

Minutes
Watertown Board of Education
Facilities/PBC/Operations Subcommittee Meeting
Monday, November 09, 2015 – 6:00 p.m.
Watertown High School
Lecture Hall

Members Present: Tom Lambert, Chairman of Facilities/PBC/Operations Committee
Jim Gambardella, Committee Member
Janelle Wilk, Committee Member

Members Absent: None

Others Present: Leslie Crotty, Chairman, Board of Education
Dr. Bridget Carnemolla, Superintendent of Schools
Jill Browne, Business Manager
Ray Ceniccola, Facilities Manager
Vic Vincenzi, Member, Board of Education
Rob Makowski, Member, Board of Education
Cathie Rinaldi, Member, Board of Education

1. Convene Meeting

Mr. Lambert, Chairman of the Committee, convened the meeting and immediately turned the meeting over to Dr. Carnemolla.

2. Discussion on the following items:

Generator at JTPS	Facilities Needs for 2016/2017 School Year
Future Project List	Lighting Efficiencies
Judson Elementary School Tree Damage	

Dr. Carnemolla – We have had several facilities meetings before tonight, but at this point in the year I wanted our team to have a chance and discuss with the board some of the outstanding projects that are left on our needs list. I would like to also talk about capital improvement, the generator situation at John Trumbull, and also lighting efficiencies. We will also talk about the budget and the needs going forward of the facilities but I would like to change the agenda a little bit as we have two gentlemen that are here tonight to have gone to the schools to take a look and see what we have in place and look at energy-saving solutions in the areas of lighting.

Representative – Thank you. I am here to talk to a little bit about who we are tonight, Green Leaf Energy Solutions, who the program is and how the Eversource program is run for municipalities. I've also here to answer any questions about the opportunity that we have put together for the five schools.

What happens is that a small percentage of every bill from a residence or business, three mills or 3/10 of a percent, goes to a conservation and load management fund. That fund collects with the public utility commission and they give that money to Eversource. The amount Connecticut is about \$80-\$90 million, and is given back in an effort to reduce the need for additional transmission lines and generation plants, etc. They take that money each year from simple programs like a direct rate, right of the whole rooftop units to change your whole HVAC system. That is a renewing program that has been going on for 15 years. Myself and my team have been involved in this for over 15 years but we are based right here in Oxford, Connecticut although we do travel around the United States.

So we got together with Ray and assessed five schools and look to all of the opportunities existing that were not already best in class LED. There are some LED lights but the majority of the schools are still the fluorescent lights and incandescent light technology. These are very antiquated lights. We collected all that data, how many light fixtures in every school, how many hours in the day they are operating, what are the functional requirements of that light fixture, where everything we are doing here is going to enhance the lighting quality and quantity and in no way are we giving up functionality or savings. We shared with Eversource the analysis that we did and created a schedule school by school, room by room, what we would do for each school. Based on Eversource's approved products and resources, we put together a schedule to retrofit or replace into the five components for you. The proposal produces the top line number to do the project, and incentive from Eversource, which is just north of \$.30 per kilowatt hour saved, plus the net cost. The proposal then shows you the kilowatt hour savings and if you multiply that by the current electricity rate you will see the annual energy savings. You will see the proposal and comparison of the net cost and how it compares to your savings. In this case, if we plant all the projects together and look at the total project cost, divided by your total project savings, you have just under a three year payback. There is a 33+ percent return on investment. They also complemented with an on bill interest free financing mechanism, which you are able to approve for as a municipality, and they let you pay your remaining portion after the incentive, back as you save. Therefore it creates a cash flow positive scenario right from day one. It is all subsidized down to 0% and it all comes out of that same fund.

The next step for us, on your behalf, would be to apply for the incentive with Eversource. If you look down at the summary page, each of the five schools is listed and it is added up and has a combined project total of \$1,037,000. With the proposed incentive, of an estimated \$347,000, the town's total net cost would be \$690,000. That net cost is divided out over a period of time long enough so that your monthly savings and maintenance savings, will help you save even more. That is divided up over 36 months by each individual project so each project is for itself in the same time while saving money. The details follow in your booklet, each location, and the pre-existing locations of the lights, the post retrofit, and see where everything would go by school. So once we apply for this in your behalf, we would get a letter of intent back, and want

to see that letter and executed, is when we could actually begin a demo process. We would also than wait to order everything until that process has begun. These are all of our own license crews that would be working it would not be subcontracted out. We do primarily schools and healthcare centers.

