

Approved: December 1, 2016

Posted: December 2, 2016



## Town Council Meeting Minutes

Thursday November 3, 2016, at 7:00 PM, in the Matthew Thornton Room

Chairman Harrington called the meeting of the Town Council to order at 7:00 p.m. Present at the meeting were Vice Chairman Rothhaus, Councilor Boyd (arrived at 7:02 p.m.), Councilor Dwyer, Councilor Flood, Councilor Koenig, Town Manager Eileen Cabanel, and Assistant Town Manager/Finance Director Paul Micali. Councilor Mahon was excused.

### **Pledge of Allegiance**

Chairman Harrington led in the Pledge of Allegiance.

### **Announcements**

The General Election will be held on Tuesday, November 8<sup>th</sup> from 7:00 a.m. to 7:00 p.m. The three polling locations are the James Mastricola Upper Elementary School, the Merrimack Middle School, and St. John Neumann Church. Please contact the Town Clerk's Office at 424-3651 or visit the New Hampshire Secretary of State [website](#) to find your specific polling location.

Town Offices and the Merrimack Transfer Station will be closed on Friday, November 11<sup>th</sup> in observance of Veterans Day. On behalf of the Council, Chairman Harrington expressed appreciation to the members of our military; past and present, and thanked them for their service.

Regular meetings of the Town Council will be conducted on Thursday November 17<sup>th</sup>, December 1<sup>st</sup>, and December 15<sup>th</sup> at 7:00 p.m. in the Matthew Thornton Room.

The Merrimack Police Department and Merrimack Public Works Department (PWD) want to remind all residents that the winter parking ban will start November 15<sup>th</sup> in accordance with the Town Ordinance, which states no vehicle or trailer shall be parked on any public street or highway between the hours of 11:00 p.m. and 6:00 a.m. from November 15<sup>th</sup> to April 15<sup>th</sup>. The Police Department will ticket those vehicles parked on public streets and found to be in violation of the ban. Vehicles that are found to be impeding snow removal operations will be towed if after an attempt to contact the owner of the vehicle, it is not removed immediately. All costs associated with the towing are the responsibility of the owner of the vehicle.

The Library's 7<sup>th</sup> Annual Turkey Shoot: Family Fun Night of Raffles will be Friday, November 18<sup>th</sup> at the Wasserman Park Function Hall. Doors open at 6:30 p.m. Win all or part of your Thanksgiving Dinner. Live music by local NH band Roll the Dice. Sponsored by the Friends of the Library. For more information, please visit our website [www.merrimacklibrary.org](http://www.merrimacklibrary.org).

The McGaw Bridge Road bridge project is nearly complete. The PWD will be hosting a ribbon cutting ceremony for the opening of the bridge on Thursday, November 10<sup>th</sup> at 2:00 p.m. at the bridge. All are encouraged to attend the ceremony that will celebrate the reopening of the bridge while remembering the history of the former McGaw Bridge.

### **Perfluorooctanoic Acid (PFOA) Information Update** - None

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**Public Comments** - None

**Recognitions, Resignations and Retirements** - None

### **Appointments**

#### **1. Annual Review with the Technology Committee**

Submitted by Technology Committee Chairman Dustin Liukkonen

Per Town of Merrimack Charter Section 6-6, at least annually, there should be an annual review with the Technology Committee. This agenda item is to highlight the committee's significant actions, current projects, anticipated actions, and to raise any concerns the Council should know or could act on.

Dustin Liukkonen, Chairman, Technology Committee, stated the committee has had two meetings to date this year. Although they lost a member mid-year, they recently gained a new member. There have not been a lot of requests from the Council, but they continue to have their usual technology issues, e.g. network security, license and software expenditures, and dependencies on current employees, which is something that is discussed at length quite often. A potential solution that touches on each of those is technologies such as virtual desktops, Google apps, and Microsoft Office 365, which is hosted online (nothing on the user's computer). That basically removes the need for any backup as everything is backed up by the company. There is the need to have a network connection to access that, which is one of the drawbacks. Security is one of their top factors and license expenses. Current license expenditures are in the area of \$100,000/year, which would compensate for the monthly fee of such a product. One of the issues is deciding on a product. He commented he is unaware of where the Council stands on financial resources for this type of product.

Migration is another problem; differing software is used by employees. Migration would be another large expense.

Chairman Harrington commented what she was hearing was that the Town should be looking at virtual desktops. Mr. Liukkonen stated that is where a lot of companies and organizations are going at a pretty quick pace. The pricing is pretty reasonable. Increased security is one of the large benefits. There would be redundant backup.

Chairman Harrington questioned if licenses would not be required were the Town to move to a virtual system, and was informed there are various software systems being utilized presently, and some would remain. The costs the Town incurs go beyond licensing and include maintenance of backups, etc., which is an aspect/cost that would go away.

Vice Chairman Rothhaus remarked he would like the committee to have that conversation, and provide the Council with information on the recommended direction.

Town Manager Cabanel stated she would be happy to attend a meeting and discuss the areas the committee has identified as concerns, etc. Mr. Liukkonen commented in addition to cost, there is a great deal of effort involved in moving to another system in terms of upgrading systems, software compatibility, etc. A change of that sort could be done in phases. For the long-term, it would likely be

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the direction to move in particularly with network speeds continually increasing. Maintaining a secure environment is costly and requires very talented people to do.

Councilor Dwyer commented on the level of talent on the committee, and suggested this to be a charge for the committee to provide the Council with a presentation on this subject matter.

Councilor Koenig commented this has been discussed several times at the committee. One of the things mentioned is the cost of re-training employees to utilize another service. Even though the cost per seat at an outside service is less than the license cost, the cost for training, at least initially, is substantial. What he understood to be a concern of the Technology Coordinator, Chuck Miller, is the fundamental amount of effort that would be involved.

Mr. Liukkonen stated agreement there would be training involved, but looking at the technology picture as a whole, it is hard not to keep going back to that. There are a great deal of pros and cons.

