Lower Saucon Township
Pension Advisory Committee Meeting
Meeting Minutes March 8, 2017

Roll Call: Present – Chris Capp, PSAB, Tom Schatzman, Morgan Stanley, Chuck Friedlander, Municipal Finance Partners, Leslie Huhn, Township Manager, Lou Mahlman, Chris Leidy, Molly Bender, Priscilla deLeon Via Phone, Cathy Gorman, 11:05 AM

Absent: Mary Curtin

1) PSAB Update – Chris Capp
Joe Scott could not be here. I brought in Tom Schatzman to update us on the investments and I will have some closing comments on our trustees and what they are up to. Priscilla wished Joe well in recovery. Chris said that Joe does send his regards and he does enjoy updating this board has he does. Chris said just a quick update the MRT reached $260,000,000.00 in assets we are in our 44th year of operation. PSAB is in its 106th year of operations, so we have been going strong; our clientele has really expanded across the Commonwealth. We are really proactive in briefing all of our members across the Commonwealth. The trustees will meet again in May. We have Tom Schatzman here and with his partner Jeff Herb, we will brief them in early May. They have been hard at work looking closely at our portfolio. We are just glad to have Lower Saucon as a part of our Trust. The Trust continues to grow and we have just about expanded in every county across the State. Tom is here to do an update on our operations and our portfolio, which I am happy to say, is progressing quite well.

2) Morgan Stanley – Thomas Schatzman
The market has been a little bit strange. So I am going to spend a little time on what is actually going on underneath the surface of this market. Referring to his handout, Tom said he won't spend too much time here but he does want to go over some of the things they are looking at when we are managing the assets, and looking at the particular piece that influence the way we are managing the assets. One of the things that you do not necessarily see in the headlines is that the market still pretty slow but it is improving. Year over year we are on the surprised upside numbers that we have been getting. It is not just this country, it is globally. It is led by old industries which is great for Pennsylvania. This is an old industry state.
It's not being led by technology it is being led by energy. It is being led by cyclicals and financials. That is old economy stuff which is nice to see for a change. On page three you will see that earnings have been following some of these moves in GDP. Again, our earnings have been up in that 6 to 7%; year over year range. Japan similar increase, Europe you can see a kind of U-turn from 2016 to 2017. We do have exposure there, it is not a lot, but we do want to be there. And emerging markets are finally turning. These are two markets that have been held back in recent years. Listening to the news you would think Europe is going to fall into the ocean, it is not quite that bad. And in terms of pricing on page 4, is the market expensive; is it pricy? It is certainly not cheap. If you are buying S&P 500 right now you are not buying at rock bottom bargain prices, but you are certainly not buying prices that we saw in 2000, 2007 and 2008. We are right on trend as to where this market should be trading. We do think this market has a little more room to run. One of the things that we are going to be talking about next week and you are seeing on the news, is this Fed rate increase. They will do it. It is not a big deal. There is a 92% chance in the future's market that it will happen. If we look at how much that will hurt, it really won't hurt. We will absorb it. The market is ready for it and interest rates are still very very low. So if the Fed goes from .375 to .675 or .55; whatever they want to target the rate at, it will still be very very low. Typically we see cash at rates that funds where the inflation is. Inflation is at 2%. Normal rate would be 2; we are still going to be at ½ of a percent. It is still very conducive to cheap borrowing. Since the election, if you take a look at the companies that have done the best and they have been high data stocks, risky stocks, which always move higher or lower much more quickly than the rest of the market, they are