Mr. Lambert – Q – You said ballast and bulbs. Normally the usual problems are with the ballasts, correct? **A** – Well LED's don't use a ballast. The piece in this that his new one not use a ballast. And LED is an actual circuit board and is directly hardwired. In a case where we may need to retrofit a fixture, we would take out an existing ballast and put in a new one to make sure you have no problems and then we can guarantee it. **Q** – So you are not going to change every fixture? **A** – No, some will be retrofitted. **Q** – Lighting intensity is measured by lumens, correct? And when they put new lights in the school, they measure with a certain centerline distance and height from the floor to get the effect of lighting area. Has that been looked at on this changeover? **A** – Yes. And when you do a lumens measure, you do it 30 inches off the desk. That is an industry average.

Ms. Crotty – Q – Are there school districts in Litchfield County that you have already worked with? **A** – The closest school we are working with right now is Taft, only about three quarter to the way through with them. **Q** - Are there various categories we would fall into for weighing these types of emissions in terms of being green in our school system? **A** - If you are trying to get Leed certified, this would be a huge adder to that, in terms of being considered in an energy saver. To become certified as a very intensive process, and is a great certification and that is going a long way to getting you towards that, but there is a lot more you would have to do. **Q** – Where does your source of revenue come from? **A** – The way this program works, it that everything goes out to bid. We then become approved contractors for Eversource, and they take the aggregate of the mass at the package they then take a fair average price, and they make all the contractors were on the price. That is called their preapproved pricing. The profit margin is read into that to inspire companies to do this business.

Mr. Gambardella – Q – It went a little over my head, LEDs don't need a ballast? But then I thought you said if you are replacing some they will need a ballast? **A** – Correct. While and LED does not need a ballast to function, we have ballast compatible fixtures so if there is already one in line, you don't have to hardwired that fixture.

Mr. Makowski – Q – Does this include parking lot lights? **A** – It includes 100% of everything inside and outside of all five schools. **Q** – How about the football field? **A** – No. The hours of operation do not make financial sense for us to change that.

Mr. Vicenzi – Q – If this were to be done, when would you do the work and how long would it take? **A** - We talked about that with Ray, what we want to do is get the application into Eversource, and it takes them about up to six weeks to get back with a letter of intent, we would execute the letter of agreement and send it back to ensure the funding. At that point, we would order materials and probably talk about scheduling a launch sometime around March or wherever you have a break. Somewhere around the end of the first quarter. Much of the work can be done when the children are not here, but we would probably like to schedule a summer we had about a week to get to the top to access areas.

Mr. Lambert – Q - How long would it take you to do it? **A** – So we could probably turn the whole thing about two weeks of Nola was here, however, to work with a small crew see you don't know we are here and we are seamless, I would say a about five weeks. We would run a couple of crews and to all five schools the same time, so about 5 to 6 weeks. **Q** – And you have the proper equipment? **A** – Yes. We own all of our own.

Dr. Carnemolla – Moving along, it is not news to anyone that the generator at John Trumbull has not been working. We are still in need of a voltage regulator that has proven very elusive to find. In the meantime, Mr. Ceniccola has found a viable solution. And, so we don't have to keep coming back to me, you know that in the budget process last year, we were coming from place for the facilities budget had been cut to zero for many years. Last year, we had a discussion with the poor throughout the budget process about what we saw is most fundamental projects to get done. This year, moving forward, I wanted to be able to use tonight's facilities meeting to catapult us into the budget discussion so we are all on the same page with what projects are outstanding and we all understand our needs and how they are prioritized. Again the needs are long, but we need to decide which ones we will tackle in this year versus future years.