Councilor Boyd suggested it is possible there may be employees familiar with working with one type of system in the office environment and another at home, which may make the transition to another application such as Google not as taxing. Mr. Liukkonen remarked that is one way to go in terms of the office suite. For virtual desktops there are hosted solutions meaning you connect to a service that is located somewhere else. There are also solutions where you can host these virtual machines locally; there can be a server here and each employee would have an appliance that would connect to it. It would feel like a computer, but really the actual software and the running of the operating system would exist on the server. As a user you would not notice a difference. You would no longer have to worry about buying new computers or upgrading them. All maintenance would be done by the technical professional on that one server.

***There being no objection the Council went out of the regular order of business to take up Item #2 under New Business.***

## **2. Committee Appointment**

Submitted by Town Council Chairman Nancy Harrington and Vice Chair Finlay Rothhaus

The Town Council to consider appointing the following individual to a Town committee, pursuant to Charter Article 4-8: Paul Mondoux – Technology Committee (Full member)

Chairman Harrington stated she and Mr. Liukkonen interviewed Mr. Mondoux who has a great deal of experience.

**MOTION made by Councilor Boyd and seconded by Councilor Rothhaus to appoint Paul Mondoux as a full member of the Technology Committee pursuant to Charter Article 4-8.**

**MOTION CARRIED 6-0-0**

*Oath of Office administered by Chairman Harrington to Paul Mondoux.*

Mr. Mondoux commented he has had 35+ years in technology, and has a computer science degree. He works for Lockheed Martin at the corporation level. He commented his group at Lockheed, of which he is the Chief Engineer, is going all virtual; cloud computer and virtual servers. All of their domain

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controllers, of which they have thousands worldwide, are going to virtual servers so there will no longer be a concern with individual machines. He has heard the Town has some 200 servers, which is a number that could be reduced. Re-training was not difficult for their 250,000 employees worldwide. He commented some employees do utilize Google apps, etc. in their homes, etc. There are also Word products available that could reduce costs. The greatest benefit he has found at Lockheed, which he believes would benefit the Town as well, are the backup and security aspects. That is always a problem with any organization. If some of that need can be eliminated there will be savings in addition to savings through virtualization.

*The Council returned to the regular order of business.*

## **2. Nashua Regional Planning Commission (NRPC) Statement of Strategy 2016-2020**

Submitted by NRPC Executive Director Tim Roache

Town Council to receive an informational update on the NRPC's Statement of Strategy 2016-2020.

Tim Roache, Executive Director, Nashua Regional Planning Commission (NRPC), stated during their quarterly meeting they discussed the strategic planning process, which has been going on for the past year or so, and is reaching conclusion. They began with an all-day retreat to discuss direction. From there they heard from all of the communities regarding what they want to see for services from the NRPC. That information was brought in-house and relayed during internal meetings with staff. A SWAT (strengths, weakness, and threats) analysis was done. Simultaneously he was visiting the towns introducing himself, and speaking about what the NRPC wishes to accomplish. From there the Executive Committee took over and continued internal discussions working with staff and the Executive Board and completed yet another SWAT analysis to hone in on what they wanted to focus on.

From there they worked with other regional planning commissions to see if they were in line, and if there was opportunity for collaboration. They came up with a very simple driving principle for the whole process, which is make sure we provide excellent service and meet the diverse needs of our member communities. That came out of the question of why does staff come to work, why do town representatives attend quarterly meetings, and the Commissioners volunteer.

The outcome they wish to have is to ensure everyone understands the NRPC's role; what they do, why the programs are valuable, and how they can support the community needs. To get to that key outcome they had three requirements that came out of the process; ensure there is sustainable funding as diverse as possible to meet the needs of the communities. He commented for him this is more than finding money to feed the machine, it is ensuring the grants they search for are in line with what the communities want to accomplish. One of the ideas that came out of this is that they have in their office a virtual whiteboard to track what the towns are looking for so that when they see grant opportunities they are able to pursue them, and they don't just slip through the cracks.

Another critical requirement is to make sure the staff is empowered to act on behalf of the towns; that they are up to speed and fully trained, and kept on the edge of technology. The third requirement is communication, which was his theme when he visited the towns last fall; to ensure the Commissioners are talking to the boards and elected officials and that there is two-way communication.

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Some of the outcomes include the idea of improving the transportation planning program. The first item identified is transportation management area programming authority. Economic development was a recurring theme throughout the process, and the NRPC is working on that to build its capacity as a staff and train staff to provide those services so that they will expand their programs from transportation land use, environmental, to include an economic development program. It is a matter of finding that seed money now to strengthen their ability there. The rest of the information has a lot to do with energy with the pipeline, and that got expanded out beyond just energy sources to efficiency and looking at renewables.

Chairman Harrington commented she believes the NRPC is valued by the Town. She is aware of the use of their resources by the Planning Board and noted the use during the pipeline issue. It has been her experience Mr. Roache has done a really good job as she sees the NRPC expanding in terms of capacity and its response to the needs of the community. She believes the cost of membership is outweighed by the benefits derived.

Councilor Boyd commented one of the things that peaked his interest was the idea of the surface transportation program funds and the transportation alternative funds and how that was going to impact Merrimack in terms of our ability to do our own planning as it relates to some of the matching grant funds received from the State. He stated his belief the State grant funding program is separate and not part of the process for this particular opportunity. He stated his belief the transportation piece is integral in terms of how Merrimack will view its future with the NRPC. Mr. Roache responded the NRPC has been known for a long time for its transportation planning role. In that role they are called the Metropolitan Planning Organization (MPO), which is a Federal designation under the Federal Transportation Planning Rules.

In the 2010 Census, they became a large MPO. Their population for the region/urbanized area in the census went over the 200,000 people threshold. With that came additional responsibilities. One of the responsibilities, which was put on them from the Federal Highway Administration was to have the authority to program projects into the four-year Transportation Improvement Program, which is the plan they are asked to ensure that their priorities are included in.

Mr. Roache stated the Metropolitan Transportation Plan looks out 20 years. That is sort of the source of all of the long-term projects that are seen as needs in the region. They use that to feed the State's ten-year plan process. The first half of the long-range plan is where the ten-year plan projects for our region come from. Typically every couple of years the NRPC would work with the Department of Transportation (DOT), and give them projects to program into that ten-year plan. Usually if they get a couple of projects in there they are out in years 8, 9, or 10. What the programming authority does is shifts the ability for the NRPC as a region to say we want to put these projects in the first 4 years of that ten-year plan or the Transportation Improvement Program. It gives more certainty to the projects they put forward as a region.

