

Road Builders help Children's Wish Foundation

By Melanie Furlong
Special Features Writer

LAST WEEK, Christopher was given a travel trailer; Logan has been granted a Disney Cruise; and Graham is going to the 2010 Olympics. All of these local children have benefited from the funds raised at the Nova Scotia Road Builders' silent and live auctions at their recent annual general meeting in January.

"We were proud to present the Nova Scotia Chapter, Children's Wish Foundation with a cheque for \$80,500 and we plan to donate funds raised from our next annual general meeting to them, too," says Guy Kendziora, who was co-chair of the event along with B.J. Harvey.

"That is probably the largest donation from a third-party event that we've ever received," says Cheryl Matthews, chapter director of the Nova Scotia Children's Wish Foundation. "It will grant eight wishes to children like Christopher, Logan and Graham who all have high-risk, life-threatening illnesses and some of it has already been put to good use."

More than 400 people attended the annual general meeting and bid on 100 silent-auction and 22 live-auction items all donated by members of the Nova Scotia Road Builders Association.

This was the first year the Nova Scotia Road Builders' Association donated funds to the Children's Wish Foundation.

Road Builders' Associations in New Brunswick raised a just over \$50,000 for the New Brunswick Chapter, Children's Wish Foundation and in Newfoundland they raised \$25,000 for the Newfoundland Chapter, Children's Wish Foundation.

"A donation of \$80,500 is vital to our existence and to be able to grant these kids their wishes," says Matthews. "Without the support and generosity of the Nova Scotia Road Builders' Association,



From left: Guy Kendziora, McAsphalt Industries Ltd.; Joyce Nilforth, Children's Wish Foundation; Cheryl Matthews, chapter director, Children's Wish Foundation; Don Maillet, past president, N.S. Road Builders Association; and B.J. Harvey, Atlantic Cat/Cat Rentals. Guy and B.J. co-chaired the coordination of the Children's Wish Foundation auction held at the 61st annual banquet for the Road Builders Association.

these wishes couldn't happen. We want to give them a big thank you and let them know that they certainly built more than roads that night, they built

the wishes and dreams of these children and their families." Matthews says the Children's Wish Foundation grants wishes that allow the

child and his or her whole family a chance to reconnect and just become a family again by putting the trials and tribulations of what they're dealing with

behind them for even just a few short days. Their budget this year in Nova Scotia is close to \$1 million.

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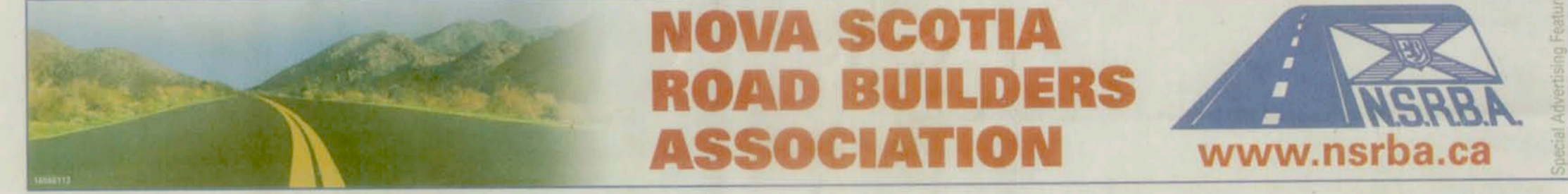
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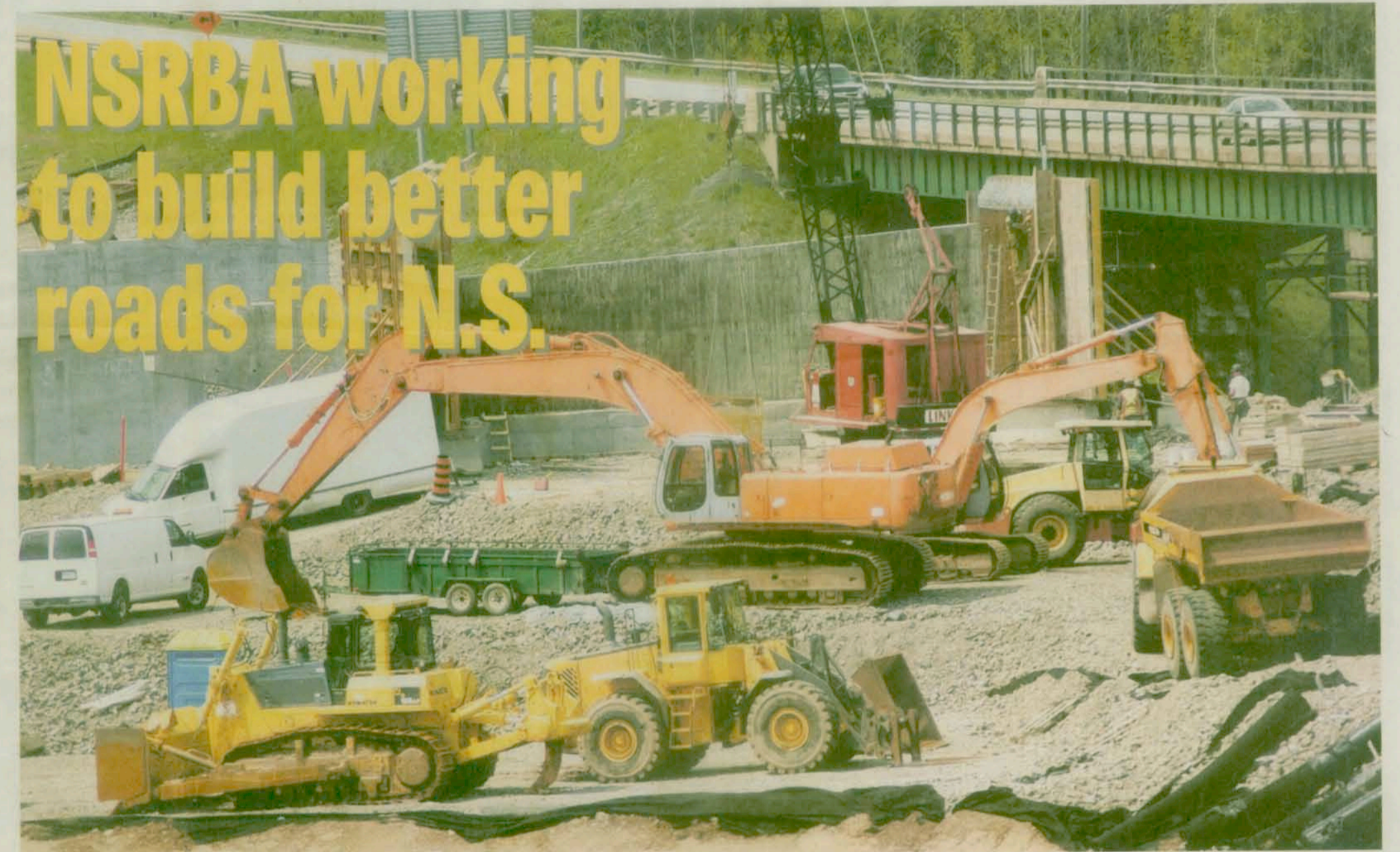


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NSRBA working to build better roads for N.S.



Nova Scotia Road Builders Association driving into the future with new, greener technology

By Paul White
NSRBA president

THE NOVA SCOTIA Road Builders Association understands the importance of highway infrastructure to Nova Scotia's economy and communities.

Its 137 member companies employ approximately 7,200 individuals annually with an estimated payroll of \$875 million. Its work impacts significantly on the service and supply industry.

The message repeated by NSRBA is for government to secure a sustainable, long-term funding strategy for the province's roads. This type of investment by the province will lead to significant investment by industry.

Present funding levels have increased in recent years but remain insufficient to halt the deterioration of existing infrastructure and meet new highway needs.

Government itself assessed that a funding requirement in the order of \$400 million per year for a 10-year period was needed to bring N.S. roads to an acceptable standard.

