaluate software packages over a period of time. Also, don't let a salesperson just show you a canned demo; instead, you should "test drive" the software by sitting down at the keyboard and trying it out yourself. This is extremely important.

There are three categories of software that you should be aware of: public domain software, shareware, and proprietary software. Each has advantages and disadvantages. The public domain software is



often developed by "computer hackers" and is designed to do a very specific task. Usually, there is no technical support, no documentation, and no guarantee that it will work under all conditions. In general, you get what you pay for. However, there are some very powerful programs in the public domain, even if they are not always very user-friendly.

Shareware is the next rung up the ladder. The philosophy behind the shareware concept is that the program can be copied and distributed without restriction. If the user likes the software, then a small fee is paid by the user to the developer. In return the user receives a written copy of the documentation and becomes a registered user. Shareware tends to be useful to a broader group of microcomputer owners. The documentation is better and once the fee is paid technical support becomes available. There are shareware programs

by Dr. Dot

for such applications as spreadsheets, wordprocessing, data bases, and communication (see page 4 of this newsletter for information on how to acquire copies of some good shareware software programs).

The third category of software is proprietary software. This type of software is available through companies that are trying to make a living by developing and selling software packages to computer users. The cost of this software is usually much higher, but the user receives many benefits. Once the software is purchased, the user receives written documentation, free program upgrades for a period of time, reduced prices on new versions, access to larger technical support staffs, and some very sophisticated programs. Some companies even provide periodic publications that the user will receive at no extra cost.

All of this makes the selection of software a difficult and time-consuming task. You must be careful that you really understand what you want your software to do before the purchase is made. Do not let a fancy demonstration or some flashy extras (referred to as bells and whistles) determine what software package you should purchase until you are sure all of your basic needs will be met. Remember to ask yourself the following questions:

*continued on p. 4*

*Hopkinton... continued from p. 2*

#### Summary of Quantities:

<u>Item No.</u>	<u>Description</u>	<u>Quantity</u>
403.11	Hot Bituminous Pavement, Machine Method	880 Tons
411.1	Hot Bituminous Concrete Leveling Course	1200 Tons
411.43	Plant Mix Surface Treatment (Asphalt Cement 3/8 inch)	665 Tons

This work shall be constructed in accordance with the Standard Specifications for Road and Bridge Construction dated 1983 of the State of New Hampshire, Department of Transportation.

The unit prices bid shall include all necessary work required to provide a completed project. Subsidiary items of work shall include, but not be limited to, traffic control, road sweeping and cleaning, and mobilization.

The Town of Hopkinton reserves the right, with no change in the unit prices, to eliminate some of or add on to the proposed construction. Also, the Town reserves the right to waive any informalities in or to reject any or all proposals.

It is anticipated that all resurfacing projects will be ready for paving by July 1, 1987 and that all new paving projects will be ready for paving by August 15, 1987.

The final completion date for this contract is August 28, 1987. The Contractor will be charged as a penalty \$150.00 per calendar day for each day beyond the completion date the work is not completed. ■

software...  
continued from p. 3

- Will the software work on my computer?
- Will I have to add to my hardware (computer chips, cards, a color monitor, a mouse, etc.) and if so how much will this cost?
- Will the software work with my operating system?
- Will the software print the reports or papers that I want to see on my printer?
- Will the software do the job that I need it to do?
- What are the limitations of the software?
- How many hours will it take to learn how to use the software?
- Will there be technical help available if I run into problems?
- How easy is it to understand the documentation?
- Have I thoroughly tried out the software myself?

Do you have any specific questions about computers? We would be glad to assist you in finding out the answers. Just call toll free (1-800-423-0060). ■

## !! FREE !!

*Shareware software programs for IBM computers and compatibles*

Each disk you order from the Technology Transfer Center will include the full software program; however, the documentation will be limited. Complete written manuals are available from ButtonWare. All necessary information will be contained in the software program on your disk. To order call toll free (1-800-423-0060) or mail in the attached flyer. You will be billed \$5.00 for the price of each disk unless you include your own disks with your order. Each program requires one 2s/2d 5 1/4" floppy disk.

■ **PC-FILE III:** A very nice shareware database program with the ability to hold 32767 records in each database. Excellent for inventories and other record keeping tasks.

■ **PC-CALC:** A comfortable shareware visible spreadsheet program with the capacity for 64 columns and 256 lines. Perfect for accounting needs.