Mr. Roache remarked while they have authority to work with the DOT in consultation with the DOT, the Legislature is still going to be involved in the ten-year plan. They don't actually have the money in-house or any responsibility for the money. That stays with the DOT and the Legislature. What happens is the region is empowered by the Federal Highway Administration to make these recommendations. If the recommendations weren't accepted by the DOT, and they couldn't reach

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negotiation, in theory the Federal Highway Administration could say we're going to cut off funding until you work this out. It gives the region a little more clout and ability to get projects into this process.

Councilor Boyd stated appreciation for the clarity noting that at the last meeting he was under the impression there was going to be a fiduciary responsibility that would be incumbent not on the NRPC, but this authority, which was going to be a consortium of towns that were in that MPO configuration. He questioned if he was incorrect to think that. Mr. Roache responded yes to the extent that they don't have control over the money.

Mr. Roache stated the DOT is working with the NRPC, and is aware of the need for cooperation. He noted the geography changes a little. The urbanized area from the census encompasses part of the NRPC and part of the Southern New Hampshire Planning Commission. He displayed a map outlining the area involved for the programming of projects, which includes a large chunk of Merrimack and a large chunk of the NRPC region overall, but it also includes Londonderry, Derry, and Windham. As part of the process, they have to bring together representatives from all of the communities to work cooperatively in deciding what are the priorities across the combined region. There is a challenge there and a lot of work to be done in getting everyone to understand the process.

The other aspect is the roads that are eligible, and they are roads that are not part of the national highway system. A good chunk of the major routes in Merrimack are eligible for projects. Mr. Roache stated his belief this is something a lot of the other parts of the country already do, and that it is important and will be beneficial to our region. It really gets the communities voices heard in that ten-year plan process in a way that they haven't before.

Councilor Dwyer commented six years ago when he started on the Council he did not see the benefits of the NRPC, and wanted to recognize that over the years he has had a change of heart when seeing the sheer amount of information provided by the organization.

He noted language in the report, under the weaknesses of the group; "should the commission remain a neutral fact-finding body versus becoming an outspoken advocate for member community interests", is something he found to be the hardest thing to find out; what is their future. It leads him to the question does the State provide the NRPC funds through the Legislative process. Mr. Roache stated they receive \$11,000 from the Office of Energy and Planning unless they go after a specific grant through the Department of Environmental Services, which are often Federal funds that are funneled through the State agencies. When asked about Federal funds, he stated it varies; the Federal Highway, through the DOT, funds about 80% of their existence currently.

Councilor Dwyer commented one of the biggest projects that could be done outside of roads is trains. He questioned how Mr. Roache sees the NRPC's role in addressing what is probably the biggest game changer to Southern New Hampshire; commuter rail. Mr. Roache remarked they are treating that issue similarly to how they treated the pipeline; they try to ensure the communities understand the value and benefits of a complete multi-modal robust transportation system. They have not, as a group, taken a formal position on commuter rail because they were hoping for that next phase of the study to be funded so that everyone knew exactly what it would cost; what it would cost to operate, what ridership would be, etc. The Legislature decided not to move forward with that piece in the last session.

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Councilor Dwyer commented it is interesting that he says that because in some ways he was sure they would want the communities to provide input on whether they are for or against commuter rail, and at the same time the NRPC's feedback would be they don't have all of the information yet, and could not provide a recommendation without that required information. Mr. Roache stated they needed that next phase to be conducted in order to come to a decision.

Councilor Koenig asked for clarification, if the people that would have helped drive that forward are the Commissioners or if the NRPC is looking for direct input from the different town councils to provide guidance. Mr. Roache responded ultimately if a position statement came out of the NRPC in any way it would be the people that come to the table, the Commissioners. It was noted Merrimack has four representatives. Mr. Roache stated his hope they would be informed by the Council. That is where the communication piece comes in; if the Commissioners are talking to the elected bodies then they are in a better position to speak to the issues as a region.

### **3. Merrimack Public Library Update**

Submitted by Library Board of Trustees Chair Richard Barnes and Library Director Yvette Couser  
The Town Council will be presented with an update of the year's past activities.

Yvette Couser, Director, Merrimack Library, spoke of the amount of turnover that occurred over the past year, and identified specific positions that have experienced change. She noted some of those who have left the library's employ, did so to accept equivalent positions at other facilities that offered higher salaries.

Director Couser spoke of an opportunity with the State library and the New Hampshire Library Association (NHLA) with something called the para-librarian section. For the NHLA there are sections for each type of work, e.g., children's, adult, etc. They recently created a para-librarian section, which is non-professional staff working alongside the professional Librarians. There is an opportunity for staff to attend workshops and classes and earn credits towards the certification process. There are four levels of certification. Several members of the staff are taking that opportunity to learn and improve their skills. Director Couser is on that committee as an education chair.

Director Couser stated she went to the American Library Association Conference in June, an international event. She is serving on the Chamber of Commerce board.

Richard Barnes, Chairman, Library Board of Trustees, stated one of the things they are looking to do in the building, which they have already started implementing, is improving building security for both staff and patrons.

Director Couser spoke of areas that have been moved around. She commented a lot of the reference collection has moved from print to electronic. The bookcases were repurposed to shelf picture books. She spoke of the flood that occurred over the summer, and how helpful Assistant Town Manager / Finance Director Micali was in helping them navigate the insurance claim. An entire section of shelving was damaged. Replacement shelving is expected to be installed the next day.

Director Couser spoke of the 3D printer and changes in the location of the circulation desk, etc. that have allowed for seating to be located in the area of the 3D printer to accommodate the conduction of

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classes about the 3D printer. They are working on moving the patron computers currently located closer to the window. They are in an arrangement that rings the reference desk, which does not allow for a lot of privacy when there is a patron at the reference desk having a reference interview.