The Department of Transportation and Infrastructure Renewal increased the estimated capital budget from approximately \$162 million in 2007 to an estimated value of \$200 million in 2008. That figure included contributions from the Federal Government.

The estimated capital budget spent was \$105 million as of the first week of May. An additional amount of \$20 million is estimated to be spent under the RDM Program.

This program covers maintenance contracts throughout the province. Here are a few of the highlights affecting the association and industry as the 2008 construction season moves forward:

NSRBA have made changes to its dues structure to cover expected expenditures of a new executive director.

A detailed description of the roles and responsibilities of the executive director has been formulated and will be reviewed at the association's next board meeting (this month). A posting for the position will follow shortly.

See **ROAD BUILDERS** / G2



The Nova Scotia Road Builders Association board of directors includes (back row, from left): Patrick Gray, John Flemming, Marcel Poltras, Craig Chapman, Ron Dunn, Bradley Scott, Guy Kendziora, and Rylan MacDow, Seated, from left: Ken Thomas, Carol Ingraham, Paul White (NSRBA president), and Don Maillet, past president.

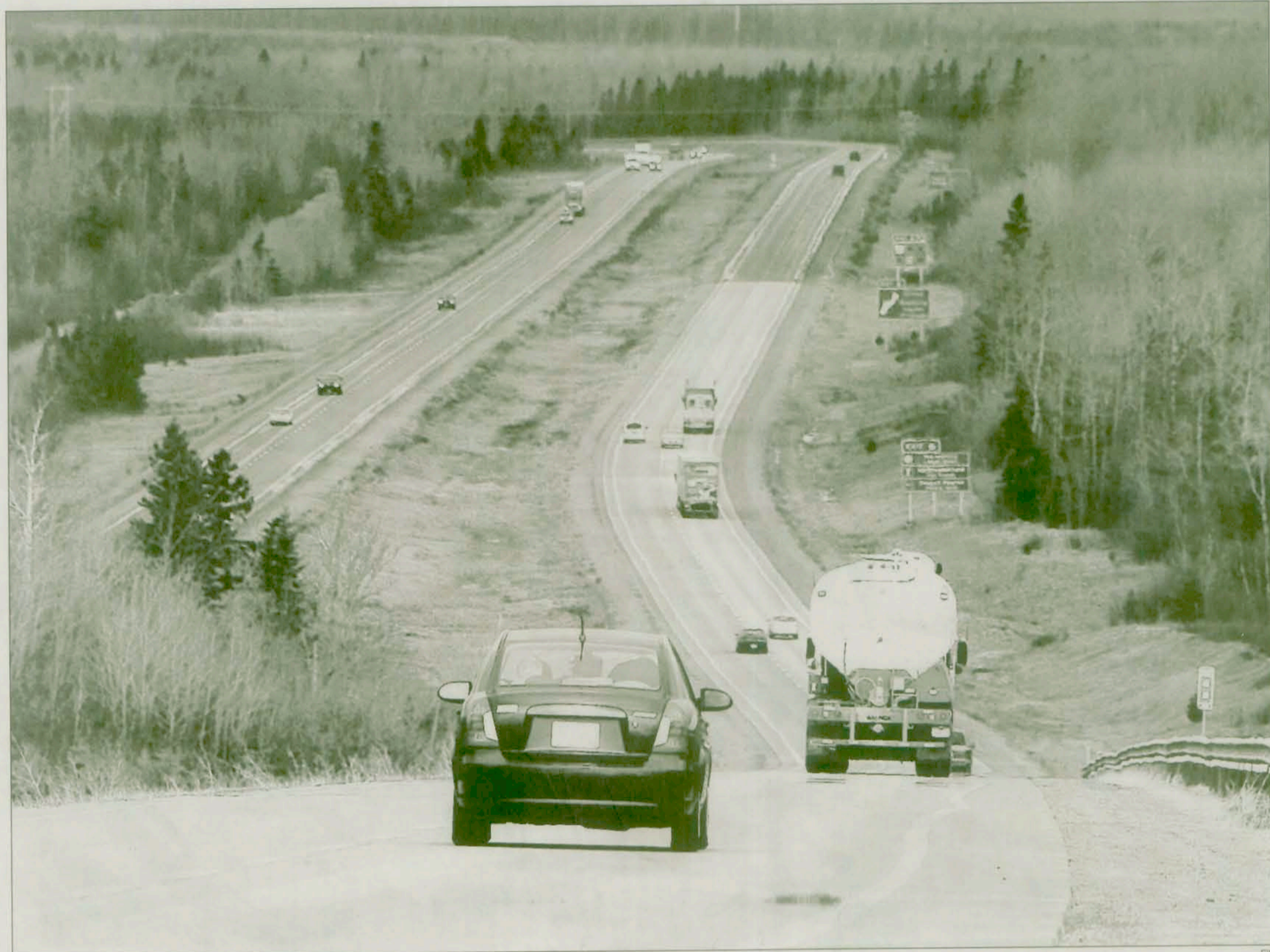
NOVA SCOTIA ROAD BUILDERS ASSOCIATION PAST PRESIDENTS

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For NSRBA Membership and other information, please call 450-1433 www.nsrba.ca



Vehicles travel a concrete section of Highway 104 near Oxford. Several innovative new projects, including the installation of Strong Post Guardrails, concrete highways, and new smoothness specifications based on the International Roughness Index and asphalt recycling technologies, are all part of an effort to save money while providing top-quality projects in the long-term.

New technologies making province's roads safer

By Melanie Furlong
Special Features Writer

THE DEPARTMENT of transportation and infrastructure renewal is always looking at new technologies to make Nova Scotia's road system better and longer-lasting, says Peter Hackett, manager of highway construction services for the department.

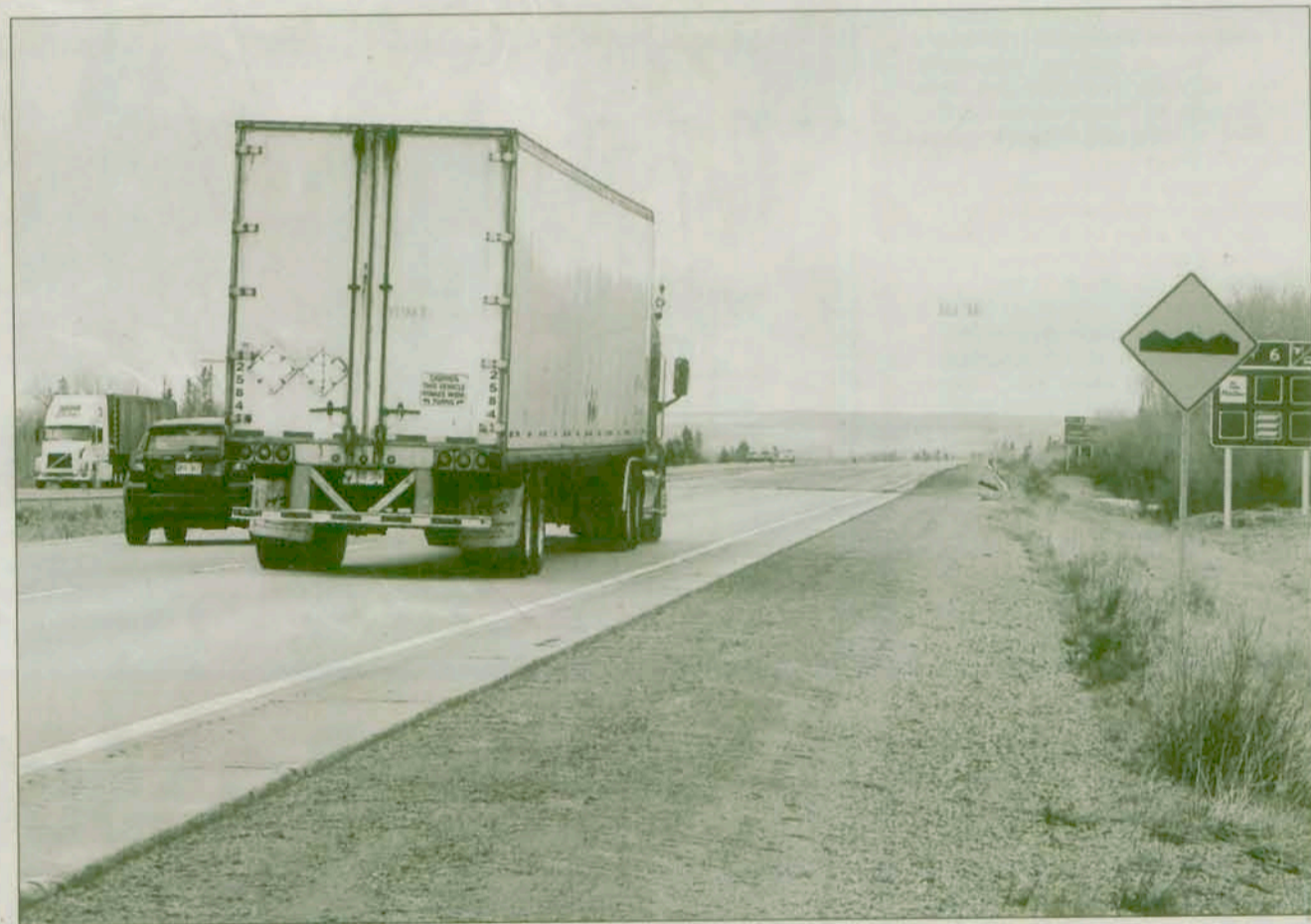
Several innovative new projects, including the installation of Strong Post Guardrails, concrete highways, and new smoothness specifications based on the International Roughness Index and asphalt recycling technologies, are all part of an effort to save money while providing top-quality projects in the long-term.

