EASTERN REGIONAL SERVICE BOARD

Minutes of Meeting #8
September 26, 2012
7:00 p.m.
Ramada St. John's

In Attendance:
Harold Mullowney, Southern Shore
Vice-Chairperson/Acting Chairperson
Dave Aker, Mount Pearl
Ches Ash, Trinity Conception North
Bill Bailey, Clarenville & Isthmus
Danny Breen, St. John's
Walter Butt, Small Metro
Wally Collins, St. John's
Joy Dobbie, Trinity Bay South &
Isthmus East
Frank Galgay, St. John's
Derrick Green, Bay Roberts
Sandy Hickman, St. John's
Sterling Willis, Paradise

Regrets:
Gerry Colbert, St. John's
Shannie Duff, St. John's
Woodrow French, Conception Bay South
Debbie Hanlon, St. John's
Tom Hann, St. John's
Sheilagh O'Leary, St. John's
Bruce Tilley, St. John's

Guests:
Ken Kelly, CAO, Eastern Waste Management
Lynn Tucker, Program Coordinator, Eastern Waste Management
Kevin Power, Field Operations Officer, Eastern Waste Management
Darryl Johnson, Chairperson, Bonavista Peninsula Regional Waste Management
Sarah Morgan, Regional Coordinator, Bonavista Peninsula Regional Waste Management
Leigh Puddester, Chair & CEO, MMSB
Jason Sinyard, Manager, Waste Management Division, City of St. John's

1. Call to Order

Mr. Harold Mullowney, Vice-Chairperson & Acting Chairperson, called the meeting to order at 7:00 p.m.

2. Adoption of Agenda

It was moved and seconded (S Hickman/B Bailey) to adopt the agenda as tabled.
MOTION #2012-041: Carried

3. Review of Minutes – June 27, 2012

It was moved and seconded (F Galgay/S Willis) that the minutes of the June 27, 2012 meeting are adopted as tabled.
MOTION #2012-042: Carried

4. Ratification of Motions sent via email August 16, 2012

Three (3) motions were circulated by email on August 16th and thirteen (13) Board members responded favourably to adopt the following:

(1) It is recommended that the School Contests, Recycling Packages, and Website Re-write would be the priority items for communications for the remainder of 2012;
(2) It is recommended that ERSB will purchase the Automatic Vehicle Location (AVL) system and the GIS mapping component. The one-time capital costs are estimated at $21,550.00 and the annual operating costs are estimated at $14,000.00;
(3) It is recommended that ERSB award the waste management contract for Trinity Bay South and Trinity Bay Center as tendered to T2 Ventures Inc. at the cost of $352,560.00 (including HST) annually plus tipping fees for 36-months of collection and transportation to the Regional Integrated Waste Management Facility.

It was moved and seconded (W Butt/C Ash) that the three (3) motions circulated by email on August 16, 2012 be ratified.
MOTION #2012-043: Carried

5. Committee Reports

a) Finance & Audit Committee – D Breen, Chairperson

i. Mr. Breen reported that the Finance & Audit Committee is recommending that a tipping fee approach and capital reserve fund be established as outlined in the briefing note in tonight's meeting package (Appendix A). These recommendations arose from discussions on dealing with the current surplus as well as any future surpluses. The committee feels it would benefit all stakeholders to have consistency in the tipping fee from year to year. If a portion of the surplus is used to lower the tipping fee for next year and then costs rise next year, the tipping for the following year would have to be increased a lot. Therefore, to maintain consistency and to decrease the volatility of the tipping fee, the committee is recommending that a capital reserve fund be put in place as well as an operating reserve that would help stabilize the fluctuation of the tipping fee.

It was moved and seconded (D Breen/B Bailey) that ERSB (a) develop a Capital Reserve funded by contributions from operating surpluses to be used for future capital requirements of the regional waste management system other than the closure costs for the Regional Integrated Waste Management Facility located at Robin Hood Bay; and, (2) establish an Operating Reserve funded by contributions from operating surpluses that would be used to maintain the user fee for depositing a metric tonne of waste in the landfill at current costs of 2012 plus the annual rate of inflation. The inflation rate will be the Consumer Price Index for the Province of Newfoundland and Labrador.

Mr. Butt stated that he would like to see the $20.00 per tonne tipping fee charged on recyclables eliminated.

Mr. Sinyard stated that eliminating the tipping fee on recyclables would have an insignificant effect on the regional facility's budget; however, to eliminate the recyclables tipping fee would mean an increase in the tipping fee charged on regular waste. Last year the recyclables tipping fee grossed $140,000.00 for the Regional Facility.

Mr. Butt reiterated that he would like to see the tipping fee charged on recyclables eliminated.

Mr. Sinyard stated that regular waste is charged at $65.50 per tonne whereas recyclables are charged $20.00 per tonne – this is a savings for communities who recycle.

Mr. Ash stated that he feels that the Board should give consideration to reducing or eliminating the recyclables tipping fee as it would assist in encouraging communities to recycle.

Mr. Hickman stated that he fully supports the suggestion to eliminate the recyclables tipping fee. In light of this area's huge illegal dumping issue, a decrease in the tipping fees may help. For the record, he is speaking against the motion as he would like to see a decrease in the tipping fees.

Ms. Dobbie asked for an explanation as to why there is a surplus.

Mr. Sinyard stated that in past budget projections, they underestimated that amount of waste that would be received at the Regional Facility in 2010. As they received more waste than expected, a surplus was generated.

Mr. Green noted that the Board should really think about any decision to eliminate the $20.00 tipping fee on recyclables as that fee will have to be re-introduced once the surplus is used. It is easy to eliminate a fee; however, it is very difficult to re-introduce fees once they've been eliminated.

Mr. Puddester stated that he understands that this Board's members have responsibilities to their communities but speaking from the MMSB's perspective, the focus is diversion. Programs are needed to raise recycling participation and thought has to go to paying for such programs.

Mr. Ash reiterated that he supports the motions and agrees that this Board has to do its utmost to avoid volatility and large fluctuations in the tipping fees. He supports the reserve fund and noted that the Board's budget will be increasing this year. This is something to keep in mind.

Mr. Aker stated that he does not want to see reserves remaining in place over time that are not needed. In addition, he'd like to know how much will be going into the reserve.