Mr. Ceniccola – We had a problem with the generator at John Trumbull. We've pretty much looked under every rock including the Internet for this missing part. At the end of the day, it just did not pan out for us. So the options became either replace the generator, which is about \$65,000, or look at some lease options or rental options. During that time, we have the kickoff meeting at the high school to install the Co-Gen unit in the boiler area. During that meeting, I mentioned to the engineer that we had this problem and it would be awesome if we could use this Co-Gen unit has some sort of power source for our backup needs. He looked at me and said, "Oh yes we can do that". They worked diligently over the last four or five days and provided us with some information. The solution has changed a bit, for the analysis that they did determined that a single unit wouldn't work or be cost-effective. So they put together a package providing us with a Co-Gen solution as well as a backup generator which would be a separate replacement generator. That is included in the package at no cost with the program. So the solution we are talking about tonight is a Co-Gen unit installed at John Trumbull that will serve to effectively energy at the school but also at the same time they will replace the generator and it will give us the ability to own the generator with this particular program at the end of 10 years. Let me explain what the Co-Gen does. Any motor basically generates heat. And what they do, is that they capture the heat to the water jacket and introduce that he into the water in our school. That will supplement what the boiler produces for hot water. It doesn't totally eliminate the boiler function but it will reduce the amount of time that we run the boiler. It also provides hot water within the loop to lessen the need for the boilers to run all the time. The generator will run typically about \$8300 a year producing hot water, which produces the hot water we need to keep the building. The second part of that generator is that it generates electricity. In some cases, they sell the electricity back to the power company or they will just introduce it into the building itself and lessen the amount of power that we need in the building from the commercial source. In this particular package that's what will happen. It will reduce the amount of power necessary at John Trumbull by about 25%. It will generate power by the way of natural

gas. The target date to get this started, provided the board is in agreement with this, is to start at the beginning of next year. It is important to get this in place and the company has gone as far as to put in an option for us to provide a lease option on a generator until the program starts. They will absorb that into the cost of the program. It was our goal to lessen the replacement cost of the generator and I think that we have found an opportunity here that we seriously have to consider to provide that backup generator at the school. The boilers need to function, all day every day, we need emergency lighting, and the town has installed antennas for their radio system and without backup, they would have to have other means of communicating with their crews. It is very important to have a generator at that particular school.

Mr. Lambert – Q – So that I am not confused, we will have a Co-Gen unit that will run the school? **A** – No. It runs 25% of the power at the school, not the entire school. **Q** – So it will save us a 25% reduction in electricity? Which is their form of payment? **A** – Yes. **Q** – The generator they are going to supply with this unit, the second phase that is a regular generator? **A** – Yes, it is a diesel generator just like we have today.

Ms. Crotty – Q – Is it providing the energy we need to run in an emergency? Like some of the heat and some of the lights? Or is it to provide electricity for the entire building? **A** – It will provide electricity during the course of the normal day of operation. If we were to lose power, the backup generator will be used to support the emergency means of the building. All of our generators today are designed for emergency purpose only and will not run the entire school. **Q** – Does it change the footprint in terms of size or fencing? **A** – It is exactly the same. The generator goes where the existing generator is and the Co-Gen unit will go in the boiler room where there is ample space for it. **Q** – So that I understand, as opposed to spending \$60-\$65,000, on a new generator that we have to purchase, out of this year's budget that we did not intend and having to pay for, and now we have this new option with Co-Gen at no cost? **A** – Correct.

Mr. Lambert – Q – What is the warranty with this? Do we maintain that? **A** – No. They maintain it. They service it. It is all inclusive for 10 years up until we own it. There are very many options we have about what we want in the future.

Mr. Gambardella – Q – Does this replace the boiler too? Does it run on natural gas? **A** – No, it does not replace the existing boiler and yes, it runs on natural gas. It heats the water that provides the heat for the building.

Dr. Carnemolla – I will let Ray go through the needs of the 16/17 school year. I think, perhaps, we should start with some of what we have been discussing as the most essential. The things we know we are going to want to recommend for this coming year's budget.

Mr. Ceniccola – I will skim over some of the things we may not be able to consider seriously and that would be the central office improvements. The building itself is in need of a multitude of improvements including the ADA compliance. Getting back to John Trumbull, there are some important things we have set aside, and some of the things we have to seriously start to consider. One is the BMS system. That is the building management system which is the brains of the mechanical and electrical systems. All the buildings currently have a system to monitor the mechanicals, anything that has to do with the energy environment or the environment in

general, and is constantly telling us the condition of that. During the renovations of the buildings, all the buildings got new BMS systems except John Trumbull, which is 16 years old. We found out about a year and a half ago that it is at the end of life. That means that if the unit were to fail, the likelihood of being able to find parts for it would be problematic. We will need to do something about this. We don't have to retrofit the whole building, but we do need to get the "brains" of it retrofitted. I asked Train to provide us with the cost of that and we are looking at about \$23,000. That is the replacement and a web-based solution that will allow us to monitor the building remotely just like we can't say with the rest of the schools. It also allows us to control the environmental's remotely.