"The Strong Post Guardrail system has been around North America for a while," says Hackett. "Every length of guardrail is double posted to provide more strength in the system. It provides more safety in case of an accident and holds the cars on the road better to prevent them from going through the system or over it."

The new guardrail systems have been installed in several locations around the province already including a section on the 102 outside Truro, a section on the 125 outside Sydney and on the 107 towards Sheet Harbour.

Hackett says any new or repaving projects on 100 series highways will get the guardrail system.

"The province is also starting to embrace concrete roads, like the 10 km stretch of the 101 outside of Windsor.



Motorists travel towards the end of a section of concrete highway on the 104.

"As we continue twinning projects," says Hackett, "we're looking at other surface alternatives. Concrete is more expensive, but its surface lasts about 30 years before requiring much maintenance. Asphalt lasts about 15 years before maintenance and in 20 to 25 years you have to go in and recycle or repave it."

He says when alternate bids come in at a reasonable price, they will

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build concrete roads. The department is also asking that the smoothness of all new paving construction be gauged with the International Roughness Index, a system used around the world.

"We've adapted it here to for all our new paving jobs," says Hackett. "Smother roads last longer, so the new specification rewards contractors who provide smoother pavements."

Road builders can receive a monetary bonus for their work if it meets top IRI requirements.

"The road builders have really embraced the new specifications, which is good," says Hackett. "Recycling asphalt is not a brand new technology, but something Nova Scotia has been doing for the last 11 years."

"Our program has increased every year over the last four to five years," says Hackett. "It allows us to recycle the asphalt or aggregate in place and gives us a very strong surface that uses fewer resources and is more environmentally friendly. It also allows us to avoid widening or re-aligning the road."

Hackett says they work very closely with the Nova Scotia Road Builders Association members to get all of this technology up and running.

"For the most part, the contractors have embraced what we've been doing. They're a pretty good group to work with and the Department values our ongoing relationship with the road builders."

Road builders

continued from / G1

thereafter. N.S. Environment is continuing its review of the Pit and Quarry Guidelines. Requirements to deal with recommendations from the Whites Point Quarry and Marine Terminal impact on their review and may move ahead any earlier projected completion date for the guidelines. Whites Point Quarry recommendations impact on TR's exemption from the formal review process for aggregate materials on Department contracts.

Both the Department of Transportation and Environment are reviewing existing pits and quarries within the province. A consultant has been hired and has met with a number of NSRBA members.

Progress and development of the Atlantic Gateway is followed closely by NSRBA. This region is in prime position to take advantage of changes in global shipping trends.

Container traffic from India and Asia to North America need harbour conditions suitable to accommodate the large post-Panamax container ships. Halifax Harbour and the Strait of Canso are well suited and ideally situated to serve as a transportation gateway to the continent.

The association's most recent Annual General Meeting was a success. It saw an increased number of participants and was able to generate revenue slightly over that of the previous year.

Of particular note was a change to include an auction to sponsor the Children's Wish Foundation. A total in excess of \$80,000 was raised. NSRBA takes pride in the generosity of its membership.

The next NSRBA convention will be held at the same location on January 21-22, 2009 at the Westin in Halifax.

The NSRBA membership welcomes Carol Ingraham who was hired as the administrative assistant for the association. Carol can be reached at the new

NSRBA location in Burnside. Visit the NSRBA website at www.nsrba.ca for details. NSRBA thanks Steve Williams, former managing director of the association, for his contribution over the years.

As a final note, the NSRBAs Annual Golf Tournament is scheduled for July 11 at the Truro Golf Course. This is a successful event each year, so come out and enjoy the day!

Paul White, P. Eng., is president of the Nova Scotia Road Builders Association.

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Paving green with warm mix asphalt

By Melanie Furlong
Special Features Writer

WARM MIX ASPHALT (WMA) technologies are growing in number as more and more companies try to use less energy and release fewer emissions into the environment.

Ryan Clark, quality manager for Lafarge, Atlantic Canada, says WMA is simply asphalt pavement that is constructed at temperatures that are lower than normal.

"Asphalt is normally made very hot so that liquid asphalt is viscous enough that it's workable and can be placed," says Clark. "WMA allows you to place it at cooler than normal temperatures."

The concept of WMA was imported from Europe in 2004 and Clark says there are a number of competing technologies to place and produce asphalt at cooler temperatures.

"The thinking is that the cooler asphalt uses less energy to heat and causes fewer emissions into the environment," says Clark. "Liquid asphalt is a hydrocarbon, an oil basically, and part of the refining process."

He says Lafarge has evaluated a number of different technologies in use across North America and Europe now and have chosen one for their new Dartmouth plant.

"In January we started adding a chemical additive to produce warm mix asphalt and we're having a great deal of success with it," says Clark. "The three major WMA technologies include chemical additives, Zeolite granular additives, emulsions, and asphalt plant modifications that inject water into the asphalt to make it cooler."

Clark says all of these methods are far more expensive to implement than the cost-savings recuperated.

"You can spend \$150,000 to \$200,000 modifying your plant to inject water into the asphalt and if you're doing a great tonnage or production of volume this method will save you \$0.25 a tonne for it. Adding additives into the process costs anywhere from \$2 to \$10 a tonne," says Clark.

Users of WMA are seeing significant performance benefits too.

"Number one, producing your asphalt at lower temperatures doesn't degrade the properties of the asphalt in the

mixing as much as conventional mixing would," says Clark. "It cools off much less quickly and you've got a longer paving window. You can actually have improvements in constructability and the finished product of the asphalt. One of the biggest benefits for us is the performance improvement that warm mix technology gives us."

To date, WMA has been used for patching and localized rehabilitation, but at the moment and there are no whole roads covered with it yet in Nova Scotia.

Guy Kendziora, marketing manager, Atlantic, for McAsphalt Industries Limited, says, "The use of warm mix asphalt does not age harden the asphalt cement in the mix as much as conventional hot mix asphalt does going through the mix production process at the plant. This lower age hardening will lengthen the 'service life' of the pavement. The life cycle cost benefits would be improved and assist in off-setting the extra cost to produce the warm mix."

Kendziora also says performance tests on warm mix produced using the Evotherm technology, a warm mix technology supported by McAsphalt Industries Limited of Dartmouth, have shown that the performance is as good as or better than the conventional hot mix it replaced.