Mr. Ash stated that Board members have a responsibility to their communities and sub-regions to maintain cost efficiency and minimal tipping fees. The Board needs to be 'reserved' on how it approaches these reserve funds.

Mr. Breen stated that the committee's desire was to keep the tipping fees stable while ensuring that any monies needed for capital and operating costs in future would be there as costs will rise over time.

Mr. Hickman noted for the record that he supports the first part of the motion (a) but not the second part (b).

Mr. Green stated that he supports the reserves for a period of ten (10) years but this should be something that is reviewed regularly.

Mr. Collins stated that he supports maintaining the tipping fee at $65.50 per tonne and eliminating the $20.00 tipping fee charged on recyclables.

Mr. Sinyard reminded members that the $65.50 per tonne tipping fee is already artificially low as the surplus has been applied to the tipping fee to keep it there. The actual tipping fee without the surplus would be $81.00 per tonne.

Mr. Galgay stated that leveling the tipping fees is good for communities for their budgeting process.

Mr. Butt stated that all communities want to save money; therefore, the elimination of the $20.00 tipping fees on recyclables should be given full consideration.

Mr. Breen reiterated that the reason for tonight's motion was to provide certainty and consistency for communities for their waste management costs. In addition, once several years of regional waste has been collected at the Regional Facility, the Board should get better at projecting its costs, etc.

Mr. Willis stated that he agrees with the first part of the motion (a) and not with the second part (b). In addition, he would like to see the tipping fee on recyclables either eliminated or reduced.

Mr. Mullowney asked for vote on the motion.
MOTION #2012-044: Carried

ii. **It was moved and seconded (D Breen/S Hickman) to enter into a lease with TD Canada for monthly lease payments of $12,274.06 for the previously approved purchase of the compaction trailer equipment.**
MOTION #2012-045: Carried

b) Strategy & Policy Committee – C Ash, Chairperson

i. Mr. Ash stated that as Board members know, the Strategy & Policy Committee has been working on the development of a "Service Delivery Policy". This policy has now been finalized and members will note that limits have been set on bulk collection to avoid continued abuse. The limit is a pick-up load or 500 lbs. In addition, it has been decided to provide service in cabin areas if the road is suitable for use and Class IV or above. However, everyone in a service area will be expected to pay once the service is provided. Vacant properties may be made exempt if they meet the criteria that the property is vacant and not habitable.

It was moved and seconded (C Ash/W Collins) to adopt the *Service Delivery Policy* as tabled for waste collection in the Eastern region.
MOTION #2012-046: Carried

ii. Mr. Ash noted that AMEC Environment & Infrastructure had been engaged to do a feasibility study on utilizing recycled asphalt shingles in asphalt pavement. Their findings were provided in tonight's meeting package (Appendix B). The numbers show that this program can work and the Strategy & Policy Committee would like to proceed to the next step to develop the project.

It was moved and seconded (C Ash/F Galgay) to proceed with investigating the potential to recycle shingles into a substitute for asphalt cement in the process of making pavement – AMEC budget of $2,760.00 plus HST.
MOTION #2012-047: Carried

iii. Mr. Ash asked Mr. Kelly to provide the waste management update. Mr. Kelly noted that work has been ongoing in the Eastern region both for waste disposal site (landfill) closures and waste recovery facilities construction. At this time thirty-five (35) of the forty-two (42) landfills in the Eastern region have been closed. The province transferred $2.8 million to Eastern Waste Management to complete this work. Six (6) landfills will be finalized by the end of this year. Waste Recovery Facilities (WRF) construction is ongoing with several proposed sites being held up on land ownership issues as outlined in the update provided in tonight's meeting package (Appendix C). The Cavendish WRF has not been constructed as the land has to be expropriated. The Cavendish Local Service District Committee is currently working on the expropriation and WRF construction will begin once the land is available. Hazmat work has been completed for the Harbour Grace WRF site; however, there was a land title issue there as well. We hope to be ready to begin WRF construction soon. For the Whitbourne WRF site, there is an issue with the land and no final site selection has been made. These issues continue to be worked on.

Mr. Hickman stated that it would make more sense to him if WRFs were operational before local landfills were closed. This may lessen the illegal dumping in some of these areas.

Mr. Kelly noted that residents in areas without a WRF have had increased bulk collections provided to them so that they have a way to dispose of such items.

Mr. Mullowney stated that he has been involved in several environmental groups over the years in areas where residents lived very close to a landfill and they still had huge issues with illegal dumping. Illegal dumping seems to be a behavioural issue and not lack of access to a landfill.

iv. Mr. Ash noted that this item will be postponed to a future meeting.

c) Governance Committee – H Mullowney, Chairperson

i. Mr. Mullowney informed members that the Southwest Avalon Waste Management Board has nominated Mr. Colin Corcoran, Mayor, Town of Riverhead, as its representative for the sub-region. Mr. Corcoran's biography is included in tonight's meeting package (Appendix D). The Governance Committee is recommending support of his nomination.

ii. Mr. Mullowney asked members to please review the template included in tonight's meeting package (Appendix E) for performance evaluation of the Chief Administrative Officer. He asked members to please let him or Lynn Tucker know any changes and/or additions that they would like to see for the CAO evaluation form. This evaluation will become a part of the employee's permanent file.

iii. Mr. Mullowney informed members that the Governance Committee has not been able to meet with the Minister of Municipal Affairs since its initial request in February. At this time, no meeting is scheduled.

Mr. Ash asked to speak to item 5.c.i – regarding the nomination of Mr. Colin Corcoran. How was Mr. Corcoran's nomination reached – was he elected?

Mr. Kelly stated that the Southwest Avalon Waste Management Board is made up of elected community representatives from across the sub-region and their chairperson is typically the member nominated to sit on the Eastern Regional Services Board. The Southwest Avalon Waste Management Board nominates their representative. In other regions such as Trinity Conception North, an election was held where each community had one vote to elect a member to ERSB.