■ **PC-WRITE:** A good shareware wordprocessing program with capabilities equal to many higher priced systems. ■

## Did You Know?

*A zip code can save hundreds of dollars:*

Over one-third of all sign vandalism is attributed to theft. The use of "Loc Tite" cement adhesive on sign mounting nuts and bolts has been reported to be one of the most effective means of reducing sign theft. But what can you do if the sign does get stolen?

Garth Witty, Road Agent for Mont Vernon, gets about 30% of all his stolen signs back. How does he do it? By engraving his town's zip-code on the back of the sign where it attaches to the posts. Any recovered sign from Mont Vernon can be identified.



### Graffiti Removal:

The Navy's Civil Engineering Laboratory has developed guidelines for graffiti removal. They suggest that for the removal of products such as crayon, china markers, and ink, scrub with a stiff bristle brush and a warm solution of 2 oz trisodium phosphate and 1 gallon of water. Allow one to two minutes of solvent action and then rinse with water. Removing painted markings from unpainted surfaces requires scrubbing with a stiff bristle brush and methylene chloride or a similar commercial remover. For removal of painted markings from painted surfaces, cautiously test one of three solvent mixtures -- methyl ethyl ketone, xylene, or an equal volume of the two -- to determine which is the most effective.

Excerpted from Research News, Arizona Transportation Research Center, Vol. 1, No. 1, Fall 1985. ■

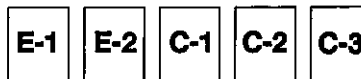
Check your mailbox...  
continued from p. 1

knowing how to avoid a tort liability case may save you from losing your house some day.

The NHDOT has recommended two approaches for avoiding potential liability claims relative to the new bridge law:

1. Post all your bridges that are not currently posted with a weight restriction with an "E-2" sign. This would exclude all certified loads (the Department of Safety is permitted to "certify" trucks to carry additional weight) from using the bridge.
2. Have all of your bridges analyzed and rated by a registered professional engineer to determine which bridges need to be posted; then post these bridges according to recommendations.

There are five signs which are pertinent to the revised weight limit law. These signs are as follows:



The definitions for each sign and a description of the revised law are in the two reports mailed to each municipality. If you have any questions or if you have not received a copy of these reports, please contact the T<sup>2</sup> Center at 1-800-423-0060.

When posting your bridges, it is important that you do two things:

1. Enact the proper ordinances to insure that the signs are legally enforceable.
2. Install all signs in accordance with national standards and state law.

On page 5 is a diagram, drafted by NHDOT, showing typical bridge posting. You may also wish to order your own copy of the Manual on Uniform Traffic Control Devices -- MUTCD is a handy reference book that should be owned by all municipalities interested in signing. This manual can be purchased by sending \$44.00 to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When you order this manual you become eligible to receive new revisions free of charge. Proper signing is one of the least expensive and best ways to avoid a liability suit against you and your town.

## Important Notice

### Watch out for decimal points

In the last issue of "ROAD BUSINESS" there were two typographical errors which need attention. Both of these errors appeared at the bottom of page 3 and both involved decimal points.

Please note that when boiled linseed anti-spalling compound is applied, use two coats as follows:

1st Coat: .025 gal. per sq. yd.  
(40 sq. yds. per gal.)

2nd Coat: .015 gal. per sq. yd.  
(67 sq. yds. per gal.)

If you mixed with the wrong proportions you would have found it difficult to apply the compound but it wouldn't hurt your concrete surfaces. ■