"Warm mix technology is definitely lowering the greenhouse gas emissions compared to conventional hot mix production," says Kendziora. "Testing done using Evotherm have shown decreases as high as 55 per cent in greenhouse gas emissions compared to the same mix produced as hot mix. These emission reductions have been seen using all of the warm mix technologies currently available."

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4.1 km Highway 101 twinning job complete

By Melanie Furlong
Special Features Writer

THE TWINNING of highway 101 westward towards the Kings-Hants County line from the exit to Falmouth, N.S., has just been completed.

A.G. MacDonald, secretary-treasurer of Alva Construction, says the project was tendered in July 2007 and they began work on it in August. Approximately 4.1 kilometres of the highway is being twinned and Alva Construction was awarded the construction of sub-grade, grading and graveling of the road.

"We worked on it right up until December," says MacDonald, "and finished it this May."

The job saw 235,000 cubic metres of excavation material moved out to build the road and 165,000 cubic metres of

borrow material brought in.

"You dig up that rocky material and put it in the low areas," says MacDonald, "to cut and fill and make it level. 165,000 cubic metres of borrow material is quite a lot to bring in, but it's just the nature of that section of the job."

They needed 125,000 tons of gravel on this contract and opened up a quarry outside of Windsor to drill, blast and crush their own gravel material.

Section Two of the contract was called the Bishopville Road Overpass.

"We built a 75-metre long arch structure there that replaced an existing steel structure," says MacDonald. "We took that one out and put in a new concrete arch last December."

The new twinned section of highway 101 is now open.



Which road will you take?

By Melanie Furlong
Special Features Writer

SINCE 1993, construction employment has grown by almost 13 per cent. The top 20 per cent of all individuals working in heavy construction earn over \$45,000 annually, while the average salary for this profession hovers around \$30,000 per year.

The job outlook is very positive for heavy civil construction careers, says Paul MacDonald, director of human resources and safety for Dexter Construction Company Ltd.

These careers may include road construction, bridge construction, heavy equipment operation, demolition, site preparation and much more.

"There's a shortage of skilled labour in all industries, road building being one of them," says MacDonald.

In recognizing this impending shortage, Dexter Construction partnered with the Nova Scotia Commu-

nity College to create The Dexter Institute of Heavy Construction in order to provide trained employees for their organization. He says the program has been a great success because so many grads from the program have become full-time employees with their organization.

A strong economy, advances in technology and an aging work force have created many new career opportunities in the heavy civil construction field; and as the types of work in this field expand, the demand for highly trained and skilled workers continues to increase.

With the Dexter Institute, says MacDonald, we realize that teaching skills for changing world demands requires a real world approach.

"We also know how important it is to offer a course that is relevant, practical and enjoyable. That's why we developed our curriculum to help students learn as much as possible, in the most practical manner possible."

Spanning two years, the course is unique with theory, hands on training and paid work terms. Students will study areas such as Safety (OH&S, WHMIS, CPR/First Aid, TDG, Ergonomics, etc.), Computer Fundamentals, Communication, Project Management, Applied Mathematics, Human Relations, Heavy Equipment Theory, Heavy Equipment Operation, Geology/Topography, Surveying Basics, Site Preparation, Heavy Construction Operations and more.

Those who meet program requirements will receive a post secondary diploma and are guaranteed employment with Dexter Construction, where they'll occupy positions ranging from heavy equipment operator, surveyor, pipe layers, concrete, asphalt, junior foreman, and many more.

Cost for the two year course is \$3,900 per year. After two years of employment with Dexter Construction, graduates may be eligible for a retention bonus of 50 per cent of their tuition costs.

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Bonnie Bobnyk Photography

Driving higher volumes of container traffic destined for the North American marketplace through Nova Scotia's ports is one of the main goals of the Atlantic Gateway Initiative.

Projects aim to promote Atlantic Gateway

By Melanie Furlong
Special Features Writer

WHEN PREMIER Rodney MacDonald spoke at a Nova Scotia Chambers of Commerce breakfast meeting March 5, 2008, he unveiled a list of nine potential projects that would help make the Atlantic Gateway more competitive, efficient and effective. Ideas for the projects came from the Halifax Gateway Council, the Halifax International Airport Authority and other groups in various parts of the province. They include retooling Nova Scotia's ports, growing the transloading industry in the province and connecting the Burnside Expressway to the Translink with the 102 and 107 highways.

David Oxner, director of the Gateway Initiative for the province of Nova Scotia, says, "One of those projects addresses the need for increased marketing and awareness of the Nova Scotia Gateway assets overseas. When you leave Canada, we're not well known in other parts of the world. Shipping lines and other businesses make decisions based on what's on the radar screen."

With its strategic location in the North Atlantic, deep, ice-free waters and excellent rail, truck, marine and air connections, Nova Scotia is a pivotal link in the global transportation system.

"We talked about the need to engage marketing sales agents on the ground who would go out and sell Nova Scotia and the Gateway assets," says Oxner.

Another project will look at building a transloading type of industry in Nova Scotia.

"Right now there are companies that are engaged in transloading, which is



File

With its strategic location in the North Atlantic, deep, ice-free waters and excellent rail, truck, marine and air connections, Nova Scotia is a pivotal link in the global transportation system.

when you take a 40-foot international container on one side of the dock and load its contents into a 53-foot domestic container on the other side of the dock for distribution by rail or road," says Oxner.

Right now two companies specialize in transloading in Nova Scotia. Consoli-

dated Fast Freight works for Canadian Tire and Armour Transportation Systems works for the Canadian Retail Shipper's Association.

"They are talking about the need to build a kind of facility in Halifax that would allow other businesses to come to the province and do work for other

companies," says Oxner.

Another project was to build the Burnside Expressway to connect the Translink with the 102 and 107 highways to allow the Burnside Industrial Park to move people and goods out of the park more efficiently.

"The two entrance points into Burn-

side are kind of choked right now," says Oxner. "It would also take some of the truck traffic off the Magazine Hill Road, which is predominated by commuters and commercial vehicles to move traffic to and from Bedford, Sackville and other parts of the province into Dartmouth."

2008 NOVA SCOTIA ROAD BUILDERS 6th ANNUAL

Atlantic Gateway drives economy

By Melanie Furlong
Special Features Writer

LOOKING AT A NAVAL map, it's clear that Nova Scotia has the most strategic position in the North Atlantic for container ships coming out of the Suez Canal from Southeast Asia and China.

Driving higher volumes of container traffic destined for the North American marketplace through Nova Scotia's ports is one of the main goals of the Atlantic Gateway initiative, says David Oxner, director of the Gateway Initiative for the province of Nova Scotia.

"It's really about Nova Scotia's strategic position in the North Atlantic," says Oxner. "We can be the first-in port of call and a last-out port of call in container traffic from the Far East and

the Indian sub-continent that's destined for the North American marketplace. It's so important because the container business is a very lucrative-paying industry in Halifax."

A Gateway Council development impact study in 2006, which included airports, ports and rail, said 26,750 years of work are generated by the Gateway. Its payroll is more than \$1 billion per year and its total economic input is worth about \$3.7 billion a year.

"Every time a container ship docks in Halifax," says Oxner, "it creates three person years of employment. And the average wage of people in the transportation industry, especially around containers, is about 34 per cent higher than the average Nova Scotian's wage range."

Once containers arrive, goods are shipped to various North American destinations by road, rail or air.

"The Atlantic Gateway is really an opportunity to try and drive more passenger and cargo traffic through our ports and airports and to other terminals in Melford, the Strait of Canso and Sydney. If we can increase the number of incoming containers to the port," says Oxner.

"It also helps Nova Scotian and Canadian business people secure containers for shipping exports out. If we can create more of an inbound volume, then it allows Nova Scotian and Atlantic Canadian business people to export more of their product to foreign markets as well."



Joseph Robichaud Photography

Upgrading of Highway 101 is ongoing, with work continuing on the twinning of seven-kilometres between St. Croix and Three Mile Plains and 11-kilometres between Falmouth and Avonport.