Mr. Barnes remarked the Turkey Shoot is scheduled for November 18<sup>th</sup>. This is the first year the event will be on a Friday rather than the Thursday before Thanksgiving. This year the event is being held at the Wasserman Park Function Hall. This is a key fundraiser for the Library. He spoke of revenue (over \$5,000) from last year's fundraiser covering the cost of the 3D printer, its cabinet, as well as enough filament to ensure it will be free for the indefinite future.

Director Couser spoke of the opportunities to partner with other Town departments, e.g., Parks and Recreation and PWD. The PWD installed a free library at the playground outside the Function Hall at Wasserman Park and will be installing another at Twin Bridges. The Friends of the Library will purchase that, and it will likely go up in the spring.

The Library parking lot will be repaved in the spring. The library is part of the Hillstown Library Cooperative (regional). Merrimack was part of a group of libraries that won a National Endowment of the Arts Big Read Grant. They were reading the Grapes of Wrath by John Steinbeck. The grant allowed them to conduct musical programs, painting classes, lectures on farming and religion of the 1930s, there were teen events, a children's discussion, etc. When asked about the amount of the grant, Director Couser responded she never found out the exact amount. She has not had the final meeting with the grant writer. There was a big kickoff that was paid for by the grant. Some of the individual libraries received funding if requesting it early enough, but really the money went to the big events. The grant was a regional thing. Councilor Koenig questioned the cost that would be associated with continuing the kind of effort that has been put forth as a result of the grant. Director Couser stated she was uncertain, but will obtain that information.

Director Couser spoke of having done outreach at the Merrimack Outlets, e.g., story times. Mr. Barnes spoke of November being the National Novel Writing Month. There are a series of events taking place throughout the month at the library, and the challenge is for people to write a 50,000 word novel in 30 days. You start November 1<sup>st</sup> and end November 30<sup>th</sup>, and in December the library hosts a party where those who completed something bring it in and read what they have written.

Director Couser spoke of the library having purchased new software, Beanstack, to track summer reading hours. This was the first summer it was implemented. The software allows for tracking reading titles, minutes read, etc. They will be doing a winter reading program to help them stay up on the software and get additional use out of it. Friends of the Library have pledged to make a donation of a certain amount of money to a local organization based on how many hours the children read, e.g., if they meet the goal the Friends set. Registration can be done from home rather than having to come into the library and stand in line.

Mr. Barnes remarked during the last election the Library added an amendment that allowed for alternate members to the Library Board of Trustees. They continue to seek interested individuals to serve in this capacity.

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Mr. Barnes spoke of having conducted a salary survey with Municipal Resources Inc. The results have not yet been reviewed by the Trustees. The survey compared Merrimack's staff against libraries throughout the State. The results will be reviewed at the Board's next meeting on the 15<sup>th</sup>. At that time they will also review the Strategic Plan.

Councilor Flood questioned whether the issue of ice on the roof is able to be addressed. Director Couser noted an ice guard is installed, and how it works will be seen in the coming months. Councilor Flood questioned the experience with the seismograph, and was told there were some small earthquakes in New Hampshire last week, which were at a 1 or 1.5 magnitude. The library's seismograph is calibrated to pick up 6 and higher. Earthquakes happen practically every day that are a 6.0 and a lot are within that geographical area called a ring of fire. They pick up anything that is 6.0 or higher. It travels through the earth and picks up whatever is happening in the ground in Merrimack. They also pick up when there is snow or a big rain storm because the trees and their roots move. It will pick up a different kind of wave. Merrimack Library has the only public seismograph in the State.

Councilor Boyd suggested if believed to be helpful, an analysis of competing staff positions as it relates to turnover etc. could be provided the Council during budget discussions.

**Public Hearing** - None

**Legislative Updates from State Representatives** - None

**Town Manager's Report** - None

**Consent Agenda** - None

**Old Business** - None

**New Business**

**1. Reappointment of Merrimack Representative to the Nashua Regional Planning Commission**

Submitted by Community Development Director Tim Thompson

The Town Council to consider the reappointment of Karin Elmer as one of Merrimack's representatives to the Nashua Regional Planning Commission (NRPC), as recommended by the Merrimack Planning Board and pursuant to RSA 36:46 (III).

**MOTION made by Councilor Dwyer and seconded by Councilor Boyd to reappoint Karin Elmer as one of Merrimack's representatives to the Nashua Regional Planning Commission, as recommended by the Merrimack Planning Board and pursuant to RSA 36:46 (III).**

**ON THE QUESTION**

Councilor Koenig remarked he has no problem with the reappointment; however, stated his belief neither the Council nor the Planning Board has had her appear before them. As Director Thompson alluded to earlier, it is important that the Commissioners report back and work with the Town. He

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urged all of the Commissioners and representatives to find a way to communicate back and obtain feedback from the Council.

Councilor Flood commented she likes to hear about the function of the group, and would like to hear more of the group's accomplishments.

**MOTION CARRIED 6-0-0**

### **3. Donation Acceptance for Merrimack Police Department**

Submitted by Lieutenant Denise Roy

Town Council to consider the acceptance and expenditure of a donation in the amount of \$2,475.00 from Merrimack Crimeline to the Merrimack Police Department for ceramic plates for tactical vests, pursuant to RSA 31:95-b and Charter Article 8-15.

Lieutenant Denise Roy, Merrimack Police Department, stated a few years earlier the department found the need to establish a containment team, which is a specialized unit that is highly trained to go into high risk situations, e.g., active shooters, barricaded subjects, etc. It is very expensive to outfit the team, and when it was established certain cuts had to be made on items they believed they could temporarily do without. They had a discussion with Crimeline about some of the things they were missing; one of the most important being a back plate. The Crimeline was provided with a quote for the cost of the plates for the 11 vests, and provided a check that same day.

Councilor Dwyer expressed his gratitude to the Crimeline.

**MOTION made by Councilor Dwyer and seconded by Councilor Boyd to approve the acceptance and expenditure of a donation in the amount of Two Thousand Four Hundred Seventy Five Dollars (\$2,475.00) from Merrimack Crimeline to the Merrimack Police Department for ceramic plates for tactical vests, pursuant to RSA 31:95-b and Charter Article 8-15. MOTION CARRIED 6-0-0**

### **4. Fire Department Solar Panel Presentation**

Submitted by Fire Chief Michael Currier Fire Chief to provide an update to the Town Council with solar concerns as it relates to potential fire safety.