6. Correspondence

a) Letter from Town of Norman's Cove-Long Cove with regards to bulk collection service – Mr. Mullowney asked Mr. Kelly to address this issue. Mr. Kelly stated that the attached letter (Appendix F) was received following their last bulk collection. The Town reports that they have had four (4) bulk collections this year and the bulk waste has not been collected on their scheduled day as they are at the 'tail-end' of twenty-five (25) communities in the sub-region. Eastern Waste Management (EWM) is currently servicing 18,000 households in the Eastern region and realizes that the bulk waste collection is an issue. Following concerns raised by communities as well as our contractors, EWM has made changes to its bulk collection schedules in that the collection is being broken up to avoid bulk waste being left out too long in some communities. Since making these changes, it appears that no one's bulk waste should be sitting at roadside for more than seven (7) days.

Mr. Hickman pointed out that the second last paragraph of the letter raises the same point as he raised earlier – why wasn't a WRF opened in the area before the local landfill was closed.

Mr. Ash stated that his town had a similar issue with bulk collection and they tightened up the terms of their bulk collection contract. Is this something that EWM could do?

Mr. Kelly replied that the bulk collection is a part of the overall waste collection contracts for the sub-regions. In the past, EWM would review and approve the dates provided by the contractors for bulk collection; however, the contractors have been unable to meet the schedules due to the huge quantities of bulk waste; equipment breakdowns; etc. Therefore, EWM is now implementing changes that will see a block of communities receiving bulk collection in one week; and, another block of communities would receive bulk collection the following week; etc. In the Isthmus & Area sub-region where Norman's Cove-Long Cove is located, the sub-region has been divided into three blocks for bulk collection.

Mr. Power added that the main issue around bulk collection has been the extremely large quantity of waste put out for collection; however, with the newly adopted *Service Delivery Policy*, this issue has been addressed. Future bulk collections should take approximately a week to complete. In addition, many collection issues will be resolved once the AVL systems are installed. This will allow EWM to know exactly what communities and roads have been completed at any given time. In addition, we can verify if the contractor has completed an area or not.

Mr. Johnson noted that the town he represents offers bulk collection but the resident would have to call and report what they're putting out for bulk collection. The town will then call them to give them the date to have the item(s) out. Not sure if this would work for EWM.

Mr. Green asked if EWM offers bulk collection in cabin areas.

Mr. Kelly confirmed that all customers/communities who participate in the regional contracts receive all services including regular garbage collection, bulk collection and recyclables collection (where applicable).

7. Other Business

Mr. Kelly stated that before the In-Camera Session begins, he wanted to inform everyone about the MMSB Waste Management Forum. The next MMSB Waste Management Forum will be held in St. John's on November 15-16. The MMSB hosts a waste management forum two times annually and it is an opportunity to share information and gain insight from other regional waste authorities from across the province. At this time, the only information we have is the dates; however, information about the MMSB Forum will be forwarded to members as we receive it.

8. In-Camera Session – HR Issues

It was moved and seconded (W Collins/C Ash) that in the matter of the recent staff termination effective September 5, 2012, no legal action will be taken.
MOTION #2012-048: Carried

Mr. Kelly informed the Board that he is recommending moving the current Administrative Assistant into the receivables role as she has been assisting in this capacity all along. The Administrative Assistant will not be doing collections so there is a need for another position. More capacity is needed in the organization to be sure that all checks and balances are in place and he is recommending several new positions. These will be discussed at Finance & Audit Committee in budget discussions and brought forward to the board.

9. Adjournment

It was moved by B. Bailey to adjourn the meeting at 8:25 p.m.
MOTION #2012-049: Carried

Prepared by:
Lynn Tucker
September 28, 2012

APPENDIX
“A”

Briefing note: Tip Fee Strategy

Background

Tipping fee is set in October for the following year. Goal is to communicate the fee by late October so that municipalities can prepare their budgets accordingly. In 2011 a surplus of $1.5m from the previous operating year was applied to the budget. This resulted in a tipping fee of $65.50/mt for garbage and $20.00/mt for recyclables. If the surplus had not been applied the tipping fee would have been $81.50 /mt.

The tipping fee is calculated by dividing the operating budget by the estimated number of tonnes of garbage and recyclables that are to be received in that year. For example $10m operating budget and 150,000 metric tonnes of waste to be received equals a tipping fee of $66.67 per metric tonne.

So, there are two important factors in setting the tipping fee – the actual operating budget for the region minus other revenues and the projected tonnage for the coming year.

Operating Year	Surplus Generated	Actual Tonnage
2011	$ 3,775,263	196359
2010	$ 1,595,923	178413
2009	$ 184,000	160811
2008		173585
2007		163638
2006		154777

For 2013, the use of the full surplus of $3.7m would reduce the tipping fee from the current $65.50 /mt to potential $51.12/mt as illustrated in the table below. We are projecting tonnage of waste to be accepted at the landfill to be approximately 180,000mt or the approx average of the last three years. The effect of this is a wide fluctuation on the tipping fee from year to year. In future years if costs increase or if volume decreases we could see even more volatility.

2013 Budget (2012 plus $1m)		Surplus from 2011 used to offset the Tipping Fee	
$ 13,002,124		$ 13,002,124	Budget 2013
Tipping Fee Financed		$ 3,800,000	Surplus 2011
		$ 9,202,124	Tipping Fee Financed
	$13m	$9.2m	
Tonnage	Per Tonne	Per Tonne	
Estimate	Estimate	Estimate	
200000	$ 65.01	$ 46.01	
190000	$ 68.43	$ 48.43	
180000	$ 72.23	$ 51.12	
170000	$ 76.48	$ 54.13	
160000	$ 81.26	$ 57.51	

In order to maintain the tipping fee at $65.50 for 2013 with a budget of $13m and projected tonnage of 180,000 approximately $1.2m of surplus funds will be required to be applied to the 2013 operating year.

There is also a potential to project when tipping fees are expected to increase and to slowly increase the tipping fees to prepare for the operating years when costs will increase. This would be expected to happen when the composting of organics is implemented.

Motion:

Develop a Capital Reserve funded by contributions from operating surpluses to be used for future capital requirements of the Regional Waste Management System other than the closure costs for the Robin Hood Bay Landfill Facility.

Establish an Operating Reserve funded by contributions from operating surpluses that would be used to maintain the user fee for depositing a metric tonne of waste in the landfill at current costs of 2012 plus the annual rate of inflation. The inflation rate will be the Consumer Price Index for the Province of Newfoundland and Labrador.