up 18%. Deregulation stocks, banks, have moved a lot. It seems that the market is buying into the whole notion of deregulation. What the market is not buying into is tax reform. Those stocks haven't moved that much. So the market is saying that it doesn't believe it. The second thing is infrastructure. We really don't believe that one. You know in this room that infrastructure is local. The Federal Government does not come in and say we are going to build a bridge in Lower Saucon; we are going to build an airport. You decide that on your own. So the notion that the Federal Government is going to provide infrastructure spending is a bit of a stretch. What they could do is infrastructure banks; build America bonds again that can be issued locally. There are things they can do but they cannot make the infrastructure happen. So those stocks have not moved as much and rightly so. The thing about corporate taxes on page 7 is that it is not that much. It is our taxes; our Social Security and Medicare taxes are what pay the bills. Corporate taxes ok fine if they come in but it really is not that big of a money maker for the US Government. Those stocks are not moving because of that. The big key in corporate tax reform is to stop is the inversions. Stop US companies from moving overseas to get a cheaper tax rate just to save some money. That is what the tax law will hopefully do is to keep company in the states and not in other countries where they end up domiciling. That is the true corporate tax reform. The Trump tax plan is on page 9 to the right. We consolidate the all the individual income tax brackets six to three. That is 1.6 trillion out the door. Corporate tax cuts will be 1.7 trillion. Capital Expenditures about a trillion, Cap gains ½ a trillion, elimination of AMT, credits and deductions and estate tax gift tax that brings 2.4 trillion in to the United States in the next 10 years. That is a big deal. Repatriation, taking all the money overseas and bringing it home is not that much, not that big of a deal. It is nice but not that big of a deal. The boarder adjustment tax is a real key and that is why we are talking about taxing things that are made overseas. That is 70 billion dollars in the next 10 years. Also removing the interest rate tax deductions from your home; if your mortgage is more than 1 million or you make more than 1 million a year, you don't get the interest deduction. That will bring in 1.1 trillion over the next 10 years. That almost gets you to revenue neutral. That is the whole idea of the tax reform and how it is being pitched. For some people it is going to be great, for others not so nice. That is the only way that they can get to revenue neutral. Chuck asked how eliminating the AMT, estate tax makes money. Tom said what they are going to do on estate tax is of the stock in your portfolio, if you die now the stock is given to your heirs on a stepped up benefit. Say you bought Apple at $15.00 a share now they are worth $130.00, your heirs will get the $130.00 per share not the $15.00. After the reform they will get it at $15.00. It is an elected tax. The kids will have to sell the stock. A lot of people do. It brings in a large amount of money on a very low cost basis. On Page 10, this is not news. 2016 was a tough year for active managers. The MRT missed by 80 basis points last year. This goes in cycles. We are active and passive. We do quite a bit of indexing; both working at different times. On page 11, if you see the light blue bars above the 0 it means your active managers are outperforming, if below they are underperforming. As you can see active does the best when there were 17 consecutive interest rate hikes. When we had the financial crisis' 07-08, active did well. But when we have a market that is straight up, maybe the best thing you want to do is to be fully invested at all times by an index so PSAB MRT has about 50% of its large cap exposure indexed, we believe in both. But the active does hurt a little bit. Skipping ahead, on page 13, what do we think changes that; as we have had incredibly low volatility? Over the past 10 years, 39% of the time the volatility in the market has been above 20 meaning the market can finish the end of the year up 10 plus or minus 20. That is about normal. We have had really low volatility. The feeling is that it is not low volatility as we were down 13 % last February, the truth is relatively speaking we have spent very few days with volatility above 20. Those changes and you will see active do better. Page 14 you see that because passive owns everything, they have them overweight to the most risky exposures. The history of the MRT has been a little bit better return than the market but with less risk. That is what we are continuing with the MRT. That is what attracts you to the MRT and we also have to remember that the MRT is an investment fund second. It is a benefit paying fund first. Like most municipalities, MRT, a defined benefit plan, are cash flow negative; more money going out than coming in. In that case we need to maintain a certain amount of liquidity, which we cannot