Dr. Carnemolla – Just to be clear, if the BMS fails, there is no heat at John Trumbull. And just to put in perspective, I learned what it meant on a school visit last year, where there are a lot of complaints about where it is hot or cold, and I went downstairs to learn about system. He fired up the BMS system, and just so you understand, it is a yellow and brown old-school monitor like we had when I was a little kid in school, and it turns on and DOS starts to run. That is the only computer that runs that system and we have to leave that system on the computer because it's old enough that it can't run on any new computer system. So if you look at it from that perspective, even if that computer blows up, we have a problem. The catastrophic failure like that in the middle of winter, means it's not just the replacement cost of the system, now it's the emergency calls associated with replacing it.

Mr. Ceniccola – So that is priority one at John Trumbull. We do need to continue on with sidewalk replacement as there are some trip concerns. We certainly do not want to deal with insurance claims. If you walked driveways in the parking lots at John Trumbull you'll begin to notice there is significant deterioration that we need to stay on top of until the time is right to start considering full replacement. We have addressed the most significant need so far, but as you start to work around the corner you see that there are many more areas that need work. Safety is our number one priority. One last thing to talk about is the clocks. We have hardwired clocks in place today. Over the year they had failed and replacement is expensive. We are at a point where more than 60% of the clocks are no longer functioning. When we upgraded the other buildings, we put in battery powered clocks synchronized by way of wireless technology. We need to introduce that at John Trumbull as well. It's not a big dollar amount, but something that is definitely important.

Dr. Carnemolla – I would also like to add in that I know some of you may be thinking, it's a clock, a \$10,000? It's not only about knowing what time of the day it is. It brings a whole host of issues up when clocks are not synced, especially a school and the size of John Trumbull. There are bus schedules to be kept, it is not like high school where bells ring every period, they run their classes by the clocks on the wall. They must all have the same time so they know what time to pass to specials, to lunch, in from recess, and when you have 760 kids from the ages of 4 to 8 years old, it has to be controlled as to what time it is on the clock or it is mayhem. There are also contractual concerns where a clock in one room says this in a clock and another says that I can be losing 10 minutes off of my lunchtime. It is an essential function of the school building that all the clocks are synchronized.

Mr. Ceniccola – So moving on to the high school, the field lighting control is going to have to be addressed. Most districts have moved on to a remote system which would give us the ability to program the field lights for various times the day. We will need to roll the trucks out for every event to turn them on and then turn them back off. We are using circuit breakers and switches, which is the worst thing ever. If you were ever to stay near 400 amp main breaker and listen to it scream you would then agree with me that \$16,000 is a small price to pay to replace the antiquated system. It was in the last two years with budgets, and of course during the vetting process we cut it out, but I'm bringing it back up again because it's very important. Moving on to the Bobcat utility vehicle, if you look at all of our schools, most of them already have Bobcats, for snow removal and other things, except for Judson. At Judson we have guys out there and back pushing snowblowers and after four or five years with two and three feet of snow, I think we have to give them a fair shake. We have guys that are driving around in zero turn mowers to move materials back and forth from the back of the building to the front of building. That is not what it is designed to do. So the solution is to get ourselves a Bobcat utility vehicle with some attachments, replace the current one we have, and it will serve our needs as far snow removal and everything else that we do and take of the one we have here and move it up Judson to that they can effectively do what they need to do. Lastly, it behooves us to start thinking about the mid and long term range projects that this district is going to run into at some point. In particular, turf replacement. They only have a life expectancy of about 15 years depending on how aggressively on the fields. Ours get a lot of use. We have the track that was resurfaced back in 2009 and if you walk the track now, you can see signs of wear. Those two projects are very capital intensive. We're talking hundreds of thousands of dollars to replace them, but we have to start considering it and get out there and preach that we need this money. Maybe not today, but in the very near future.

Ms. Crotty – Q – This comes up almost every year. So here we are, two years later, talking about the pitfalls of the track. Has it gotten worse? Have you seen more depreciation of the material?

A – Yes, I talk about it every year, and yes every year gets progressively worse, but I think the last three or four years of weather have created a more problematic issue for us. If we have another winter like we had in the last two, it could be that.

Mr. Lambert – Q – The resurfacing, is that a complete tear up? Or is it an overlay? **A** – Typically what they will do is strip off the resilient surface, but the asphalt should stay there. If there are repairs to the asphalt, that they will do them and then put the resurfaced on.