## Bridge Raincoats

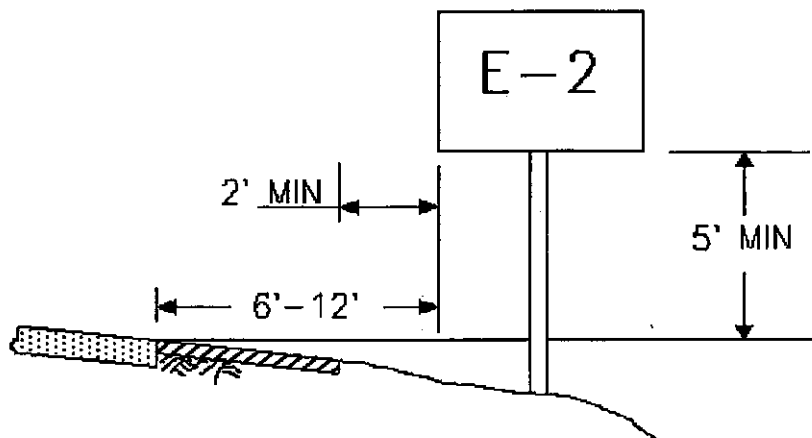
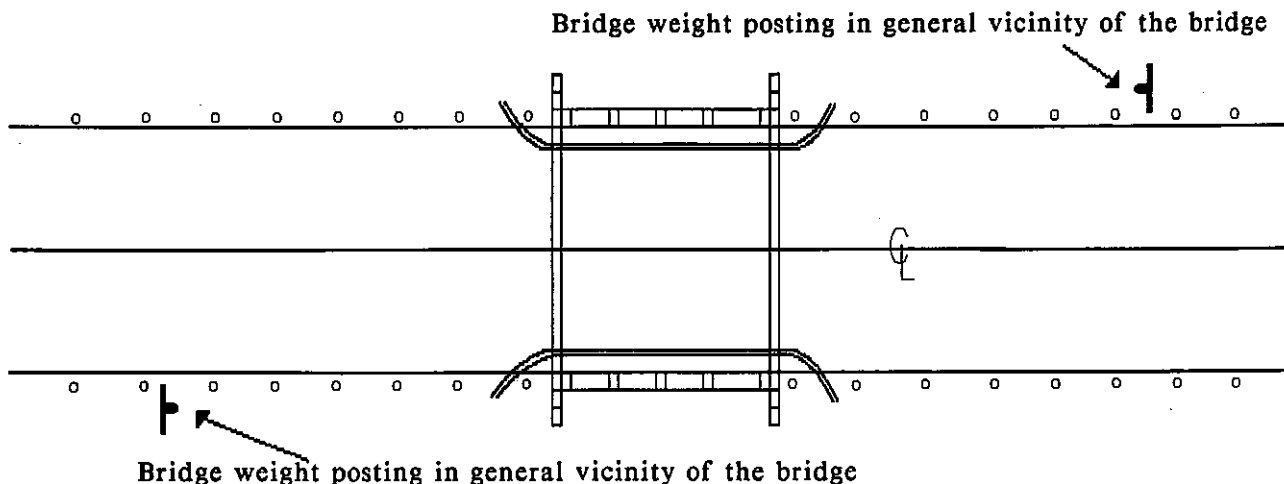
### Another method for protecting bridge deck overlays

A rubberized asphalt concrete waterproofing membrane that protects bridge decks from rain and chlorides has been approved in Oregon as an alternative for bridge deck overlays. The latex-reinforced RUB-R-ROAD was tested by the Oregon Department of Transportation on the I-5 Columbia River Bridge in 1979. Resurfacing was begun by removing the old asphalt and applying a tack coat containing liquid rubber. Then a 1.0 inch RUB-R-ROAD wearing course was placed over the tack coat on the northbound structure; a 2.5 inch wearing course was laid on the southbound span. Although the product

was difficult to work with, the surface has been shown to be satisfactorily impermeable. There have been some problems with rutting and skid resistance, but these probably could be alleviated with attention to design and specifications. For additional information send in the mailer attached in this newsletter and ask for the *Bridge Raincoats* report, or call us toll free at 1-800-423-0060.

The preceding article was excerpted from the Technology Transfer Quarterly, Ohio Technology Transfer Center, Vol. 2, No. 3, July 1987. The story and available report come from the Oregon Technology Transfer Center. ■

## Typical Bridge Posting



NOTE: Signs should be clearly visible to approaching vehicle on both ends of the bridge.

# !!! FREE !!!

Reference loan library has now been started

Some towns would like to have the chance to review available reference material prior to spending money on something that may not be as useful as it appeared. Or, maybe the material is needed so seldomly that the cost to purchase the reference materials is not justifiable. The Technology Transfer Center is now starting a reference loan library open to all municipalities. Materials are geared towards managing local roads and local road departments.

Below is a list of 17 books now available for loan through the Technology Transfer Center. To order please use the mailer attached to this newsletter or call 1-800-423-0060.

## NACE GUIDES

These guides provide a range of technical and management procedures that will benefit agencies with local road responsibilities.