take risk with. Liquidity has put us in a large pool of assets with 1 to 3 year durations with a very high quality investment manager. We know we are going to sacrifice returns to pay the bills. But we know the one thing you cannot explain to a member is that their check did not go out. Basically what we are seeing here to the right is that active does well in down years. We haven't had a down year in seven years. I think it will be okay and I think active will do just fine. We may make some changes to the active managers in the MRT but only very small and around the edges. I brought with me updated numbers, for the MRT in terms of how we have done and we try to always keep this up to date. If we go to page 1, the numbers on a year to date basis as of February 28th a 3/6 net of all fees, versus your policy benchmark of 336 we have outperformed and like I said last year, bit of a tough year, 13-4 as opposed to a 14-2 over three years a 509 versus 559 quite a bit ahead of the global benchmark at 419. It is the same story; it is slow and steady since inception at 66 which outperforms both benchmarks. The best performance in this fund has been '08-'09 where the outperformance. You can see we put a scatergram on here since the last inception; the MRT has had down market exposure. Let us just say you have taken about 76% of the risk of the benchmark over that period of time. With the elevated sharp ratio which just means we got a better measure of return with the risk that the MRT has taken. The biggest performance detractor of last year was under owning Facebook, Amazon and Netflix and owning Apple. Apple has helped us a lot this year, just one of the reasons for the outperformance. Our managers do not own companies that are 300% of their earnings that is Facebook, Amazon and Netflix, those companies were up 62% last year. The rest of the market was up 6, 7 or 8 % with a lot of growth space. So if you owned them great, you did well. If you didn't, you didn't. History has shown us that buying stocks at those levels ends poorly at some point. You may make a lot of money in the immediately couple of years but you end up down substantially. I won't say it is 1999 yet but I remember people saying Intel, Microsoft and Dell just buy those three stocks and you can retire. Well it worked out horribly for you. Facebook I don't understand, Netflix I don't understand the valuation, and Amazon we don't quite understand their valuation. Respectable numbers, a bit ahead this year. We are positioned for two big things. As I said, paying the bills but also for a rate increase. Your fixed income portfolio is primarily in shorter term bonds. You bill benefit from higher rates so unless we see the Feds get active, I would not be too concerned. Some people in your peer group may be hurt by that. The aggregate bond market may be hurt by higher rates; that is typical. I don't think the MRT will be hurt by higher rates. As for fixed accounts on page 3, people have a choice balanced or fixed, year to date up to 55 basis points. Nothing exciting. Longer term numbers for the fixed account net of fees are very very good.

Chris Capp said that he was unaware of any tax issues. All tax forms have been submitted to the retirees for 2016 within the month of January. The February statements should be coming out pretty soon, within the next 7 business days. You can expect that. The Trustees are going to meet in Hershey in early May. Our meetings, they meet for two day periods. We scrutinize managers very closely. Tom and his firm are very active in looking at the contracts for the Trustees approval. They look at the managers closely to make sure they are in compliance with the parameters of the contracts. We have caught managers in the past, they might be doing very well, but they may be buying certain securities, we try to pull them back in. Or there may be a change in management. Morgan Stanley will go in and interview the new manager to ensure their stability, their planning in place. We don't want any poorly performing managers in any of our sectors. The Trustees spend a lot of time reading and hearing a lot of those data reports. They may meet only three times a year but the subcommittee meets 5 to 7 times a year. Tom said they terminated two firms last year, Atlanta Sasnoff and Herndon. The reasons different for both, Atlanta has too much risk to a strong dollar. They had a lot of companies with overseas earnings. We thought that trend would continue, they disagreed and their numbers still don't show it. Herndon had a large value product that was terrific while it lasted but then they expanded into other areas to the point where there was only one analyst was left on the large value product. We did not feel that was appropriate for the MRT. We see every trade every day. We see every position and we do red flag if the manager's performance

deviates from the market by 50 basis points in any one day. We want to know why. What happened? It could be a good thing, could be a bad thing, but we want to know what happened on that particular day. Typically they are all reconciled and typically it is a rare event. We do have that ability and we have rarely used it. Last time we did it a manager bought Facebook. There is quite a bit of oversight not only in our office but by our office in Manhattan. We have 13 people in asset allocation committee that handle the MRT and we have 62 analysts that do nothing but original manager research. We are visiting the managers, we know who they are. I think it makes a different.

Chris Cap said Brown Shultz and Fritz will be conducting our audit. Hamilton and Musssert continue to be our dispersal agent. We work very closely to produce those statements. They have been in good standing with us for almost two decades now. The team is stable. Linda Costa is still working internally for us, she has been there longer than I have and I have been with PSAB for 16 years, and Joe Scott, of course, so our team is stable and we have maintained that. We continue to foster those relationships around the Commonwealth.

Cathy advised Priscilla that the MRT report provided was reporting up to February 28th. She will send that to her and that we will be getting the quarterly report.