Province is committed to better, safer roads

By Melanie Furlong
Special Features Writer

BUSINESS, TOURISM and local access to services all depend on Nova Scotia's road system.

Nova Scotia's Minister of Transportation, Murray Scott, says that's why Premier Rodney MacDonald made two commitments to that system.

One was that the province would pave 2,000-km of highway over four years and the second was to twin or modernize highways from Sydney to Yarmouth by 2020.

"In the mid-'90s, budgets in Nova Scotia were cut down quite a bit and not much was spent on our roads," says Scott. "That's why our roads today are in such need. In the last seven or eight years, we've been able to increase that budget substantially."

Since 1999, government's focus on transportation has increased our capital budget for roads and bridges from \$44 million to almost \$145 million dollars last year. And \$379 million is being committed to 2008's total highway spending, including capital. These funds are comprised of gas tax, fees from drivers' licenses and registrations and money budgeted out of general revenues.

"We have a new cost-sharing program with the federal government on certain roads, including the 100-series highways and bridges, but the secondary roads are ours to maintain."

Nova Scotia maintains 23,000-kilometres of roads and 4,100 bridges across the province. In November 2007, the federal government announced it would contribute more than \$634 million dollars towards public infrastructure projects in Nova Scotia over the next seven years.

To ensure that the funding is spent in a manner which produces the maximum possible benefit, the department is leading the development of a comprehensive strategic infrastructure plan for the province. This plan will help the government better understand the nature and extent of the province's infrastructure deficit, identify long-term needs, and will identify strategies for managing the growing infrastructure deficit as well as priority areas for investments in the coming years.

The province is in the third year of the four-year commitment to paving 2,000-kilometres of highway and is on target to meet the commitment with an expected 1,500 km completed by the end of this summer. Upgrading of Highway 101 is ongoing, with work continuing on the twinning of seven-kilometres between St. Croix and Three Mile Plains and 11-kilometres between Falmouth and Avonport.

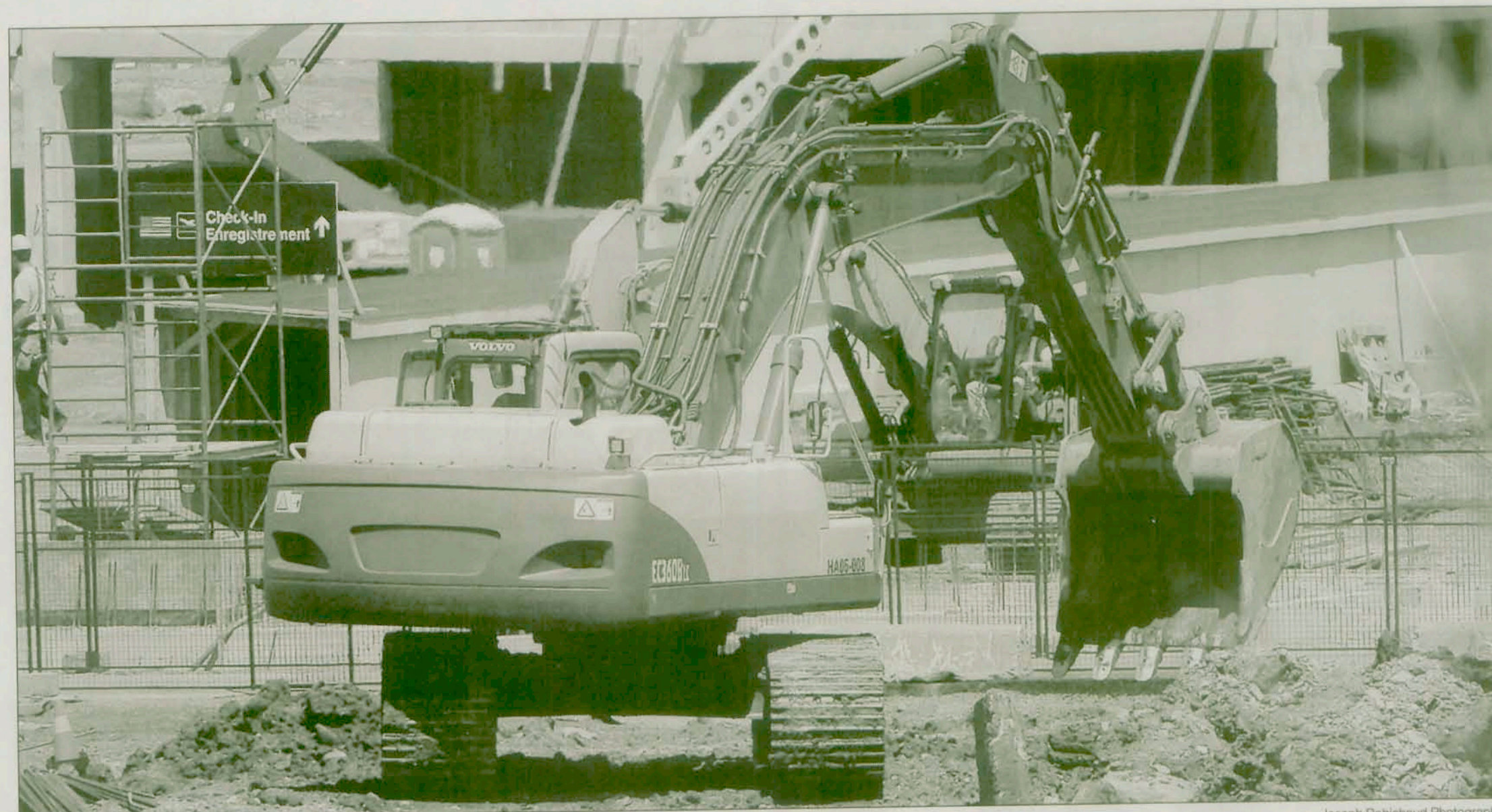
By the end of the 2007-2008 fiscal year the department had invested nearly \$66 million on highway 101 in twinning and upgrading intersections. An additional \$37 million is expected to be invested over the next two years and millions more will be spent to twin from Hortonville to Goldbrook and past the Town of Windsor.

Another \$66 million has been invested in improving highway 103, including

twinning to Tantallon. The province is now in the planning stages of twinning from Tantallon to Hubbards.

The twinning of an 11-kilometre stretch on the 104 between New Glasgow and Sutherland's River is also ongoing and nearly \$100 million is expected to be invested in the twinning of existing highway and new construction on highway 104 by the Town of Antigonish over the next few years.

"I know many of the road builders and they have a very professional organization in this province," Scott says. "They provide a tremendous service to the province and without them we couldn't do all the work we need done in this province. They are much appreciated and I want to acknowledge the commitment they and their families make to Nova Scotia. They are great people to work with."



The Halifax International Airport Authority is upgrading the terminal frontage road, roads around the terminal and it's widening the existing terminal frontage road and increasing capacities.

HIAA improvement project

By Melanie Furlong
Special Features Writer

THE HALIFAX International Airport Authority's \$82 million Groundside Redevelopment Program will be nearly complete by the end of 2009.

Michael Healy, vice president of infrastructure and technology with the Halifax International Airport Authority (HIAA), says, "We are upgrading the terminal frontage road, the roads around the terminal and we are widening the existing terminal frontage road and increasing capacities."

Work on the project began in 2006. "We are putting in a split curb to separate traffic so that passengers will be dropped off on the island curb and the commercial traffic will be in the inside lane, adjacent the terminal" says Healy. "That's one component of the expansion of the road system in front of the terminal building. We're also creating a new, separate arrivals pick-up road so anyone who's coming to pick someone up will now take a new road, which runs through the area that was

originally the short-term parking lot." The new road provides access to an arrivals pick-up area adjacent the new north tunnel. Arriving passengers will access the north tunnel arrivals pick-up area by using new escalators and elevators in the baggage area.