### List of Action and Training Guides

#### Action Guides:

**Volume I – Administration;** this volume includes information regarding organization, personnel, purchasing, financial management, maintenance management, administration of bridge inspection, tort liability, and public support.

**Volume II – Planning;** this volume includes information regarding comprehensive county planning, road programming, impact of land development of the highway system, rural public transportation, and solid waste management.

**Volume III – Design and Operations;** this volume includes information regarding road surface management, traffic operations, bridge rehabilitation on low volume roads, safety improvements, drainage, aerial photography, subsurface soils exploration, and erosion and water pollution prevention.

#### Training Guides:

1. Handbook on Training for Road Departments
2. Trainer's Guide
3. Blading Aggregate Surfaces
4. Tips for Conserving the Environment and Energy
5. How to Talk and Communicate at the Same Time

6. Improving Traffic Maintenance

7. Maintaining Bridges After Inspection

The NACE guides are excellent and come highly recommended. You may have them on loan by calling the T<sup>2</sup> Center at 1-800-423-0060. However, if you prefer, you can purchase your own copies. The costs for the guides are as follows:

Action Guides..... \$50.00 ea

Training Guides.... \$10.00 ea

Include \$5.39 for shipping and handling and mail to:

Mr. Milton L. Johnson  
National Association of County Engineers  
326 Pike Road  
Ottumwa, IA 52501 ■

scheduling, worker safety, and training.

**Volume III – An Overview for Elected Officials;** this manual contains chapters on political factors, organization, finance, cost control, contracting, program management, maintenance techniques, and personnel supervision.

**Volume IV – Program Administration;** this manual contains chapters on political factors, organization, finance, cost control, contracting, pavement management, maintenance management, equipment management, and computers as a management tool.

The above materials are available for loan by calling the T<sup>2</sup> at 1-800-423-0060.

However, if you prefer, they may be ordered from:

National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161

The single copy price varies from \$18.95 to \$24.95 per copy (see below). There is an additional charge of \$3.00 for postage and handling.

## MAINTENANCE PRACTICES FOR LOCAL ROADS

This series of four manuals will aid municipalities in administering, managing, and conducting road maintenance activities.

**Volume I – Maintenance Techniques;** this manual contains chapters on maintenance of the road surface, overlays and rehabilitation, drainage, traffic engineering and safety devices, bridges, roadside maintenance, snow and ice control, and traffic control in work zones.

**Volume II – Personnel Supervision;** this manual contains chapters on individuals, organizations and controlling; elements of supervision, planning and

<u>TITLE</u>	<u>ORDER #</u>
Maintenance Techniques (cost: \$24.95)	TB86-214 616
Personnel Supervision (cost: \$18.95)	TB86-214 640
Overview f. Elected Officials (cost: \$24.95)	TB86-214 624
Program Administration (cost: \$24.95) ■	TB86-214 632



**GENERAL COMMENTS:**

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**CHANGE OR ADDITION OF TITLE AND/OR ADDRESS:**

Please fill in *old* address:

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Please fill in *new* address:

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**INFORMATION REQUEST:** (please use this space for any general comments, questions, or suggestions you may have. Remember to include your Telephone Number)

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**PLEASE! PUT YOUR RETURN ADDRESS IN THE UPPER LEFT HAND CORNER OF THE REVERSE SIDE OF THIS PAGE. FOLD, STAPLE AND MAIL.**



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# R. A. A. NEWS

The New Hampshire Road Agent Association

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## The First Annual Meeting

*A good turn out, a lot of interest, and great possibilities*

Earlier this year, a few road agents and public works directors decided to get together and see if there was an interest in developing a Road Agent Association (RAA) in New Hampshire. On June 5th, 1987 they found out just how much of an interest there was. Over 100 people registered for the first New Hampshire Road Agent Association Meeting held at CRREL (Cold Regions Research and Engineering Laboratory) in Hanover.

Allen Lary, road agent for Canaan and president of the newly formed association, discussed some of the ideas behind RAA. "We believe that the small- and medium-sized towns in our state have some special needs which can be addressed by an association such as RAA," said Al. "Six of us got together last February, one from each highway district. I think we were all amazed at how many good ideas were shot around the table. There is a real need for a state-wide exchange of information among road agents and an annual meeting such as this can help a lot."