3) Actuarial Evaluation
Cathy introduced Mr. Friedlander to discuss our draft valuation. If you remember we were also looking at some actuarial assumption changes as well and Mr. Friedlander is here to discuss that as well. He wants to review the preliminary results of the actuarial evaluation. We start with, how did we get here with a little bit of history. Showing his Power Point, reviewed the MMO for the Police Plan. I am going to be showing charts for both plans, keep in mind most of the police numbers are three times the amount of the non-uniform numbers. It's a bigger plan, with bigger assets, bigger liabilities, higher paid people with higher benefits. You can see that we digested the market downturn of 2007 and 2008. We recognized that over a 5 year basis. You can see up in through 2015, 2016 and 2017 that the costs were ramping up and it was fairly stable. What we are showing, absent of any assumption changes, is that 2018 number is quite a bit lower. In 2018 it will be the first MMO, first budget, based on the 01-01-2017 valuation. Again just to review, we do the evaluation at the beginning of every odd number year. We do them every other year and January 1 2017 is the most recent valuation date. We are showing gains on the police side which is assuming the member contributions continue and the state aid doesn't increase we will see a decrease in what the Township contributes. Keep in mind 19 and 20 show small increases but they are small increases in payroll as they apply to the budget. The Non-Uniform history has a similar story but not totally the same. You can see that the Non Uniform plan has been better funded in terms of amortization payment. It is a lot smaller compared to the police. On the chart the blue is the normal cost, the green is the amortization, the red is the administrative expenses which is gone as the plan does not pay for them. So that is the non-uniform plan is basically showing increases in 18, 19 and 20. Again that is partly the normal cost and part of it is due to some losses. Assuming the member contributions and the state aid stays the same; the Township has to pick up any slack. In the non-uniform, please take notice of the amortization piece. It kind of went away but what it really is is the way we amortize the basis, the bigger basis that are amortized over a longer or shorter periods of time. We actually have at 1/1/15 and to a lesser extent in 1/1/17 we have a small unfunded liability in the non-uniform but a negative amortization. It is a small amount so they are really not all that relevant. You can see with the Police Plan as we recognize the market downturn, as those things took their toll, we got down to about 82% funded which is not disastrous but not great. A lot of the times a plan that is 80% funded the plan considers it is well funded, I don't think we should. The object is not to have an amortization payment and just pay the regular normal costs of the plan. We have been very low over the last couple of years. And as of 1/1/2017 this plan is almost 95%

funded. Again this is before we make any assumption changes. The Non-Uniform plan is a similar picture, it stabilized a lot quicker and it did not go down quite as far and again as you can see we are almost 100% funded for 2015 and as as 1/1/2017 we are 98.8%. So this is a plan for all intended purposes are running on normal costs. We do not have any debt or amortization. Here is the history of the pension fund, as you can see the blue line is the market the red is the actuarial. You can see why we smooth, for example, in 2008 the market dipped. Instead of recognizing it all at once, and putting a hole in your budget for 2010 and 2011, when the economy was bad, we do something called smoothing. You will notice by 2010 the market value caught up. In 2013 and 2014 we were smoothing down in 2015 and 2016 we were smoothing up because we added a couple of performance that hasn't made the actuarial assumption. If you look at the investment returns from year to year, the red is the smoothing. It shows you exactly why we do smoothing, so we take all those bumps out of the market. You can see for the last three years, 6.99, 6.97, almost made the 7% assumption; we basically did but for 2016 under, we haven't had as many gains to amortize this past year, we had losses. The Non-Uniform the chart looks pretty much the same. We are smoothing up a bit now and you can see the returns have been a little under the actuarial level for the last couple of years which is why we are looking at changing our assumptions. The actuarial gains and losses, keep in mind the police are about 6.3 million in assets and 6.7 in liabilities, these numbers in gains and losses are not huge numbers. We have almost a 72,000.00 experience gain but that is due to officers that are entitled to retire and are not retiring. We had in an actuarial basis for the past two years the asset loss was about $145,000.00 and we had a contribution gain so you put in a little more than expended. Of the Non Uniform plan, again smaller fund, similar size kind of asset loss, a little over 1%. The experience gain was $200.00 which means we pretty much hit the experience right on the head the last could of years, and the contribution gain, again this is the timing of the MMO. In 2015 and 2016, in 2015 the contribution was based on 2013 valuation so we did not recognize the favorable results in 2015. So what did we learn from the last two years? Well the liabilities behaved as expected except for police retirements. We had very very small losses from retirees not dying and employees not terminating, we are used to a small level of those. There were gains from employees not getting disabled. The Non Uniform plan had a very small increase as salaries went up a little higher than expected. The assets are at an assumed rate and we are smoothing up now. We have nice gains in 2016 and 2017 we are still going to have to recognize the losses of 2014 and 2015. The State Aid for the Non Uniform is now in excess of what you need before we change our assumptions. However the State Aid is calculated on the aggregate basis so it is not going to cut down on what you get as a Township.