APPENDIX
"B"

September 20th, 2012

Ken Kelly
Chief Administrative Officer
Eastern Waste Management
255 Majors Path, Suite 3
St. John's, NL
A1A 0L5

Dear: Mr. Kelly

Re: Feasibility of Utilizing Recycled Asphalt Shingles (RAS) in Asphalt Pavement AMEC Project No. TF1272708

1.0 INTRODUCTION

At the request of Eastern Waste Management, AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), has conducted a study to determine the feasibility of utilizing recycled asphalt shingles (RAS) in the highway construction industry in Newfoundland & Labrador. Throughout North America senior transportation managers and agencies are recognizing the benefits of incorporating RAS in their hot- mix asphalt pavements, as well as its dust-suppressant capabilities when mixed with surfacing gravels. The first phase of the study scope undertaken by AMEC was to determine the economic feasibility of utilizing RAS in the Newfoundland and Labrador asphalt paving industry. From a technology perspective it is widely acknowledged that the inclusion of RAS in asphalt pavements proves beneficial in both reducing the required amount of asphalt cement and increasing the strength of the asphalt pavement. Two different methodologies are employed when incorporating RAS into asphalt pavements. The most common method utilizes the total shingle which is ground to a fine, powder-like texture and incorporated into the asphalt aggregate/cement mixture, typically in the 5% range. The second process utilizes only the exterior sand portion from the shingle which is removed and incorporated in the asphalt pavement mixture. The remaining asphalt-impregnated materials are often utilized as a fuel source for heavy industry such as cement manufacture. Halifax C&D Recycling currently recycle used asphalt shingles using this two-phase disposal system with the asphalt-rich shingle sand being used in the production of hot-mix asphalt pavement by a local contractor.

Hot-mix asphalt pavement mixes incorporating RAS must be carefully designed, due to differing asphalt cement types used in roofing shingles versus asphalt pavements .and the utilization of fibreglass fibres vs. traditional organic based fibres as the parent base material in shingle composition**.**

Organic asphalt shingles use the older shingle technology which consists of asphalt felt paper as the mat or "core" of the shingle that is saturated with a certain amount of asphalt. Organic shingles tend to be heavier and thicker in appearance than fibreglass shingles and are currently found the majority of residential roofs over 8 years of age throughout Newfoundland. Fibreglass shingles use a newer technology utilizing a woven fibreglass mat as the core of the shingle; this type of shingle tends to use less asphalt and is lighter and thinner in appearance. Because of the strength of the woven fibreglass mat, less asphalt is needed to give the shingle its strength. Traditionally these shingles have been commonly applied in southern warmer areas but are rapidly replacing the more traditional organic based shingles common throughout Eastern Canada. From an engineering perspective both shingle types can be successfully incorporated into asphalt pavement mixtures. Discussions with major retailers in the St. John's area indicate that the vast majority of new asphalt shingle sales incorporate fibreglass fibre.

Secondly; when utilizing aged recycled roofing shingles the retained asphalt cement content tends to be variable due to exposure to climatic conditions over the life span of the shingles, thus altering the physical and volumetric properties of the asphalt cement component. In addition to issues related to the performance of RAS in hot-mix asphalt applications a process must be put in place to ensure the identity of older shingles that may contain asbestos fiber component.

The following report is based on the recovery of asphalt shingles from the greater Avalon region of Newfoundland which is currently being serviced by Eastern Waste Management (EWM).

2.0 REVIEW OF RAS DISPOSAL FOR THE AVALON

EWM currently operates six waste recovery facilities (WRFs) throughout the Avalon, with three more WRFs upcoming in the near future. These facilities are open to residents for the free disposal of a variety of items such as appliances, tires, roofing shingles, etc. The various items are then transferred to Robin Hood Bay. The Robin Hood Bay Waste Management Facility is owned and operated by the City of St. John's. The Eastern Waste Management committee contracts with the City of St. John's to provide waste disposal services for other municipalities in the Eastern Region. Industrial waste generated on the Avalon such as tires, shingles, etc. is shipped directly to the Robin Hood Bay facility with a tipping charge applied for disposal. At the present time there is no requirement to separate industrial waste such as shingles, wood debris, roofing paper, etc. at any of the local waste recovery facilities. Based on a report prepared for EWM, by Kendall Engineering Ltd. (Kendall Report) it is predicted that by 2012 there will be approximately one hundred seven thousand residential houses in the greater Avalon, with the vast majority being covered by asphalt shingled roofs.

Prior to 1980 a number of asphalt shingle manufactures incorporated a small percentage of asbestos in the shingle during manufacture. Although the asbestos fibers are encapsulated with asphalt cement, their presence may pose an environmental concern

during the grinding process, during RAS production, and during the mixing process at the asphalt plant. Given that the use of RAS as an additive in hot-mix asphalt pavement has become widely accepted throughout North America, coupled with the fact that the practice of incorporating asbestos in the shingle making industry has been discontinued for over 30 years, environmental concerns related to asbestos in shingles have been largely addressed. However, precautions must be taken wherever aged shingles are to be utilized in the form of a quality control program that addresses the concern of local public health agencies.

One goal of asphalt shingle separation at WRFs is to ensure compliance with asbestos regulations (typically accomplished by following an approved sampling protocol) to reduce the likelihood of asphalt shingles containing asbestos being processed. The exact protocol for separation and processing of asphalt shingles at these facilities may vary depending on the quantity and nature of other materials received and processed. Currently the Province of Newfoundland & Labrador does not have a regulatory procedure for the testing of roofing shingles for the presence of asbestos. However, when used shingles are designated for use in hot-mix asphalt pavement, a common practice followed by a number of American-based recycling facilities that require asbestos testing on asphalt shingles is to have a staging area where incoming roofing waste loads are held while asbestos analytical results are obtained. Once analytical results indicate that the shingles do not contain asbestos, they are then moved from the staging area to the processing area, where the asphalt shingles are separated. Should EWM proceed with the development of utilizing waste shingles in asphalt production, it is recommended that discussions be conducted with the Newfoundland & Labrador Department of Environment with respect to a certification procedure addressing the potential for asbestos-contaminated shingles.