Al Lary also talked about a need for more hands-on sessions on the local level (vendor demos, workshops, seminars, presentations, etc.) and a special type of information exchange for new road agents. "All I know," said Al, "is that not much is left behind in the way of helpful hints by a road agent who quit abruptly or was defeated in an election. When you don't even have a list of vendors' phone numbers, it's hard to get things underway as quickly as needed. It would be great to have a cookbook type manual covering some of the basic tricks of the trade. With about 40% of New Hampshire road agents turning over each year, this is a real need. We hope to solicit and compile information from experienced road agents and get it out to everyone interested."

The RAA business meeting was simple and to the point. By-laws were presented and new members voted to adopt them without changes until the next annual meeting; the New Hampshire Technology Transfer Center was elected to act as a clearinghouse and communications center for the association; and six representatives, one from each state highway district, were chosen to serve as the association's board of directors.

While in Hanover, meeting participants took advantage of CRREL's facilities. Bob Eaton, research civil engineer at CRREL, talked to the group about pothole repair and managing gravel roads. Bob Joubert, regional engineer from The Asphalt Institute, shared some information with everyone on seal coats in New Hampshire. After lunch, participants had the opportunity to take a tour of the CRREL grounds and laboratories.

Next year's meeting is now being planned. If you have any suggestions or you would like to help out, please give us a call at 1-800-423-0060 or drop a note to:

New Hampshire Road Agent Association  
c/o University of New Hampshire  
Technology Transfer Center  
Civil Engineering Dept.  
Durham, NH 03824 ■

## R. A. A. Board Members Elected

*One representative from each highway district was elected to serve on the board*

District 1.....Henry Sherburne

District 2.....Al Lary

District 3.....Dave Wadleigh

District 4.....Curt Dunn

District 5.....Garth Witty

District 6.....Dave Walker

## WIN \$100.00 !

\$ \$ \$ \$

*Send us your good ideas and you could win \$100.00*

Whenever you go to a town garage you can find some very innovative tools, equipment, and cost-saving ideas. The Road Agent Association is looking for tips from the field. The purpose is to collect as many good ideas as possible and compile them into a simple, easy-to-use reference and distribute it to all New Hampshire towns and cities.

Where does the \$100.00 come in? Think of it as a raffle. One idea will buy you one ticket. Every time you send in an idea to the RAA, you will have a greater chance of winning \$100.00.

How does it work? When we receive an idea from you (written down, recorded on video tape, shown in a photograph, called in on our toll free 800 number, etc.) we will put one entry card in the drum with your name, address, and phone number on it. The more ideas we receive from you, the more entry cards you'll have in the drum and the greater your chances of winning will be.

When will the drawing be? The drawing will happen in the spring at the next annual Road Agent Association meeting. Advanced notices will be sent to everyone announcing date, location, and time of the meeting. Then, at that meeting, the winner will be picked from the drum of cards and handed a check from the Road Agent Association in the amount of \$100.00.