"Since 9/11 and other global events have led to increased security, there is a growing interest in not having unattended vehicles on the main road in front of the terminal building," says Healy. "This new pick-up area will allow people to pick up their family and friends with a little more room and less traffic congestion."

"TRAX Construction is doing the roads and services work, Ocean Contractors Limited, a key subcontractor of TRAX Construction, is responsible for all the concrete curbs, concrete sidewalks, base gravels and asphalt paving, with Black and McDonald handling the electrical work. The majority of the project will be completed this year.

In combination with this work, all the services underneath the roads are being replaced, including new drains and electrical systems.

Healy says, "All this is being done in coordination with construction of a new parking structure that will have 2,300 parking spaces in five levels, and will house the car rental agencies. The precast concrete for the parking facility is being constructed and erected by Strescon Ltd. of Bedford. The general contractor is 3C's Construction of Sackville.

The third component of the project is upgrades to the existing terminal building to tie into the new parking structure.

"We're building a pedway over the road, which is going to come off the third level of the parking facility and into the centre of the terminal building at the second level."

By 2010, the pedway will also connect to a brand new 176-room, full-service Sheraton Hotel.

"As the airport grows," says Healy, "we've significantly increased the capacity of the terminal building. The airport's road network was just not sufficient in capacity for the increase in traffic."



A new, separate arrivals pick-up road is being created so anyone who's coming to pick someone up will now take a new road, which runs through the area that was originally the short-term parking lot.



By 2010 a pedway will connect to a brand new, 176-room, full-service Sheraton Hotel.

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The Construction Association of Nova Scotia has helped develop a youth apprenticeship pilot program with the Department of Education, the Nova Scotia Community College, the Halifax Regional School Board, and the Department of Labour and Workforce Development.

CANS helps create youth apprenticeship program

By Melanie Furlong
Special Features Writer

SEVEN GRADE 11 co-op students in the Halifax region will have full-time jobs in construction and road-building industries this summer thanks to a youth apprenticeship pilot program.

The Construction Association of Nova Scotia (CANS) developed the program with the Department of Education, Nova Scotia Community College (NSCC), Halifax Regional School Board (HRSB) and the Department of Labour and Workforce Development.

Carol MacCulloch, executive director of CANS, says, "The idea is to take Grade-11 co-op students and give them a real working experience in the construction and road-building industries."

Previously, MacCulloch says, those

industries were reluctant to participate in co-op programs because there's considerable potential risk to those working on construction sites who are not properly trained or equipped.

"It was very hard under the standard co-op model to put a student on a construction site once a week. We really wanted to do this, but only if we could do it safely."

CANS worked closely with the school board, a community-based learning consultant, the Department of Education and NSCC to come up with this unique pilot program in which the co-op students will spend two weeks at the community college taking safety training, apprenticeship training and getting oriented to basic tools and equipment in both May and June.

Employers are matched up with

"The idea is to take Grade-11 co-op students and give them a real working experience in the construction and road-building industries... It was very hard under the standard co-op model to put a student on a construction site once a week, but only if we could do it safely"

CAROL MACCULLOCH
executive director, CANS

students and are participating in mentorship training and in developing learning plans.

Students can earn three co-op credit

if they participate through the whole program and complete seven weeks of paid employment with a construction company.

"Our plan is to go back to HRSB next year to try to get a full complement of 15 students," says MacCulloch. "We're also looking at expanding it to two other school boards so students can go to their local NSCC campuses to participate in the program."

Students who apply have to be in co-op education and be recommended to the program by their teachers. "We're a little disappointed the numbers are low," she says, "but it gives us a good opportunity to make sure all the elements are in place and get feedback from the students. We can bring in a lot more students next year and be in good shape."

Teachers from the Halifax Regional

School Board will continue to supervise the students over the summer, checking in with them every 25 hours.

Students will also be registered as Construction Trades Pre-apprentices and will receive identification cards from the apprenticeship division. If they go into a trade later on, they will get credit for this work and training.

Participating employers include Lafarge Canada, Konecranes, Black and McDonald, Caribon Island Electric, Flynn Canada, JW Lindsay Enterprises, and Marid Industries.

"We're really excited about it," says MacCulloch. "It's a win-win situation for everybody. It's been great to see people from the industry, education, the school board, college and apprenticeship contributing and using all their strengths to create something new and unique that I think will be wonderful for students."



Extensive road work was completed at Ceres container terminal last year.

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Work was ongoing on a section of Highway 102 near Exit 7 just past Halifax Stanfield International Airport June 2. It's important this time of year for motorists to be extra cautious and to start looking out for road builders on the job.

Province proactive when it comes to road-worker safety

By Melanie Furlong
Special Features Writer

SPRING IS HERE and it's time for motorists to start looking out for road builders on the job.

Marek Potras, director for safety on the Nova Scotia Road Builders Association board of directors, says they're looking out for their own by having a group created by the Department of Environment and Labour and Transportation and Infrastructure Renewal called the Nova Scotia Temporary Workplace Traffic Control Manual Stakeholder Working Group.

"It's a group that's going to meet on different issues regarding traffic-control safety in the province of Nova Scotia," says Potras.

"This new edition of the manual, The Nova Scotia Temporary Workplace Traffic Control Manual, came out April 1, 2007 and some companies may want some changes to it. This requires the issue being brought up in front of the group and we'll vote on it."

Representatives from different associations form the group. They include Cape Breton Municipality, Nova Scotia Municipal Public Works Association (The Town of Trenton), Cable Con, The Nova Scotia Road Builders Association, an Employer Representation (Ocean Contracting), an Employee Representation (Dexter Construction), Nova Scotia Power, the Department of Transportation and Infrastructure Renewal, the Department of Environment and Labour, the Construction Association of Nova Scotia (CANS) and a Traffic Control Service Provider (McLeod Safety Services).

"We're trying to touch every sector of Nova Scotia that has any safety-related issues," says Potras. "The working group met for the first time in late April."

There is a backlog of issues for the group to go through since there were many changes from the previous manual.

Potras says one of the biggest issues is the requirement of a signing truck before and after some of the work operations.

"The new manual says that when you are working off the shoulder, impeding the travel lane and thus requiring a lane closure on secondary roads, you need a signing truck before and after your operation," he says.

"In some cases, some might say that's overkill. Why do we need one behind and in front of the operation? It's a cost

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Road workers work on a section of the 102 just east of the airport May 2.

Joseph Robichaud Photography

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"In some cases, some might say that's overkill. Why do we need one behind and in front of the operation? It's a cost

for companies and it's a cost for taxpayers. The working group will look at issues such as this and make a decision without compromising safety."

Potras also attends meetings of the Nova Scotia Construction Safety Association as a representative of the Nova Scotia Road Builders' Association.

"The NSCSA are in good standing," says Potras. Overall, Potras feels that Nova Scotia is ahead of the game as far as safety goes.

"The province is very proactive," he says. "There's always a safety campaign each year that the Department of Transportation and Infrastructure Renewal puts together. This year, new television ads will give road-builder safety a new look. That's another thing to watch out for this June."

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CANS plans to raise \$2.5 million for scholarships

By Melanie Furlong
Special Features Writer

NOVA SCOTIA STUDENTS studying for construction-related careers will soon benefit from the Construction Association of Nova Scotia's (CANS) current fundraising campaign.

The campaign was announced in June 2007 with a major kick start to the fundraising at CANS' annual general meeting in the fall. The organization plans to raise \$2.5 million from industry that will provide 100 endowed scholarships at NSCC by 2012.

"We started the campaign in June 2007 and we got really serious about it in the fall," says Carol MacCulloch, president of CANS. "We're calling it the 150th Anniversary Scholarship Campaign to celebrate CANS' 150th anniversary and we're giving ourselves five years to have all the money in the bank."

CANS already has commitments from different member companies, some of which who are also NSRBA members, for \$800,000.

"We have raised more than \$1 million," says MacCulloch, "but we are hoping to raise \$2.5 million from industry."

The scholarships will go to students in various construction-related programs at NSCC including heavy duty equipment mechanics, truck and transport mechanics, construction administration technology, surveying and much more.