Fire Chief Michael Currier provided a [presentation](#) on Solar Photovoltaic (PV) Systems. He commented solar power is clean power, and will have to be embraced moving into the future. In a 24-hour period enough solar power could be generated to power the entire planet for four years.

The intent of the presentation was to provide information to the public regarding solar cells. There are now 130 residences in Merrimack with solar power. He stated he and the Building Official have sat down for a good many training programs, and are educating a lot of electricians on how to put these in correctly.

Alternating Current (AC); travels in two directions. The frequency is 60 hertz meaning it changes direction 60 times every second. Direct Current (DC) is what Photovoltaic (PV) cells do; a single straight line current. The difference is if DC current gets ahold of you and there are enough amps or watts within that current, it will contract your muscles, and you will not be able to let go (there is no

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pulse in it). PV cells are individual cells that go together to make a module, those modules go together to make a string, and those strings go together to make an array. What you see on a house is an array, and they are all individually controlled. Each string in a residential PV solar cell system produces up to 600 volts DC. In commercial systems it is about 1,000 volts DC. A 20 module array can produce over 6,000 watts of power within the residence. What community members have to understand is if you have a 20' x 50' array on your home it weighs about 2,500 pounds. That is a lot of weight in addition to snow loads, etc. If considering such an installation ensure every plan you have is stamped by professional engineers to be sure the structure of your home will withstand that weight load along with snow.

There are all different kinds of systems. There are some that have the appearance of shingles. The trouble with those is if someone were on your roof and cracked or penetrated those cells that electricity now energizes that whole metal pad and your whole roof is now energized with 600 volts. There are a lot of safety measures that have to be in place.

Before 2011, solar cells were being placed on roofs and the power just under the roof shingles. In a solar system you can't cut that power off so when firefighters were going to cut a roof or ceiling, when they went through the roof itself their saw would hit these and they would be under the voltage from the solar cells themselves.

There are multiple solar systems; thermal or solar PV that use water or some type of anti-freeze along with the PV to generate electricity. Water weights 8.33 lbs./gallon.

A typical mounting section has tracks that are put on the roof, screws that are drilled into the rafters, and the arrays are put on the racking system, which is made of aluminum. If there is a high heat fire in the attic they have a tendency to melt, and then the whole array falls off. With regard to how it works; the circuit system goes to a combiner box, which then goes to a disconnect, and then to an inverter. The inverter changes it from DC power to AC power. That AC power goes into your circuit breaker box in your house, and you use that power. Whatever is left over goes into the powerline and is sent back to the grid.

Some of the important things they had to look at and some ordinances that may be brought forward in the future is the type of inverters to use in the community for safety. There are central inverters, string inverters, and Microinverters. Center inverter is a system that is located away from the panel. The converters have a lot of labeling. They have considered that labeling to be very very important in the NFPA 70, which is the electrical code, international buildings codes, and the UL listed products. There is a whole section in the code book related to labeling.

Microinverters are placed under every module, and they have the ability of shutting the power off at the module rather than a combiner that is somewhere else in the building so the whole building is not live all the time.

When asked what the cost would be to add this as a safety feature to a system on a residence, Chief Currier responded he is uncertain, but is aware there are multiple companies within the Town; some are not and some are putting in Microinverters. He stated his belief it would be very comparable, and depends on the safety aspects of the company itself. How that works is that it comes down through the

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array rather than a combiner. That inverter is at the cell itself, and that power goes into the circuit breaker box and into the house for power or out to the grid if not being used.

There are different disconnects available. Sometimes they work and sometimes they don't. In a normal system the power comes in through the cells down to the combiner, down into your inverter, through your DC and into your breaker and what you use stays in your house and what you don't use turns your meter backwards, and that powers your house. All of the systems being discussed are not battery backed up. Ninety percent of the systems that are put into homes are just when the sun is out you get power, when the sun is not out you don't get power. When you lose power or electricity because of a storm, you have no power. The solar cells aren't doing enough for you. Even if the power was out during the day when the sun is out, your system still will not work. What happens is you have to have power coming in from the line, your inverters have to read that power to stay on. If the line goes down the inverters go down. It's a safety feature so you are not taking power and sending it somewhere where it can't be used.

Vice Chairman Rothhaus questioned why, in the instance of a fire, the power could not be turned off through the inverter. Chief Currier stated the solar cells would still be generating.

Chief Currier stated the battery banks that are offered if you do backup power are a lead acid battery. They have to be very ventilated because they give off hydrogen sulphuric acid gas. They have lithium ion batteries that are not lead batteries, but they generate a lot of heat. There have been fires caused by lithium ion batteries. With regard to labeling under the International Building Code, a great deal of time was spent identifying every piece of the system by a specific code of label and the type of label; what colors, what has to be said, because it is a very dangerous situation for people that don't understand solar power and start dealing with it or trying to fix it themselves. All of the labeling systems are very specific to solar power and are everywhere on the system.

Chief Currier spoke of a new label that came out in 2014; 690.56(B). The label has to be made specific to the house. It will tell you where the solar panels are, where disconnects are, and where the circuit breakers and utility meters are. When a Fire Department goes to that scene they know exactly where to go to minimize the hazard because of the issues they come across with solar power.

Councilor Dwyer remarked he hopes there will be a policy for the fire department that as soon as they pull into a driveway and see the home is solar, it should be save life, and after that there should be no fireman ever going on the roof or to cut anything. It should be a policy understanding the danger involved. There should be new protocols on how to attack that fire. Chief Currier stated they have the protocols in place. The International Chief's Association is getting to the IBC and trying to give parameters for these people. In Merrimack they have identified the location of all of these homes, which is being put into the iPads in every engine and will be provided to dispatch so if a call is received for one of those locations it will automatically come up and let the firefighters know what they have before they get there. They are coordinating all of this with the Building Department. He spoke of the quantity of information that is shared between the two groups, inspections that are done together, and the safety applications they are putting together as a result of Building, Fire, and Health working together.

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The fire companies are starting walk-throughs so when the PV cells are put on Daniel Webster Highway at the Funeral Home they walk through that whole system so they understand them. They can do that because they know when they are being built.