Ms. Rinaldi – Q – What about the turf? Do you take that all off and totally replace it? **A** – Think about the turf is a big carpet. It's Warren and we need to put anyone down. Underneath there, is about 3 feet of gravel for drainage purposes. So they take the turf and roll it all off.

Mr. Ceniccola – What we do is have the companies come out on an annual basis and take a look at them with maintenance and check with the warranties. They will come in and take care of the issues with it, but at some point in time even that's not going to work anymore. I would like to provide you with long-range forecasting that will include the dates they were installed, the resurfaced states, and how long we anticipate they will last, and then evaluate them based on the current conditions. Hopefully we will get the 15 years out of them.

Mr. Makowski – Q – you noted earlier with the central office roof replacement, are there any other buildings with the roofs that may need to be replaced within the next couple of years, or it life expectancy? **A** – Again, we can go back to John Trumbull, I was just up there about a week and a half ago, and the pitch roofs are in relatively good shape, and we should get about 30 years out of those. It's the flat roofs we have concerns. You have built ups and while you'll get 20 years out of them, but based on what were running into with weather conditions and are still sounds a bit having, it may impact the condition of those roofs. When we need to replace them, that will be a very costly measure and maybe bondable. If there's a red flag that needs to be sent up, believe me, I will.

Ms. Crotty – Q – When it comes to the central office, I have an understanding that there are some major issues with in that building. And knowing that we are in sort of a hold pattern, on any major things, while we decide is a town what we're going to do in terms of where we will be located, I'm wondering if there's a list of things that we have to do even knowing that we may be moving? For the safety and security of the people that are in the building right now, so that we can begin to start thinking about how we measure what needs to be done, and what our priorities? **A** – I think the two things that we need to address are the roof and the boiler. We got to keep them dry and we have to keep them warm. That boiler is on its last leg. We walked into that building every day wondering if there's going to be heat and that is not a great place to be. Regardless of what happens that building, it's always going to have to be dry and its always going to need heat.

Dr. Carnemolla – The price that you have in the packet we sent home is the complete overhaul of the HVAC system. But the other piece is, if we didn't do that, and we only replace the boiler, that prices different.

Mr. Ceniccola – Yes, what we intended on doing was, we looked at it as we were going to be there for the long term. So it wouldn't only just be heat, it would be air-conditioning too. If we want to avoid that kind of cost, then we would look at just replacing the boiler. It is a hot water steam system with electric baseboard heat scattered throughout to support the needs of certain spaces. So it is not as simple as just changing out the boiler and we are done. So if we carve out just putting in the boiler, it would be about 20 or \$25,000.

At the very end of this, I included the situation up at Judson which was the tree that decided it wanted to fall. It fell on Sunday morning sometime, and caused minor damage to the building. It turned out, after we removed it, about 60% of the center of the tree trunk was gone. We believe it was because, when they renovated building, they cut some of the structure to put a wall in. From there it was probably starved from its nutrients. The problem is, the next she over, which is an even larger tree, is leaning towards the building. We have noticed some cracking in the ground which tells us that we need to remove it. Now we are trying to plan on when we can get that done. It's not a matter of whether were going to do it but when we're going to do it. Again, the damage was not too bad we only have a few holes in the roof structure which we can take care of and did. It will cost is \$2000 to remove the tree that fell in another \$3500 to remove the existing tree before it causes more serious damage because it's a bigger tree. It'll be another \$300 to grind the stump.

Dr. Carnemolla – Just so we are on the same page to wrap up, I would say going forward, the Co-Gen unit, what has to happen next, and the lighting system. Where do we go with that?

Mr. Ceniccola – Yes, so that we are on the same page, I think that those two projects are important, and are there more discussions that have to happen before we move forward?

Ms. Crotty – I think it would be nice if board members had more time to look at both projects, as I know we receive some of it in our packets, but tonight we just received a new report on the unit and some of us do not have the electronic file yet on the lighting system. I think when everybody has had a chance to digest it all, we will come back to Dr. Carnemolla and go from there.

3. Adjournment

Mr. Lambert adjourned the meeting at 7:19 p.m.

He then called for a motion to adjourn.

Subject: Motion to Adjourn

Motion Presented by: Ms. Crotty

Motion Seconded by: Mr. Makowski

Motion Passed

Respectfully submitted by,

Mindi Davidson

Recording Secretary