Ron Farrell, dean of the school of trades and technology at NSCC, says, "We're extremely excited about these scholarships. The significant amount of money that CANS have committed to us represents the importance of that sector and we see a real need to encourage students to come to NSCC. I know that's a growing sector in Nova Scotia and we're very appreciative of CANS."

Farrell says the demand for students in the construction sector is huge and the demand from students is equally huge as it represents more than 50 per cent of enrolment in the school of trades and technology at NSCC.

"I think the scholarships will have two effects: one is that it will increase enrolment and the second is that it will promote retention," says Farrell.

"Here at NSCC we try every way possible to make education affordable, but living expenses still challenge students. The scholarship fund is going to allow us to offer a significant number of scholarships to students in need and will encourage them to come to NSCC for these programs and improve retention of students who have financial



difficulties while they are here."

"These scholarships should be there permanently," MacCulloch says. "We hope if we raise \$2.5 million that's at least 100 scholarships worth \$1000 that will continue to be there year in and year out for students at NSCC."

Companies that donate \$25,000 or more can specify particular programs, campuses or occupations they want their money to go toward and can have their company name on the scholarship. MacCulloch says that makes the scholarship a recruitment and promotion tool for the company as well. Those that make smaller contributions will support scholarship guided by CANS.

"The 150th Anniversary Scholarship Campaign is one of a number of strategies that we're working on," says MacCulloch.

"We see it as investing in our future as an industry because we're letting people see that we have confidence in the industry and will be creating jobs going forward. We want people who are going to community college to stay in Nova Scotia and get to know the companies that are here."



First section of Highway 104 twinning project nearing completion

By Melanie Furlong
Special Features Writer

THE FIRST SECTION of the 104 highway twinning project, a three-kilometre stretch starting at the end of the presently twinned 104 at New Glasgow and heading west towards Antigonish, is likely to be completed at the end of August, says Ken Thomas, contracts manager for Dexter Construction.

The highway will be twinned in both directions.

"We were awarded that project last August and started it late that month in 2007," says Thomas. "We completed a substantial portion of the project in November and just recently started back at the required culvert installations and grading this spring. We'll be back to work in full swing at the first of June right through until August."

Thomas says they still have to grab the job, which means taking out all the stumps, topsoil and root matter out of the ground.

"We were able to do a little bit of that last year," says Thomas, "but due to seasonal scheduling we weren't able to do all of what was required."

He says a large box culvert still has to be built this summer before they can move the rest of the required fill to other sections of the project. Thomas expects the large box to take three months to build. Last fall, a precast box culvert was also installed on the project. That structure incorporated fish weirs in the culvert bottom for the preservation of the natural fish habitat, which is always a concern when constructing roads in close proximity to wildlife and aquatic environments.

Because the highway intersects part of the Trans Canada Trail System, just past the Thorburn exchange, Dexter also had to install an underpass so that access to the recreational trail system

could be assured for generations to come. Ryan MacDow, sales manager of Shaw Pipe, says the underpass is a precast concrete arch with a span of 4.876 meters and a vertical clearance of three meters. The trail crossing is 48 meters in length and the design life of the structure is expected to exceed 75 years.

The total value of the contract is approximately \$4.4 million.

"It's the first section of many that are required going towards Antigonish," says Thomas. "This section of highway is only three-kilometres long and it's just the start of the twinning program. We were also the successful bidder for the Pine Tree overpass section, which is the next overpass required heading westward towards Antigonish. From our current project location to the Pine Tree overpass will also require another grading job to be tendered, which is expected to be closing in mid June."

"We were awarded that project last August and started it late that month in 2007," says Thomas. "We completed a substantial portion of the project in November and just recently started back at the required culvert installations and grading this spring. We'll be back to work in full swing at the first of June right through until August."

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NSUPA working to improve road-paving industry

By Melanie Furlong
Special Features Writer

NOVA SCOTIA'S NEW asphalt User Producer Association (NSUPA) wants to improve the quality of roads paved around the province.

Mike Deering, chair of NSUPA, says he got everyone involved in the hot-mix asphalt industry together and they finally met for the first time last May.

"Our goals are to bring in new technology to Nova Scotia, to educate and train people in the industry and to hopefully get some new young people interested in our industry," says Deering. "Our members are government, large and small contractors, researchers from Dalhousie University, hot-mix asphalt producers, road builders and students."

He says the Nova Scotia Department of Transportation and Infrastructure Renewal and Halifax Regional Municipality were big supporters of the new group.

"The Department of Transportation and Infrastructure Renewal has a lot of young engineers that they would like to see get more hands-on training and this is certainly an avenue for them to get that training. HRM also wants to get more training for their people in the field and the engineers that are designing these pavements," says Deering.

NSUPA held its very first seminar on April 16, 2008 and was overwhelmed by its success.

"We had anticipated about 150 people attending and ended up with 300 people there," he says.

Two speakers from the United States discussed new technology in compaction as well as the very basic fundamentals of how to roll asphalt properly.

Every year there's a new hot issue in the industry; too many pot holes or the roads aren't smooth enough. Deering says they are going to try and deal with whatever issues come up each year by bringing in speakers for a yearly seminar on those topics.

"Groups like the NSUPA exist almost everywhere else in Canada," says Deering. "There's the New Brunswick User Producer Group, the Ontario Hot Mix Association and in the U.S. there's the New England Asphalt Association, for example. It's not a new idea to get everybody in the industry together for training and education; it just hasn't

been done here before." The seminar also saw NSUPA donate \$1,500 worth of asphalt testing equipment to the Nova Scotia Community College.

"We hope to be able to make a small donation to Dalhousie or NSCC every year," Deering says.

One of the most important things about the group, says Deering, is that it represents the diverse group that makes up the industry.

"Everybody's ideas and issues are slightly different," he says. "We need a diverse group that includes small contractors, large contractors, the biggest municipalities and the smaller ones. We're trying to get everybody together to discuss ideas in a non-confrontational way. We all have the same goal which is to put better paved roads in Nova Scotia."



Road builders were busy working on the Highway 101 twinning project in this May photo.

Joseph Robichaud Photography



Nova Scotia's Adopt-A-Highway program is making a difference.

Adopt-A-Highway

By Melanie Furlong
Special Features Writer

THE FIRST TIME Ruth Blenkhorn volunteered to pick up litter along a five-kilometre section of highway near her home in Port Williams, she and other members of the local Women's Institute and Lion's Club filled more than 100 bags of garbage.

That was their first time out as part of Nova Scotia's Adopt-A-Highway pilot project in 1983. The three-year pilot started with 18 volunteer groups across the province.

Now there are 170 volunteer groups involved in the program that is supported by the Department of Transportation and Infrastructure Renewal, Clean Nova Scotia, Women's Institutes of Nova Scotia, Lion's Clubs of Nova Scotia, Department of Environment, Department of Tourism, Halifax Regional Municipality and a couple of volunteers at large.

More than 800 kilometres of highway and interchange areas have been adopted. "It really makes a difference," says Blenkhorn. "For the last clean-up we did in the same area we had 14 people out and we picked up 33 bags of garbage. You do see a decline in the amount of garbage over time."

Blenkhorn says that's partly because people are more likely to throw their garbage in an area that's already dirty. "They are more reluctant to throw if there isn't anything already there," she says.

Groups or individuals that are interested in forming an Adopt-A-Highway group should contact the Adopt-A-

Highway office in Truro to ask for an application. That's sent out to the Department of Transportation and Infrastructure Renewal in the area the highway is located to be approved.

"There are some guidelines for the volunteers," says Blenkhorn. "We can't do any of the 100-series highways for safety reasons, for example, and volunteers must be 12 years old to participate along the highways or 16 years old to do the interchanges. The clean-ups must be done spring and fall for three years along a five-kilometre stretch of highway, too."

Once the group has chosen a day to clean-up, they must fill out a permit at the Department of Transportation and Infrastructure Renewal, which gives participants orange safety vests to wear, garbage bags, traffic signs and arranges for pick up of the garbage. The group must also notify the RCMP that their clean-up is taking place.