With regard to procedures, Chief Currier stated they have always done a 360. Every time they get on scene the officer's first job is to do a 360 of the building to ensure he is aware of what is going on around the building, e.g., is it PV cells, are there solar cells on fire, what type of systems they are, etc.

He provided the example of a home having the appearance of a typical residence from the front, but from the side they can see the labeling, which identifies immediately that there are solar cells on the building. As you go around the back you can see the cells on the roof, and that will tell them how they will fight that fire differently. The example provided showed how the cells on the roof had no room around them, which prohibits access. He stated, as a Chiefs organization, they are trying to get changes in the building codes to allow for 5' down so they can access around them in a safe manner.

Water and electricity don't mix. It is said a 10 degree stream is what they have to use or try to use because it conducts less electricity, but still gives enough water to attack the fire. If it is too big it doesn't do any good. If too small it conducts too much electricity. They are saying 10 degrees from 10-20' away.

Chief Currier reiterated the need for professional installation of solar systems. One thing they try to tell the departments to do is cover the panels. Chief Currier commented this covering is after the fire is out. They have to cover the panels to stop them from generating power when they are going in to investigate, look for hidden fires, and do an overhaul. They said use foam, but foam slides off and in about 10 minutes it goes away. That doesn't work.

A photo was displayed that detailed a system with Microinverters attached to each cell. In that instance, if for some reason they lose power, the Microinverters will shut down and the power is stopped at the array itself. If the breaker is shut down, power is not going to the inverter and they shut down. If power is lost on the line, power is not going to the inverter and they shut down. That is where they want to head towards and where UL and NFPA and IBC are heading towards.

If there is a system having a malfunction and it is shut off at the breaker panel, all he is doing is shutting off the power from those solar cells to the AC disconnect and coming out of the inverter. That is it. If the inverter is shut off, nothing happens, which means there is a disconnect that does nothing for him. If they are able to shut off the disconnect at the combiner, and code doesn't require a disconnect there, they can shut the combiner off, but they are stocked with capacitors so it will take at least 5 minutes for the capacitors to discharge enough to kill the power that is coming out and down to the building, and you always have power from the cells to the combiner itself. A fire will double in size every 60 seconds.

If you start looking at industrial applications, there are combiner boxes and disconnects there, but all of the other wires and tubes are hot. There is power from those solar cells; they are all live. If you have a fire there you don't know where to cut because you cannot tell where they go when they go through the building.

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Chief Currier stated there are gray areas; they say there have to be shut offs, but they don't say where they are, the number of them, and the method involved. Those issues are being worked on.

The UL did testing on firefighter gear to determine if it is sufficient to handle the electrocution or the electric and some are and some not. With regard to alternative lights sources, when the departments arrives on a scene at night they light the place up for safety, but the more light they put on the fire scene the more they are generating through the PV cells. The fire itself, if it is exposed to the cell, will generate power, but the moon will not.

With regard to firefighter tools, when they use axes to cut a small wire on one module they are generating enough power to scar the tools. If you cut through them and the wire happened to be below the roof line, the actual line itself starts burning, and not only will they be trying to put out the fire, but by cutting the line they are creating a fire in different locations. Modules will generate power burnt or not burnt. If you put an ax through a module, and underneath the PV was steel, as soon as you break that plane and ground that steel or have that hot lead on the steel that whole plate becomes energized. How they fight fires is changing.

During one test, a fire started underneath the array. They had to let it break through and break the array so they could get water onto it to put it out. Once they did they tested the damaged array and it was still putting out 227 volts after being damaged and burned.

With regard to inhalation hazards, Cadmium is a Carcinogenic, which is what a lot of the cells are made of. Gallium Arsenide is highly toxic and Carcinogenic. Phosphorous is the worst of the three; lethal dose is 50mg. When they tested the animal population; gave them 50mg per liter in the air, 50% of them died. That is what an LD50 is. The department solved that problem years ago. When they wear air packs firefighters are not allowed to take them off until they conduct air monitoring. They complete air monitoring and venting even before they let investigators go in. What they don't have are sensors that monitor for Gallium Arsenide and Phosphorous. They are very expensive. They will monitor for the specific gases, oxygen level, and CO, and once they get those down to acceptable levels with the ventilation they will assume it is safe.

Some of the UL findings indicated PV systems are going to be an issue and fire departments have to change their operations. You will need staffing and people to do that. When you arrive on scene with a 3-man engine company you may have to start doing your PV work on the ground before attacking that fire; making things safe and when the next engine company comes in they will start doing that.

They found a PV fire is different every time. Electrical shocks are a concern. They found that firefighter gloves and boots provide limited protection against electrical shock as long as the insulation in the loves is not compromised and they are dry. He commented he has never been to a fire where they didn't use water. Turning off a cell is not that easy. Even severely damaged solar cells are capable of electrocution. Personnel that are working around the fire ground have to understand this whole thing could slide off, and when it does if it lands on a puddle of water; they showed one that had 227 volts on the ground.

Chief Currier noted another white paper was done by a lot of the companies that make these cells. They were looking at the longevity of a PV for 25 years. Ten years into it they find that a lot of them

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aren't installed properly. They start to leak and areas start to corrode. They find in a lot of applications arrays miss the stud. If you have these installed, you should go into the attic and make sure they didn't miss the stud. If critters chew the wiring underneath you won't know, and will have arcing underneath those PV cells on your roof, which could generate a roof fire.

With NFPA70, the IBC and the International Fire Chiefs are getting the training out and taking precautions. No fire personnel have been killed in this type of an incident.

Town Manager Cabanel questioned what would occur if a home in Merrimack having solar panels was on fire. Chief Currier responded they go around and do their 360, plan on determining where the fire is and what is involved. They kill the power at the combining box if they can, and then try to isolate where the fire is compared to where the solar panels and the power coming down is if possible. If they can't do that, then they have to adjust their tactics accordingly. That is where they are right now in their training process.

He stated tactics will change when there are PV cells. They will not, not fight the fire, but they will not fight the fire if it will endanger firefighters' lives, but if there are lives trapped in the building they will go in and try to rescue them because that is what they do. If there are people trapped they will make a high risk to get in there and save them. If there is nobody trapped, he would not risk firefighters to save a structure.