*continued on p. 8*

Win \$100.00...  
continued from p. 7

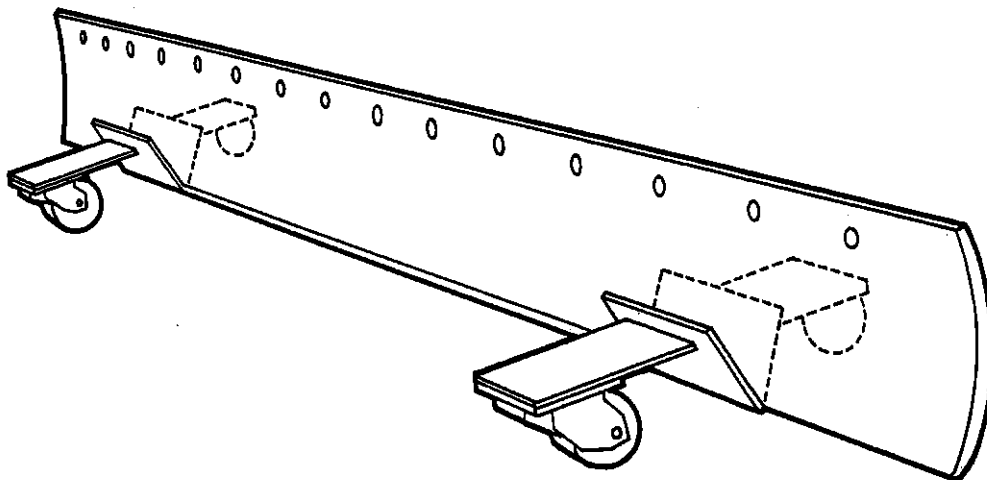
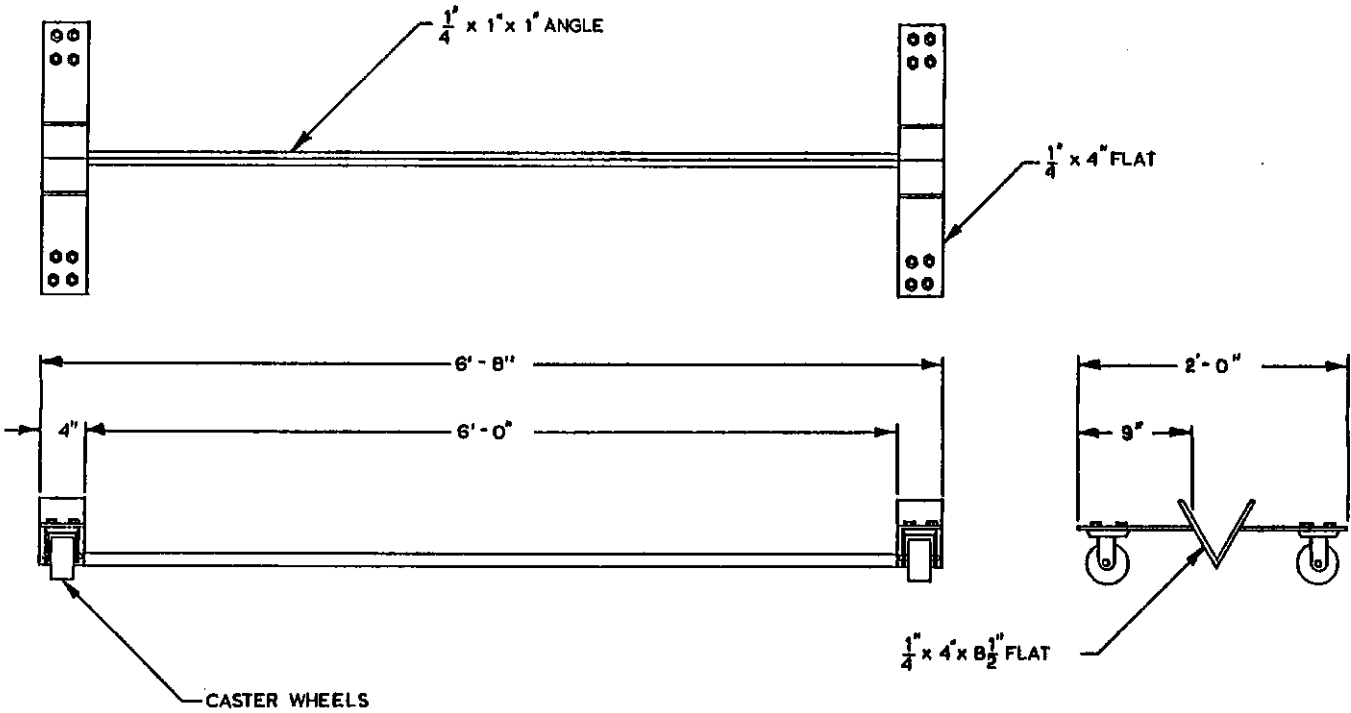
Who is eligible to win? Anyone whose permanent residence is in the state of New Hampshire can enter the drawing. What kind of ideas will make acceptable entries? Acceptable entries must pertain to

the operation of a town or city highway department; for example budgeting, road construction techniques, road maintenance techniques, equipment maintenance, home-made tools, equipment designs, winter maintenance techniques, planning policies and procedures, shop and work zone safety,

personnel issues, purchasing equipment or materials and supplies, cost savings of any kind... and the list goes on and on.