3.0 BENEFITS OF UTILIZATION OF RAS IN HOT-MIX ASPHALT PAVEMENTS

With the rising cost of petroleum, the economic savings of RAS is increasing. Manufactured shingles consist of approximately 40 percent asphalt, offering a cost-effective alternative to virgin asphalt cement and aggregate used in paving projects. The savings recognized by incorporating RAS in the pavement mixture are largely influenced by the price of asphalt cement. Recent studies have indicated that the addition of 5 percent recycled shingles in a hot-mix pavement results in an overall cost savings of approximately $1 to $2.8 per ton dependent upon the cost of asphalt cement. (Hot-Mix Asphalt: State-of-the-Practice. The report concluded that cost savings using 5 percent shingle by-product in hot-mix asphalt range from between $1 per ton to $2.80 per ton). Although it is well recognized that the use of RAS in hot-mix asphalt applications can reduce the overall cost of paving a road, the costs involved in processing the shingles which includes equipment and labour required to efficiently process the shingles along with transportation and covered storage of the ground shingles offsets the saving. Although the price of asphalt cement varies with world demands there has been an

increasing trend over the past year. Currently a tonne of asphalt cement in Newfoundland costs approximately $180.00.

In addition to reducing the cost of asphalt pavement the addition of RAS has been seen to improve a number of engineering performance properties of the asphalt pavement. Benefits shown from studies include:

Increased stiffness of the asphalt

Decreased cracking

No effect on moisture sensitivity

Decreased susceptibility to rutting

Decreased optimum content of virgin asphalt cement.

4.0 FEASIBILITY OF UTILIZING RAS IN HOT-MIX PAVEMENTS IN NL

Although the utilization of RAS in hot-mix asphalt production is widely accepted from an engineering perspective by numerous US States it has been slower in gaining acceptance throughout Canada. However, Gemco Sales recently launched the first RAS facility in British Columbia while Coco Paving in Toronto, Ontario has entered the RAS market with the acquisition of a new Peterson shingle shredder to complement their existing hot-mix capabilities. Bellemare, located in Trois-Rivières (Québec) also processes and sells RAS to the Quebec hot-mix industry.

Gemco ; Vancouver

Coco Paving ; Toronto

To determine the feasibility of operating a RAS facility in Newfoundland there are a number of issues that must be investigated. Firstly, is there a sufficient quantity of used shingles available? Secondly, what are the equipment and operations costs compared to the potential financial return? Cost-benefit analyses conducted by a number of equipment suppliers indicate that the use of RAS in asphalt pavements can be extremely

profitable. To determine the volume of available shingles a number of assumptions must be made in relation to the number of homes in the service area along with average roof area and the life expectancy of roofing shingles. Although roofing shingles are rated for a given life expectancy (20 to 25 years), in reality the majority of shingles are replaced before the end of that rated shingle life.

Table I provides a summary of information utilized in the feasibility study.

TABLE I

Weight and Volume Calculations for Recycled Asphalt Shingles

Item	Quantity
Projected total number of Households on the Avalon Peninsula in 2012 (Kendall Report)	106,480
Estimated percentage per year requiring re-shingling	4%
Average size per roof in ft^2	1500
Coverage per bundle in ft^2	32.3
Weight per bundle in kg	35
Loose density of asphalt shingles (kg/m^3)	360
Pulverized Density of asphalt shingles kg/m^3	770
Calculations	
Total Recycled shingles per year ft^2	6388800
Total Recycled shingles per year kg	6922848
Total Recycled shingles per year lb	15230266
Total Recycled shingles per year tons	7615
Total loose volume in m^3	19254
Total Pulverized volume in m^3	8991

Information pertaining to average roof size and shingle information obtained from Building Products Canada.
Single loose density and pulverized density are provided by the Quebec Roofing Industry.
Estimated that 4% of houses are re-shingled on a yearly basis.

Based on the information provided in Table I it is estimated that 7615 tonnes of waste shingles would be generated annually from reroofing activities on the Avalon. Information indicates that new roofing shingles are comprised of approximately 40% asphalt cement and that the asphalt cement content of aged shingles may in fact increase due to the loss of the exterior granular coating materials over time. For the purposes of this study and unavailability of actual test data it is assumed that the asphalt cement content is 40%.

Secondly, due to the availability of used asphalt shingles and a market for the finished byproduct, start-up costs may be the deciding factor in determining the feasibility of starting a recycled shingle operation. Start-up costs may be highly variable based on proposed location, equipment requirements, and manpower availability. From a cost perspective the most attractive option appears to be operating from one location centrally located on the Avalon. It is understood that currently all waste products such as shingles are transported to the central Robin Hood Bay facility, therefore that location appears to be the most favorable given that transportation costs would not be a factor. A storage facility for the processed RAS will be required; if left exposed the processed RAS would absorb a substantial volume of water which would prove injurious in the

Production of hot-mix asphalt. Other cost item requirement would include the shingle grinder, labor and a front end loader to transport the RAS from the production site to the storage facility and loading purposes.

Currently used shingles come from two main sources on the Avalon; commercial and residential. Commercial used shingles are shipped directly to Robin Hood Bay facility where a tipping charge is applied. Used shingles from residential sources are dropped off at of the waste management facilities and later transported to the Robin Hood Bay facility.

To determine the economic feasibility of start up costs the following estimates have been made:

1. Estimated cost of the shingle grinder.
2. Estimated cost of a storage facility to store RAS.
3. Estimated cost of a loader, if required.
4. Estimated manpower cost.

Offsetting the start-up and operational costs of a RAS production facility is the value of the processed product when used in the production of hot-mix asphalt pavement. To determine the value of the RAS to the paving industry, consideration must be given to the cost savings from the reduction of asphalt cement and the volume of hot-mix asphalt produced annually within a given economic area, such as the Avalon. In addition to the recognized economic benefits of utilizing RAS in pavement mixes one must also look to the environmental benefits of using what now is considered to be an environmentally-sensitive waste product, in the production of an essential construction product such as hot-mix asphalt (HMA). These benefits are twofold in that the used shingles are no longer filling up our waste management facilities, and by incorporating them in hot-mix asphalt production we are effectively reducing our greenhouse gas footprint by reducing the amounts of non-renewable resources (construction aggregate & asphalt cement) utilized in HMA production.