Here is a history of our actuarial assumptions. When I first picked up the plan the previous actuary was using an 8% rate of interest and the 1992 railroad retirement board mortality table which is basically assumed that police were going to die really young. We have upgraded that to the GA 1983 table. In 2011 we upgraded the mortality table again and we dropped the interest rate and the salary scale; from 7 ½ to 7. We have kept it there over the last three valuations. Today we are going to look at what happens if we drop the interest rate to 6.5% and improve the mortality table again. Let's talk about mortality a little bit. A sports expression is Father Time is undefeated. We are all going to die. That is what happens to retirees eventually. In civilization mortality usually improves over time unless there is a great upheaval such as war or disease. People are living longer because of medical advances. Mortality will continue to improve, unless we have some great upheaval or plague, the mortality will continue to improve. People are living longer. Your plans are too small to provide the necessary for the correct mortality table, most plans are. We use what is called population tables. These are based on research what happens to people who have been in pensions over a period of time. Basically to be credible for the mortality experience you have to have about a 100,000 lives. For example, for our Police Pension plan, if we went by our experience you wouldn't have any mortality takes because none of the retired officers have ever died. The RP-2000 table is based on the mortality experience of 1990 to 1994. Mortalities can either be static or dynamic. The static is that at every age there is a rate of mortality. A dynamic table says well those

mortality rates are going to improve. So next years 65 year old is not going to have the same mortality rate of a 65 year old this year, it will be a little be better. The RP 2000 Table included increases annually or is an updated static table. You could have a static table updated each year or you can project that mortality out to the future. When RP 2014 was being developed, before they release the table the committee said we can't use the scale AA anymore to project mortality by age for each year because the mortality improvements for a 65 year old in the 70's and the 80's are not going to be the same as the 65 year old in the future. They recommended using an age year of occurrence table. The RP 2014 is based on much newer experience, 14 years later than the 1990-1994 table. It centers around 2006 instead of 1994; including new data from the Social Security Office.