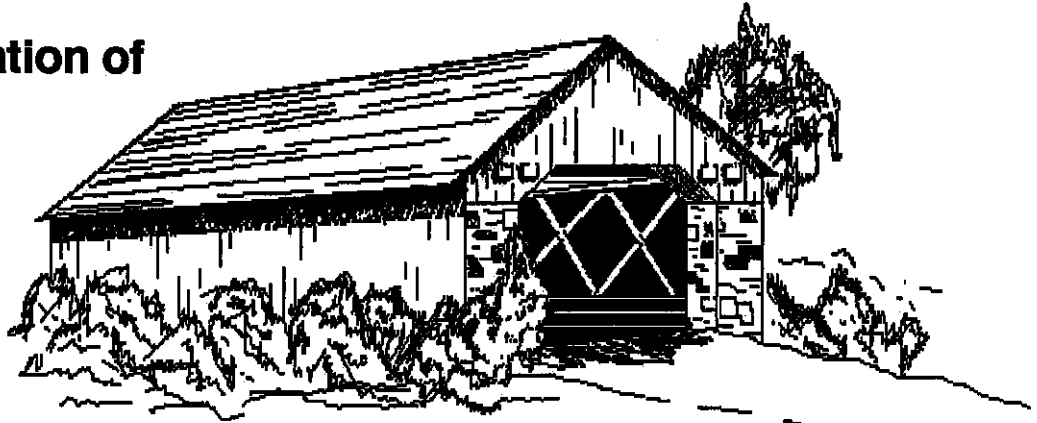
To kick things off, below is an idea someone came up with in Iowa. They wanted to share their idea and now others may benefit from it. Let's see what New Hampshire can do! ■

## ICE & GRADER BLADE CART



# November Workshops:

## Rehabilitation of Existing Bridges



The Technology Transfer Center will be conducting three bridge workshops this November. Each workshop will run from 8:30 am. (registration) to 3:00 pm. The cost will be \$15.00 per person.

The basic objective of this workshop is to develop cost-effective schemes for rehabilitation projects that are to be implemented by local highway agencies, and to provide information, guidelines, and tools so that cost-effective decisions regarding these projects can be made.

Each participant will receive a copy of a comprehensive reference manual covering the following topic areas:

1. Identifying and grouping structural deficiencies and functional obsolescence in bridges.
2. Recognizing and categorizing types of problems involving structural deficiencies and functional obsolescence in bridges on secondary highways and local roads.
3. Recognizing and analyzing procedures used for assessing damage and making repairs.
4. Evaluating feasible and economical procedures which apply to specific projects.

5. Determining the level at which local personnel should not undertake rehabilitation projects without outside expert advice or assistance.

<u>Date</u>	<u>Location</u>
Nov. 2	Lebanon
Nov. 4	Sugar Hill
Nov. 5	Dover

**Limited Space:** Each workshop will be limited to 40 participants. Please call now to reserve your space: 1-800-423-0060. ■

### Wanted: Design Engineer

The Public Works Department of the City of Concord has an opening for a Civil Design Engineer. The following is a description of this position.

#### DESIGN ENGINEER

City of Concord, New Hampshire  
Public Works Engineering Division

**Job Summary:** Performs responsible professional engineering design, planning and layout work in connection with all phases of municipal engineering including supervision, preparation and coordination of plans, specifications, reports, estimates, field studies, and surveys.

**Minimum Qualifications:** Graduation from college or university with major course work in Civil Engineering, plus four years pro-

gressively responsible experience in the practice of civil engineering; OR any equivalent combination of education and experience which demonstrates possession of the required knowledges, skills and abilities.

**Required Licenses or Certificates:** Registered Professional Engineer

*Salary negotiable based on qualifications.*

#### Submit resume to:

Personnel Department  
City of Concord  
City Hall  
41 Green Street  
Concord, NH 03301

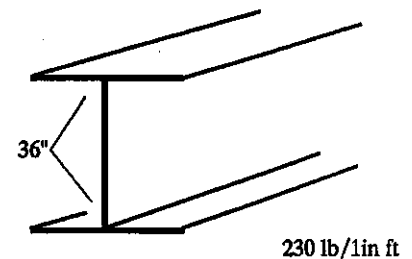
### Wanted in Montpelier

The City of Montpelier has recently had to restrict the load limit on one of its bridges until shoring can be done to the structure. To do this, the City needs **four (4) W36x230 min. steel beams at least 76' in length.**

We would appreciate any information or help that can be given to us on the above mentioned steel beams. Please contact:

Steve Gray  
Department of Public Works  
City Hall, Main Street  
Montpelier, Vermont 05602

Telephone (802) 223-9508



**This is a local roads Technical Newsletter. It is written for New Hampshire's town and city employees who are responsible for planning and managing low volume roads.**



**TECHNOLOGY TRANSFER CENTER (T<sup>2</sup>C)**

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