Town Manager Cabanel commented if a regular house with a regular roof is on fire and there are no lives at risk in the home, the department would put the fire out, and if there is a solar system attached to the home there is a lot more assessment that needs to go on while the fire is burning. Chief Currier stated that to be correct.

Town Manager Cabanel spoke of the information that had been provided and commented the point of providing the information to the public is to raise awareness that the firefighters cannot conduct themselves as they normally would, and it could be at great risk to the firefighters' health in terms of being shocked and the substances that are being emitted, etc. She remarked she was looking for the Chief to explain the circumstances they would be faced with. Chief Currier remarked it is hard to answer that specific question because it depends on the tactics. If the fire is in the first floor of a two-floor structure and the solar panels are on the roof the hazards and the potential for those solar panels to be affecting them on that first floor are slim. You get there, and have to look at the situation.

Chairman Harrington questioned, and was informed an electrical permit is required to install a solar system. The Fire Department will be aware of such permits. Chairman Harrington questioned if the Chief is aware of insurance companies raising rates as a result of solar systems, and was informed they are not. Councilor Dwyer commented there are a lot of people throughout the country that are handymen, engineers, electricians, etc., and are doing a lot of these as homemade projects. They may be getting the permits, but a lot of people are coming up with their own components, etc., which is something the industry avails itself to. He would rather the Council dictate the policy of first save the life, but if there is an attic fire for example and there are solar panels on the roof that the policy should be to let it burn. He would not want firemen tackling a fire at a house that is powered. It poses dangers from all directions. Residents having solar systems should understand there is an elevated level of how the fire department can respond to a fire at their home. Chief Currier stated that is

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correct; it is based on the tactics when you arrive, depending on the location of that fire. That is training your fire officers to make that decision, and that is where they are right now.

Councilor Koenig remarked he does not mean to denigrate the importance, but he believes it needs to be very clear that these systems are not inherently dangerous except in the area of the system itself. Attacking the outside of the house or attacking the roof of the house is where you would find the largest increase in danger. As was stated, attacking a fire in a basement or on the first floor or even the second floor if not underneath the roof is probably not any increase in danger to the individual if trying to get an individual out of the house, etc. There are parts of the house that are at risk, there are issues that need to be understood, and you shouldn't attack a solar array to try and salvage it or salvage the roof underneath it, but you should still do your job to save life and limb, and if you can, save property. He remarked the Chief knows, and has been training his people to be careful and not put themselves in harms' way unnecessarily.

Chief Currier stated that is the case with any fire. He reiterated solar panels are good things. It will help our environment, help the individuals, etc., it just needs to be understood there are some inherent hazards. There is the need to ensure they are installed correctly, get the permits, get them inspected, and then every year have them inspected; make sure there are no squirrels underneath them, make sure the grounds are not starting to corrode off. That is all fire prevention.

Councilor Dwyer suggested it to be human nature that people won't get them inspected on a yearly basis. Chief Currier remarked he would hope that the solar companies will begin to offer a service to their customers that every year for whatever period they are inspected.

Vice Chairman Rothhaus commented these are all things that should be contemplated, but he thinks squirrels aren't going to generally go up there unless there is something blocky enough to make a cozy place. The Fire Department in particular has to be aware of the issues discussed, people should know about it, but the chance of a fire, because the building code is what it is, is low. An inspection would be a great idea and probably should happen annually at least. It can be a problem, and the knowledge aspect is going to be the biggest benefit of all to everyone concerned. He does not believe it will be a raging disaster for people that have these systems. Chief Currier remarked he did not try to portray that. Councilor Koenig commented he thinks some of the questions coming out imply that. Chief Currier commented in ten years you will likely see that 50% of the residences in the community have some type of solar system. The object is that on the onset of this they want to ensure the Fire Department has the training and education on how to handle them correctly and understands the tactics that are involved in it, and the homeowner understands that if they don't maintain the system there may be some alternatives to that fire going out.

Councilor Boyd commented the National Fire Protection Agency issued a report in July of 2016 entitled Development of Fire Mitigation Solutions for Photovoltaic Systems Installed on Building Roofs; Phase I. It is just beginning to scratch the surface of how fire departments need to be attacking this particular problem. In the context of reading it, some of the notes he made; solar arrays for all intents and purposes are relatively safe. The only time you have a problem is if they are improperly installed, you get faulty wiring, or there is insufficient insulation up on the roof that allows that particular area to be able to breathe. That is the only reason why these things would catch on fire. There are two ways to approach it. We recognize that there is a problem with this so you either take

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the approach that you regulate it and you regulate the heck out of it or you allow people to do as they see fit and they understand that with this particular choice there is a potential consequence, and the consequence is that the Fire Chief and his team will make a decision as to whether or not they will be able to save the house. It should be that simple.

Vice Chairman Rothhaus stated he has always been of the belief whatever you want to do to your house is your business, and the buyer that wants to buy from you should be aware of what might be in your house. He stated his understanding most of the systems being installed at this time are not owned by the homeowner; it is a lease agreement. It was stated a good many are lease agreements. Chief Currier stated what happens is that lease agreement goes with the house. Vice Chairman Rothhaus remarked he imagines there is some sort of responsibility/culpability placed on the company to ensure the system is maintained. Chief Currier commented that he is why he suggested when hiring a company the homeowner review the plans and ensure they are stamped by a professional engineer, they have explained the whole system, and if they continue to have questions that they visit the Building Department to get them answered.

Councilor Boyd asked for clarification the Town is not sending a Building Inspector to homes having solar systems to check on anything. Chief Currier stated the Town sends the Building Inspector out to check the electrical, because that is what we are permitted to inspect. By building codes, we don't check the arrays and how they hook it. We do, but there are no codes that say that. Councilor Boyd asked for clarification if someone were putting an addition on their home, they get the building permit, and if they wanted to slap an array on the roof of that new addition, inspectional services will not ignore that particular part of their review, but it is not exactly included. Chief Currier stated the electrical is based on a permit so if an individual pulls a permit to wire their home and they decide to put a solar array on it that permit covers that array, but the inspection now follows those rules for that array. It has to be inspected and signed off.