If the volunteers find anything they are uncomfortable dealing with, such as car batteries or roadkill, they can flag it for the Department of Transportation to pick up later.

"When the clean-up has been done," says Blenkhorn, "the office gets the permit back and we track the number of bags of garbage and recyclables, the numbers of volunteers and hours involved. We do get some funding and it comes from RRFB (Resource Recovery Fund Board)."

Volunteer groups then receive two Adopt-A-Highway signs marking either end of the adopted highway or interchange to recognize their contribution to the community.

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On-site crushing's now the norm in Nova Scotia

By Melanie Furlong
Special Features Writer

JUST SEVEN YEARS ago, road builders in Nova Scotia trucked away almost all of the rock that was blasted from its construction sites, says Jack Eisener, president of J.R. Eisener Contracting Limited. "They either hauled it away or moved it around the site to fill in the holes and then they imported the aggregate to cover it," he says. Nowadays, on-site crushing is the norm. "By crushing that rock on site and processing it into aggregate form allowing you to use it for gravel or pipe-bedding material, you save time, money and fuel that it takes to haul in ma-

terial and take it away," he says. Nova Scotia is well-known for its rocky landscape and Eisener says they often come across boulders during construction. "In lieu of having to go and haul that material away and find a home for it, because there's no where to bury it or use it structurally, we break it down into about 450-mm diameter and then it goes through a jaw crusher and a cone crusher," he says. "You can take the 450-mm rock and make it into 25-mm diameter gravel." Eisener says the jaw crusher, which is on tracks, will process that material down to about 100 mm or less. Then it's put through the cone crusher. Really large boulders, about 1.5 metres in diameter, have to be broken

up into smaller pieces by a rock breaker or an excavator first. On-site crushing is a more environmentally-friendly alternative to hauling rock out and aggregate in. Eisener says their case study of the Halifax Infirmary project is a good example. Murray Demolition dismantled the building, which was a concrete structure with brick cladding and there was approximately 14,000 tonne of material to be processed. It was broken up into 400-mm pieces, the material was crushed, the rebar was sorted and recycled and the concrete material was made into a 50-mm gravel-type material. "We used 14,000 tonne of gravel on site for all the sub-grade gravel in the

parking lot," says Eisener. "The advantage to this was that the site basically balanced itself off." Without on-site crushing, they would have had to haul 14,000 tonne of rubble off the site. Being able to crush the material on site prevented trucks from driving 120-140 km through out HRM roads to bring material in and out of the site. It also saved 68,752 litres of fuel from being burned to travel the distance and 307,000 lbs. of carbon dioxide from being created. It also saved 3,296 tandem truck loads that did not have to travel on Spring Garden Road.

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Bid Express allows contractors to submit bids inline

By Melanie Furlong
Special Features Writer

THE DEPARTMENT of Transportation and Infrastructure Renewal implemented a new electronic-bidding system called Bid Express last year that is now mandatory for all their 2008 asphalt paving, re-paving projects and bridgework projects over \$400,000. "Bid Express is a web server that hosts our tenders for contractors to look at," says Bill van Lingen, maintenance analyst for maintenance and operations of the Department of Transportation and Infrastructure Renewal. "When they have registered to bid, they can reply to them online."

'Bid Express is a web server that hosts our tenders for contractors to look at... When they have registered to bid, they can reply to them online.'

there's less chance of rejecting a tender due to math errors," he says. "That's a big plus for the Department." Bidders and employees within the department have their own digital identification and the system is very secure. For more information on Bid Express, visit its website at www.bidx.com.

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Construction and road-building projects are currently underway at Halifax Stanfield International Airport. Most of the Halifax International Airport Authority projects will be complete this year.

Freeze thaw rough on roads

By Melanie Furlong
Special Features Writer

THIS WINTER has been tough on Nova Scotia roads, says Gary Rudolph, general manager of Lafarge Canada Inc. Atlantic. "Temperatures have been up and down, it's been extremely cold and then we had heavy rain and then extreme cold again. These things lead to more potholes coming faster," says Rudolph.

Gravel that supports the asphalt pavement itself makes up the road structure. "That gravel material is what we call free-draining," says Rudolph. "That means it doesn't hold moisture or water. In theory, it has certain structural capacities to carry the load of trucks and heavy vehicles. It is the foundation that supports the asphalt."

At the end of the day, he says, the asphalt is only as good as what's underneath it and moisture is the root cause of potholes and frost heaves.

"The first thing you can do to keep moisture out of the gravel is to put a good membrane or layer of asphalt on top," says Rudolph. "Then it becomes essentially water tight. A problem occurs when a crack forms in the asphalt. That allows the water to get in and down underneath the gravel."

If there's moisture in the gravel and the temperature goes below freezing, freeze thaw occurs.

"When it gets extremely cold, that moisture will freeze and it expands," he says.

"Or, conversely, when it thaws out, you've got wet gravel underneath and then the roads can't carry the load they can when they're dry. That's why in the spring a lot of our roads have cracks and potholes."

Alligator cracks, frost heaves and potholes are all common in spring here in Nova Scotia when roads are often at their weakest. That's why on the 100-series of provincial highways weight restrictions are put in place for trucks for a few weeks each spring.

"Trucks are not allowed to carry their full, registered weight of material," says Rudolph. "In fact, they can only carry a partial load. At their heaviest, they can literally break up the roads."

Asphalt will crack over time and is known from an engineering perspective as a flexible pavement. "Trucks are not allowed to carry their full, registered weight of material," says Rudolph. "In fact, they can only carry a partial load. At their heaviest, they can literally break up the roads."

Transportation and Infrastructure Renewal is trying to do a good job, he says, but it's a tough assignment since Nova Scotia has a high percentage of roads for a small province.

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Building 'green' roads in NS

By Melanie Furlong
Special Features Writer

THE WAY NOVA SCOTIA rehabilitates some of its roads is not one most people would think of as helping to create a more environmentally-friendly footprint. That's probably because they aren't aware of the in-place asphalt recycling it's been conducting since 1997.

Two NSRBA members have been recycling Nova Scotia's roads for a number of years; they include Industrial Cold Milling and Roto-Mill Services. "It is friendly for the environment and it's being done all over the world right now," says Calvin Flight, general manager of Industrial Cold Milling. "Asphalt is actually the most recycled product in the world. We are helping reduce greenhouse gas emissions with the different methods of recycling asphalt, some models show that by using these technologies significantly less CO2 is produced when compared to more traditional road rehabilitation methods."

The Nova Scotia government uses two types of in-place recycling, partial-

depth recycling, and full-depth recycling with foamed asphalt or cement.

These recycling methods have been used to rehabilitate well-known roads like Route 333 near Peggy's Cove, where Flight says they do some recycling work each year, and on Northwest Arm Drive in Halifax, but some recycling has been done all across the province for the past several years.

"This is another tool in the toolbox that the province and local municipalities can use to fix roads," says Flight. "They used to put a lot of aggregate on top of a bad road or put extra asphalt on. What this method does is allow you to use the non-renewable resources that are already in the road. The aggregate and liquid asphalt cement used to build the road originally still has value and recycling the road allows us to capitalize on that value."

A recycling train is used to do recycling on the spot.

"Basically, there's a milling machine in the front and you mill up the asphalt and it gets put into a crushing

and mixing unit that gets towed along," says Flight. "Then we add either emulsion or foamed asphalt, after that it's dumped into the paver, laid back down and compacted. Within 100-feet the road is ripped up, mixed with another product and laid back down so cars are never on a disturbed road."

This technology had so been recognized by the Canadian Construction Association as an environmentally-friendly practice, presenting it with the CCA Environmental Award in 2002.

In addition, Roto-Mill Services notes that this In-Place recycling technology and method supports the Canada-Nova Scotia Gas Tax Agreement provisions for Environmentally Sustainable Infrastructure projects. These projects help improve the quality of the environment and contribute to reduced greenhouse gas emissions, clean water and clean air.

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