Although it is recognized that the cost associated with the purchase of a shingle grinding machine is substantial, many of these machines have dual-purpose capabilities in a landfill environment. Based on discussion with a major US equipment manufacturer (RotoChopper) it is understood that they offer a multipurpose machine capable of grinding wood waste products as well as shingles. This dual capability vastly increases the usability of the grinder as a waste management tool.

Determination of the feasibility of processing RAS for use in HMA production is a multi-step process as identified below. Considerations include:

1. Savings realized from reduced need for new (virgin) asphalt cement (AC)
2. Savings from new (virgin) fine, bituminous aggregate

3. Tipping fee (if charged)
4. Less acquisition cost of RAS (e.g., trucking cost):
5. Less additional processing costs (e.g., sorting, crushing, screening):
6. Less capital costs (e.g., equipment, land, improvements)
7. Other miscellaneous costs of testing, engineering design (e.g., asbestos monitoring, mix design, other QA/QC)

Based on available information related to current unit costing, Tables I & II below indicate the potential value of utilizing RAS in the production of HMA. Table I indicates the maximum amount of revenue that could be realized if 5% RAS was added to the total estimated yearly HMA output on the Avalon. Table II indicates the revenue that could be realized based on utilizing the estimated yearly total volume of tear off shingles generated on the Avalon.

TABLE II	
Optimial Yearly Value of Utilizing RAS in HMA Production	
Total estimated tons of HMA supplied yearly on the Avalon	225000
Percent RAS replacement in HMA	5
Estimated percentage asphalt cement retained in RAS	40
Current value of asphalt cement per ton.	$ 180.00
Total tonnage of RAS at 5% replacement rate	11250
Total tonnage of asphalt cement in RAS	4500
Value of asphalt cement contributed from 5% RAS addition	$810,000.00

TABLE III	
Value of RAS Based on Yearly Volume of Used Shingles Available	
Estimated tons of HMA required to utilize total yearly RAS output	152300
Percent RAS replacement in HMA	5
Estimated percentage asphalt cement retained in RAS	40
Current value of asphalt cement per ton.	$ 180.00
Total tonnage of RAS available based on yearly tear off volume	7615
Total tonnage of asphalt cement in RAS	3046
Value of asphalt cement contributed from 5% RAS addition	$548,280.00

It should be noted that in addition to the estimated value of the asphalt cement retained in the RAS, AMEC understands that a tipping fee is charged on a commercial deliveries of asphalt shingles received at the Robin Hood Bay facility. At the time of writing, information was not available to factor the yearly revenue generated from tipping fees related to shingle tear offs into the feasibility analysis.

In addition to the economic feasibility realized from the asphalt cement retained in the RAS, a second source of revenue will be generated from the volume of processed sand

sizes adhering to the shingles. These sand sizes will allow the asphalt contractor to reduce the volume of fine aggregate they are currently putting into the pavement mixture. Given that the shingle sand is already saturated with asphalt cement this will further reduce the volume of new asphalt cement needed in the paving mix.

As previously identified, the offsetting cost of utilizing RAS in HMA pavements are related to equipment start-up and processing. Given that the shingle tear offs are currently being delivered to one central location, costs associated with transportation are not considered as being a factor. It is assumed that suitable equipment for unloading and handling of the RAS materials would be available at the Robin Hood Bay facility; however the approximate costs for acquiring a new loader have been factored into the overall first-year operational costs provided in Table IV. The following cost items are based on recent discussions with local Newfoundland suppliers where available:

TABLE IV

RAS Start-up & Production Cost Estimate	
Shingle grinder – 45 ton/hr diesel	$ 300,000
Building – Approx. 70ft x 100ft	$ 250,000
Loader – 2-3 cubic yard bucket	$ 250,000
Manpower Cost Estimate – 2 people	$ 120,000
Contingency @10%	$ 92,000
Estimated Total minus tax	$ 1,012,000

Note: Manpower cost estimate is based on the following assumptions:

a. Processing the estimated quantity of shingles as noted in Table III (7615 T)
b. At a production rate of 45 tons/hr = 169hrs
c. Requiring 2 employees - 169 x 2 = 338 hrs
d. At an average cost of $35.50/hr per employee = $119,99.00 ($120,00.00)

Review of the data provided in IV indicates that the estimated production start-up and operational costs for the first year's production in estimated to be $1,012,000.00 with a loader ($737,000.00 without), while the off-setting value of the RAS when utilized in HMA production is $548,280.00. At the time of writing the amortization period over which the equipment would be financed is unknown. However the fact that the estimated profit realized over two years exceeds the total start up cost indicates the production and use of RAS for use in HMA production is economically feasible.

5.0 CLOSURE

Based on the information supplied, the utilization of RAS in hot-mix asphalt pavement appears to be economically feasible. From an engineering perspective RAS is commonly utilized in HMA mixes throughout numerous parts of the United States and is rapidly gaining acceptance across Canada. From an environmental perspective the utilization of RAS in HMA production is a positive move in reducing our greenhouse gas

footprint while maximizing our landfill storage capacity. Given that the utilization of RAS in hot-mix asphalt production is relatively new to the Canadian market place, the benefits of RAS enriched asphalt mixes must be communicated to potential asphalt suppliers and various end users such as provincial and municipal agencies. Current specifications for HMA mixes will require modification to allow incorporation of RAS-enhanced mixes.

AMEC applauds the effort by Eastern Waste Management to look at alternative methods for utilizing waste materials such as used asphalt roofing shingles.

Please do not hesitate to contact Mr. Clifford Smith or Mr. Lewis O'Toole should you have any questions regarding the contents of this report.