Councilor Dwyer suggested it would be beneficial to have the presentation on the loop for the community television station.

Councilor Koenig noted voltage itself is not particularly dangerous, it is power that you are worried about or amperage and current that actually flows. Just saying voltage is a problem is a little misleading.

## **5. First Quarter Financial Update**

Submitted by Finance Director Paul T. Micali Finance Director Paul Micali will review the key financial information of the quarter ending September 30, 2016.

Assistant Town Manager/Finance Director Micali stated the factors that are looked at are health insurance, New Hampshire Retirement System, overtime, revenues, and overall appropriations for the Town.

Health Insurance - the Town is down about \$18,000 from last year, a large portion of which is due to the plan changes that were made and the resulting savings. There are four groups on the new health insurance, and two more will be coming on in January. Additional savings should result in the 3<sup>rd</sup> and 4<sup>th</sup> quarters.

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New Hampshire Retirement System - The Police Department had a slight increase (approx. \$40,000). At this time last year there were two vacancies, which accounts for some of the increase. Another aspect is some of the raises that took effect. The increase is in line with what was projected. The Fire Department went up about \$60,000, which is a three-fold jump; raises were put in place for Supervisors, a Paramedic scale was created, and overtime. The Town budgeted for an increase in overtime. The number is slightly higher than what was projected, but can be explained in the overtime numbers.

Overtime - for the Fire Department there have been significant members of the staff that have been out due to work-related injuries (months). About 44 shifts had to be covered due to that alone. There are two vacancies in the department at this time as well, which need to be covered. However, the vacancies do result in savings in the salary line. When asked, Assistant Town Manager/Finance Director Micali stated there has been some forced overtime because of the amount of shifts that have to be covered in a week. The positions are those of firefighters and paramedics.

It was noted the Fire Chief will be before the Council to provide detailed information. Town Manager Cabanel remarked, regardless of whether this year is an anomaly or not there is the need to make decisions relative to staffing levels. There is also the need to make decisions relative to how to address the remainder of the current year should the situation continue. She touched upon the possible option of contracting with a local ambulance company. Vice Chairman Rothhaus remarked when that meeting occurs, that is an option that should be looked into as well as the possibility of utilizing retired employees on a temporary part-time basis. Town Manager Cabanel stated the Town has, in the past, hired temporary help for the department. She commented that was at a time when the unemployment rate was higher. At this time, there is a high demand for firefighters and particularly paramedics.

Councilor Boyd questioned how close the department is to exhausting the overtime budget, and was informed there remains approx. 40% or \$161,000 of the overtime budget. Town Manager Cabanel pointed out there is an equal amount of savings in the salary line.

Councilor Dwyer stated his opinion this is not an aberration; the problem will continue. He does not like forced overtime in the private or public sector. He did not like the overtime budget last year, does not like it now, and will not like it in the future. The manpower is key. If you have 40 employees and they have 4 weeks of vacation you are always short.

Vice Chairman Rothhaus responded this is for the future discussion of the budget. As long as it is recognized that to make up that manpower there is an added cost then that is fine, but it is not going to be a savings. Councilor Dwyer responded it may be an added cost, but he is going to believe that the overtime budget won't be half a million dollars anymore either. Vice Chairman Rothhaus responded the salary budget will be even more than that. Councilor Dwyer stated it will cost more to hire four people, but in the future, those four people will bring down the overtime budget. As far as employees being out with injuries, that will always be a concern. Vice Chairman Rothhaus remarked if you look back at the history, this is an anomaly. Councilor Dwyer responded if you look back over the last 5-6 years the overtime budget has done nothing but go up year after year. He does not believe the situation is an aberration. Councilor Boyd stated his recollection the Town Manager's first budget reduced the overtime budget. Since that time, it has increased.

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Councilor Flood stated her belief there would be a better quality staff if we had more employees and less overtime, particularly in the fire department where their job is so physically demanding. Councilor Dwyer spoke of the impact forced overtime has on morale.

Town Manager Cabanel requested the opportunity to conduct the analysis and provide the information. She will provide a proposal the Council can agree or disagree with. All of the issues that have been raised are issues that will be discussed as there is a concern for safety.

Revenue - Interest revenue has increased by approx. \$10,000 since this time last year. Interest rates are starting to grow slightly. Building permit revenue is up by about \$15,000. Auto registrations are up by \$25,000. He cautioned the amount was raised in the budget as it was seen year after year that the amount was exceeding expectations, but auto registrations will also be tied to the increase in interest rates. If interest rates rise that means you pay more on interest per loan and people will not be buying the new cars any longer. Chairman Harrington questioned, and was informed information on leased cars versus purchased can be provided during the budget discussions.

Appropriations - there are sufficient appropriations. Through the first quarter about 68% of the budget remains. There were large contracts that were let out at the beginning of the year, e.g., over half a million dollars or 40% of the Solid Waste budget.

Councilor Flood questioned if the large sewer users are all up to date in payments, and was informed the largest is, and pays every 75 days based on their contract. There are others that are paid up front. They rarely have anyone who is more than 30-45 days overdue on a bill. He noted the sewer bills are split two different ways; the Tax Collector bills out part of it, and the industrial gets billed out separately. The industrial users are mostly up-to-date. There are a few that phone calls are made to. Residential gets paid through the tax base as well as a few others.

**Minutes** - None

**Comments from the Press** - None

**Comments from the Public** - None

**Comments from the Council**

Chairman Harrington reminded the viewing audience there are three polling locations, and residents should be sure they are aware of their designated polling location. Polls are open from 7:00 a.m. to 7:00 p.m. Absentee ballots will be accepted until Monday.

Councilor Koenig noted as the Moderator pointed out last week, and in accordance with State law, no one will be allowed in the polling areas wearing campaign shirts, buttons, carrying signs, etc.

**Adjourn**

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**MOTION made by Councilor Boyd and seconded by Councilor Dwyer to adjourn the meeting.**  
**MOTION CARRIED 6-0-0**

*The November 3, 2016 meeting of the Town Council was adjourned at 10:06 p.m.*

Submitted by Dawn MacMillan