The plans interest rate is the most significant assumption. This has the most impact on your costs. We use that to discount the value of future contributions. The higher the returns the lower the required contributions; the lower your liabilities. It is assuming the money you are putting in is going to make more so you have to put less in. Now the five year return on the fund is 6.76%; the 10 year is 4.65%. That is really not a fair number because it includes the 2007 and 2008 years which were bad. One of the things we do for our GASB required clients is; once they are on full GASB (67 and 68) they need to get input from the investment manager to get the future market expectations. And what I am seeing from other investment managers is that the market expectations are lower than they were a couple of years ago. We reviewed the change in the value of the interest rate from 7 to 6.5%. We have been fairly close, a little under 7 for the last couple of years. Going forward I don't know what they expectations of the equities are. Tom Schatzman stated that the equity market is probably not going to give you that 9-10% that people expect over long periods of time from stocks. The real culprit will be fixed income with 35% in fixed income, through the 10 year Treasury at 2.4%. So when we blend 65 – 35% we get into that 6% range. We do not expect to do that much better than that 3% that the fixed income market is giving us. That is why I think this is timely. Cathy asked if that 6.5% is reasonable. Tom said over a 7 to 10 year period of time, yes. Chuck said they are looking 15 to 75 years. Financial Economists would ascribe to their liabilities the risk. Not just the risk premium investments but the risk in the liabilities. These are about as risk free as these liabilities get. The Township and State would have to go bankrupt for these not to be paid. While this might be valid for corporations that can go bankrupt, we look towards long term funding now using the investment trust. 7% is about at the high range of what would be acceptable. Now it is about 6 – 6 ¾%. The present value of benefits is the amount of money you would have to have to never have to make contributions. That is not what we are funding towards. We are funding towards the actuarial accrued liability which is what should have been funded already. In the Police plan under the current assumptions the unfunded liability is very small. Update the mortality table and change the interest rate, you will notice the present value of benefits grows and the present value of future costs grows somewhat but the liability grows and the asset changes. That is why you are unfunded. The number on the left is the actual MMO for this year based on the prior valuation. If we do the MMO based on the current valuation it will be a little lower as we had some gains. As we increase the mortality rate and decrease the interest rate. The amortization is in bigger chunks because of the leveraging. So if member contribution stays the same and state aid stays the same this show an increase in the Township contribution. We are looking at a net municipal obligation of $159,000.00 for 2017. That would drop to $117,000.00 if we did not change assumptions. If we change one or the other we are in the 170,000 - $180,000 area, if we change both $250,000.00 are. This is the non- uniformed plan it's different as the mortality table plays a bigger role as we have a different eligibility date. Police payments are over a longer period of time. Currently the state aid covers the non-uniformed plan unless we change the assumptions. That may be a problem. Cathy advised that a policy Council passed says that the state aid unit value follows the plan it is earned by. We could modify this. Chuck said in 2016 we put $8,000.00 too much into the plan. We ending up having to put more Township money in the Police plan than we really had to. Cathy said we get into the problem of where that money was earned.

Chuck said when we change the assumptions, that problem goes away as more money would be required for the Non Uniform plan. Down the road if both plans require less money than the state aid provided, we will get less state aid, so we want to avoid that at all costs. Chuck said if we get to that point he would recommend dropping the interest rate again. Cathy also noted that a possibility would be to relook at the administrative fee payment provision in the contracts and ordinances. Chuck said that is right. The reason we have more money is that we are paying in the administrative fees except the investment expenses outside the MMO and that is another thing. We call you investment expenses that are paid out of the fund, as they do in the PSAB statements; we reduce your income by them. Your return is going to be smaller than most because we are paying the investment expenses however that means that maybe your assumption may need to be a little bit lower and to take that into account. We have a lot of time to make this decision. This should be decided before the MMO time in September. Cathy said we should wait to make the decision this June? Chuck agreed. Chuck acknowledged that we do not wait until the following year and appreciates that we do now and he knows Priscilla prefers that, but we can wait on the MMO's and use the prior valuation. He just does not recommend it. Chuck also had the COLA review discussion. We have 6 officers and 5 different dates. He would like to bring them all in in January every year. It would decrease the administrative expenses of the plan. Cathy said it is a negotiation year and may be worthy to bring up. Chuck said it is not going to hurt anyone, they will get a partial increase and get it early for someone who's COLA increase is in March. They are all capped at 30%. It would be just for the one year to catch up.

Priscilla said since we are not making any decisions right now Cathy, Leslie, Lou and herself should meet to discuss. Chuck said he would speak at a Council meeting or work session if needed. Priscilla said that is good to know. Cathy said she will review with Council. Chuck said he wants to give us plenty of time to make an important decision.

4) Financial Reports

Cathy said the Non- Uniform at the end of January has $2,044,128.34 the Uniformed plan has 6,068,665.60. We reimbursed the Non Uniform plan $3,025.55 and the Uniformed plan $7,984.14 to date.

5) Colas

We received 2 notices; Glenn Williams is entitled to an increase of 1.1% as of March 1st. That brings him up to 19.4% of his 30% and Vic Koszi is entitled to a 2% increase in his Cola as if May 1st. That would bring Mr. Koszi to 14.6% of his 30% maximum. Notices were sent to both.

6) Settlements – Fiszer Security notice was received and a check from Fischer investments for $12.61 for the Non Uniform plan.

7) Minutes approved and will be posted on the website

Next Meeting, Wednesday, June 14th at 11:00
Meeting Adjourned 12:00 PM