Yours truly;

Lewis O'Toole
Vice President of Technical Services
AMEC Environment & Infrastructure

Clifford G. Smith, P. Eng.
Senior Waste Management Lead
AMEC Environment and Infrastructure

APPENDIX
“C”

WASTE MANAGEMENT UPDATE – February 27, 2012

Southern Shore	Status	Operational Status and Plan	Notes
Cape Broyle	Closed	Permanently closed as per DOEC guidelines	
Trepassey	Closed	Permanently closed as per DOEC guidelines	
Bay Bulls	Closed	Permanently closed as per DOEC guidelines	WRF operating
Renews-Cappahayden	Closed	Permanently closed as per DOEC guidelines	WRF operating
Ferryland	Closed	Permanently closed as per DOEC guidelines	
Southwest Avalon			
Admiral's Beach	Closed	Permanently closed as per DOEC guidelines	
Branch	Closed	Permanently closed as per DOEC guidelines	
Colinet	Closed	Permanently closed as per DOEC guidelines	
Fox Harbour	Closed	Permanently closed as per DOEC guidelines	
Gaskiers	Closed	Permanently closed as per DOEC guidelines	
Mount Carmel	Closed	Permanently closed as per DOEC guidelines	
North Harbour	Closed	Permanently closed as per DOEC guidelines	
Placentia	Closed	Permanently closed as per DOEC guidelines	WRF Operating
Point Lance	Closed	Permanently closed as per DOEC guidelines	
St. Bride's	Closed	Permanently closed as per DOEC guidelines	
St. Joseph's	Closed	Permanently closed as per DOEC guidelines	WRF Operating
St. Mary's	Closed	Permanently closed as per DOEC guidelines	
St. Vincent's	Closed	Permanently closed as per DOEC guidelines	
Bell Island			
Wabana	Open	COA to expire Dec 31 2012 no plan for closure	
Trinity Bay South			MA is leading; no guidance provided
Cavendish	Closed	Land to be expropriated; AMEC concept design	
Winterton	Closed	Project not awarded, to be retendered	
Heart's Delight-Islington	Closed	Survey and preliminary drawings completed	
New Harbour	Closed	ENVC managing the site	
Trinity Bay North			
Grates Cove	Closed	Cost estimate to be finalized, request for funding required	
Lower Island Cove	Closed	Awaiting decision on closure date	
Old Perlican	Operational WDS	Tender rejected, will be retendered with Grates Cove	WRF Operating
Small Point	Closed	Tender being finalized. Contract required	
WASTE RECOVERY FACILITIES			
Placentia	Operational	Operating	To recommence mid-March
St. Joseph's	Operational	Operating	To commence April 1st
Old Perlican	Operational	Operating	
Bay Bulls	Operational	Operating	To commence mid-March
Cavendish	Closed	Ownership being investigated	
Harbour Grace	Closed	Hazmat field work completed. Report accepted. Concept design started	
Sunnyside	Operational	Operating	
Whitbourne	Closed	No site selection finalized	
Renews-Cappahayden	Operational	Operating	
Clarenville		Transfer Station site selection and concept to be started	
Other			

Brigus	Closed	Permanently closed as per DOEC guidelines	
Regional Facility			
Isthmus			
Harcourt	Open		
Chance Cove	Closed	Closure contract awarded	
Sunnyside	Open	COA to expire Dec 31 2012	
Fairhaven	Closed	Closure contract awarded	
George's Brook	Closed	Waste hauling to Clarenville	
Hillview	Closed	Permanently closed as per DOEC guidelines	
Hodge's Cove	Open	COA to expire Dec 31 2012	
Little Heart's Ease	Open	COA to expire Dec 31 2012	
Norman's Cove	Closed	Closure contract awarded	
Queen's Cove	Closed	Permanently closed as per DOEC guidelines	
Lady Cove	Open		
Southern Harbour	Closed	Closure contract awarded	
Garden Cove	Closed	Permanently closed as per DOEC guidelines	
Clarenville	Open		

APPENDIX
“D”

Biography

Mr. Colin Corcoran, B.Comm, CIM, CRM

Colin Corcoran is the Mayor of Riverhead, St. Mary's Bay. Colin joined council during the October 2009 general municipal election and served as a Councillor for over three years. In May 2012, Colin was appointed Acting Mayor and was elected to the position in July 2012. Since becoming Mayor, he has focused his efforts on evaluating the tax structure, stabilizing the financial situation, assessing need for improved water infrastructure, and increased public engagement on matters before Council.

Colin holds a Bachelor of Commerce degree with a minor in Political Science from Memorial University of Newfoundland. After graduation, he completed a Risk Management Certificate from the University of Toronto. He has earned the CIM (Certified in Management) designation from the Canadian Institute of Management and the CRM (Canadian Risk Management) designation from the Risk and Insurance Management Society of Canada. He has also completed a number of professional development courses in Communications, Public Policy, Quality Management and Adventure Leadership – with the latter seeing him climb glaciers in Alberta's mountains, complete weapons training in New Brunswick, and survive sub-zero temperatures in the Nova Scotia interior. Colin is currently enrolled in the Certified Management Accountants (CMA) program but vows never to work as an accountant.

Colin began his career in the public service in 2009 through a number of work term positions in the Department of Innovation, Business and Rural Development and Voluntary and Non-Profit Secretariat in engagement and research roles. In 2010, he joined the Department of Justice as a Contract Policing Analyst (Financial Officer) where he provided financial analysis in support of the province's Provincial Police Services Agreement (PPSA) negotiation team and sat at the negotiation table. In November 2011, Colin accepted the position of Senior Policy Analyst with the Intergovernmental and Aboriginal Affairs Secretariat under Executive Council where he works today.

Colin is an avid volunteer, community advocate and policy wonk. He held executive positions on numerous boards, appointments on committees and membership with community organizations. Colin served as Vice President and Premier in the Newfoundland and Labrador Youth Parliament and was the co-founder and President of the South Coast Regional Youth Parliament. He sat on the Provincial and National 4-H Councils as a member representative. He was a member of the Youth Retention and Attraction Strategy's Leadership Team and the Youth Advisory Committee providing policy advice to the Minister of Advanced Education and Skills. Colin wrote as a columnist on the Telegram's Community Editorial Board in 2006-07 and 2009-10.

Colin has been recognized for his work in the broader community and is well accomplished. He has won numerous scholarships, with the National FCC Business Plan Writing Competition and the Irish Loop Volunteer of the Year scholarships among those. He is the recipient of the Lt. General J.E. Vance Leadership Award, the Army, Navy, Air Force Veteran's Medal of Merit and Top Cadet Award for Newfoundland and Labrador. As an aspiring entrepreneur, Colin placed 1st at the 2010 Angel Business Development Program and earned several grants. He has taken home titles at the local, provincial and national level in public speaking competitions. In recognition of his volunteerism and entrepreneurial spirit, Colin was named one of the top 50 Emerging Leaders in Atlantic Canada by 21 Inc. However, he is most proud of an award given by his graduating Commerce Class: Most Likely to Become a Politician.

July 21, 2012

APPENDIX
“E”

Chief Administrative Officer
Performance Evaluation

Using the following scale, please consider and rate the individual's effectiveness in the following leadership capabilities scale.

1 = Below expectations
2 = Successful
3 = Highly successful
4 = Exceptional
n/a = not applicable or not enough information

LEADERSHIP AND TEAM BUILDING		1	2	3	4	n/a
1	Demonstrates integrity and trust					
2	Acts as a catalyst to build team spirit					
3	Proactively deals with conflict and problems by addressing them in an open manner					
4	Exercises good judgment – bases decisions on a mixture of analysis, knowledge and experience; seeks advice where necessary					
5	Creates an organizational culture that motivates others					
6	Fosters productive relationships among employees, with the board and with stakeholders					
7	Recognizes employees for outstanding achievement					
8	Ensures staff and board are aware of Eastern Regional Services Board mandate and plans					

Comments on Leadership and Team Building:

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COMMUNICATIONS		1	2	3	4	n/a
1	Facilitates regular and prompt sharing of information					
2	Actively and respectfully listens to the concerns of others					
3	Makes effective presentations to other groups and organizations					
4	Writes succinct reports, providing accurate and meaningful information.					
5	Speaks with enthusiasm and conviction about Eastern Regional Services Board					
6	Exercises tact, discretion and good judgment when facilitating communication among employees, with the board and partners					

Comments on Communications:

NETWORKING		1	2	3	4	n/a
1	Acts as an ambassador of the Eastern Regional Services Board by developing effective relationships with stakeholders					
2	Establishes and maintains mechanisms for soliciting input from stakeholders					
3	Attends events important to the success of the Eastern Regional Services Board and takes initiative to establish linkages					

Comments on Networking:

FLEXIBILITY/MANAGEMENT OF CHANGE		1	2	3	4	n/a
1	Responds rapidly and positively to change and is prepared to handle potential problems					
2	Facilitates new methods/services and encourages others to adopt innovative practices					
3	Is aware of the impact of change on others and acknowledges people's feelings while supporting the change process					

Comments on Flexibility/Management of Change:

SELF CONFIDENCE		1	2	3	4	n/a
1	Demonstrates intelligent risk taking through personal action, decision-making and a willingness to challenge the status quo					
2	Is open and receptive to feedback from others on how s/he performs/behaves on the job					

Comments on Self Confidence:

STRESS MANAGEMENT		1	2	3	4	n/a
1	Demonstrates good time management, orchestrates multiple activities at once, performs well under pressure, set priorities effectively					
2	Handles stress calmly, maintaining a professional attitude					

Comments on Stress Management:

FOCUS ON RESULTS		1	2	3	4	n/a
1	Prepares action plans by consulting with staff, board and stakeholders					
2	Ensures agreed goals/objectives are met or adapts plans based on changing circumstances					
3	Ensures plans, budgets and regular status reports are completed and distributed to appropriate people in a timely manner					
4	Implements comprehensive monitoring and evaluation systems leading to continuous improvement in performance					
5	Ensures accurate financial records are kept so that audit requirements may be met					
6	Facilitates productive use of board meetings by ensuring agendas are established and decisions recorded					
7	Ensures decisions taken at meetings are carried out					

Comments on Focusing on Results:

STAFF ONLY		1	2	3	4	n/a
1	Consults employees effectively regarding changes to office procedures, personnel policies and other matters concerning the day-to-day operations of the office					
2	Gives constructive feedback on performance in a timely fashion					
3	Responds to employees concerns in a timely fashion					
4	Consults employees regarding their needs or desires for training and development					

Comments on Staff Only:

Chairperson

Date

Chief Administrative Officer

Date

APPENDIX
“F”

Town of Norman's Cove-Long Cove
P.O. Box 70} NormanJs Cove} NL AOB 2TO
Phone: (709) 592-2490 Fax: (709) 592-2106
Email: townofnclc@eastlink.ca

September 4, 2012

Eastern Waste Management
255 Major's Path, Suite 3
St. John's, NL
A1A OL5

Re: Bulk Garbage

Dear Mr. Kelly:

Council is writing to express our dissatisfaction with the bulk garbage pickup for our area. Our Town is paying the same, per household, as all other Towns in the Isthmus area, but we are not getting the service with the bulk pickup as other Towns.

There has been four (4) bulk garbage pickups so far this year. Our Town has not had all the bulk garbage picked up on the scheduled day, for either of the four days. It was collected either the next week or in some cases later. The last scheduled bulk pickup was changed from August 3 to August 10, for our area, because all Towns could not be accommodated on the 3rd. The bulk garbage was still not collected until the next Friday, August 17. The Town's annual Beach Festival, which sees an influx of people to our Town, took place on the weekend of August 10-12 and Council was very disappointed that these people had to be met with piles of garbage, both in the Town of Chapel Arm (which they had to drive through to get here) and our Town.

Enclosed is a Town cheque for our 8th payment for garbage collection. Council delayed payment until the bulk garbage was collected to the satisfaction of the Town. The Town would like to thank Mr. Nick Head for ensuring the bulk garbage was collected on August 17, as he stated he would do in conversations between himself and Mayor Bennett. The weekly collection seems to be working, however problems still exist with the bulk collection.

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The Town is also wondering about the opening of the Waste Recovery Facility for the Whitbourne area. Residents of our Town currently have to travel 120 kms (return trip) to the facility in Sunnyside or 220 kms (return trip) to Robin Hood Bay to dispose of materials not collected during the bulk pickup. This facility was supposed to be opened earlier this year. Ideally, it should have been opened before our dump site was closed.

Council hopes that these issues can be addressed and rectified in the very near future.

Sincerely,

Dianne Hudson

Dianne Hudson
Town Clerk/Administrator
On behalf of Council