

MACOMB INTERCEPTOR DRAIN  
JUNE 12, 2017  
11:00 A.M.  
AGENDA

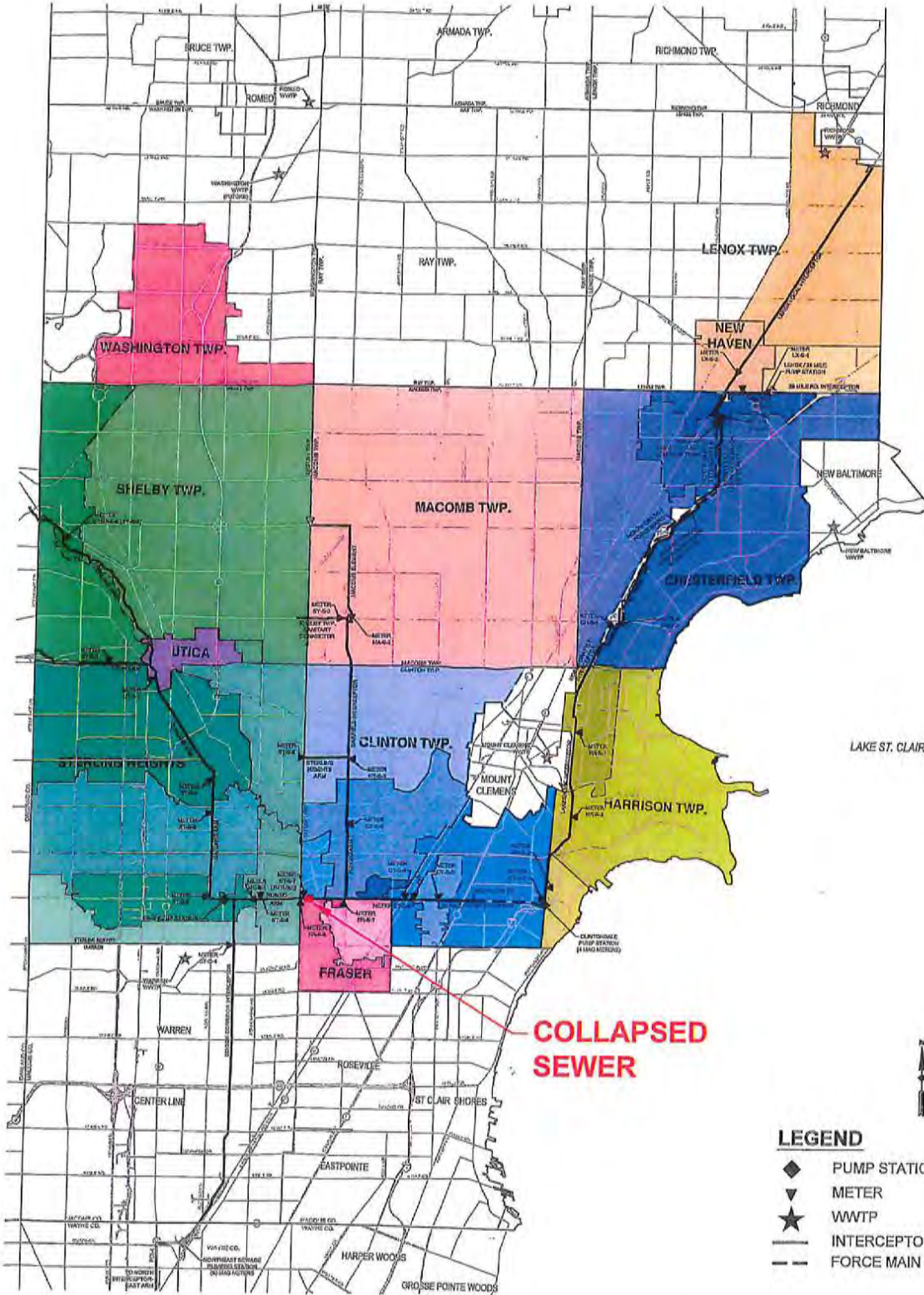
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1. Call of meeting to order and roll call	
2. Approval of Agenda for June 12, 2017	
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4. Public participation	
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12. New Business	
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Next Regular Meeting

July 10, 2017 at the Office of the Macomb County Public Works Commissioner, 21777 Dunham Road, Clinton Township, Michigan 48036 at 10:30 a.m.

# MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT



- LEGEND**
- ◆ PUMP STATION
  - ▼ METER
  - ★ WWTP
  - INTERCEPTOR
  - - - FORCE MAIN



**Candice S. Miller**  
 MACOMB COUNTY PUBLIC WORKS COMMISSIONER

**fitch**

UPDATED: FEBRUARY 2017

An adjourned meeting of the Intra-County Drainage District for the **MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham Road, Clinton Township, Michigan, on April 19, 2017 at 10:04 A.M.

PRESENT: Candice S. Miller, Chair  
Bryan Santo, Member

ABSENT: Robert Mijac, Member

ALSO PRESENT: Brian Baker, Chief Deputy, Karen Czernel, Deputy, Dan Heaton, Public Relations Manager, Bruce Manning, Acting Financial Manager, Barbara Delecke, Administrative Services, Macomb County Public Works; Chris Dilbert, President, Village of New Haven; Marc Kaszubski, O'Reilly, Rancilio, P.C.; Michael Homier, Foster Swift; Jennifer Moran, Sullivan, Ward, Asher & Patton, P.C.; Joseph Viviano, Viviano Law; Paul S. Lafata, Chesterfield Township, Joe Katich, Chesterfield Township, Victor and Gale Karns, Chesterfield Township; Rick Boyland, Chesterfield Township, Mario Grillo, MGM Construction

The meeting was called to order by the Chair, Candice S. Miller. A motion was made by Mr. Santo, supported by Ms. Miller to approve the agenda as presented. Motion carried unanimously.

Joe Katich, Chesterfield Township – I see what this is for, but I know there are costs involved and it seems that putting the proposal as to who you are going to assess the costs and of everything else which is explaining to everybody where the costs are and what the costs will be. I guess that's why we are here. One of my first questions is. I am sure the board works, the drainage commissioner works like everybody else. Part of the funds that you received for your services from the different communities include monies for repair for this and that would go probably into some kind of benefits fund. Is that true? Is there money in the funds that are being used for this? If not, why not? Basically, lay out the costs for us and tell us how it all evolved. Who's got what responsibility for how much is going to be engineering, how much is going to be this and then I think we say alright if these costs look alright to us and then an apportionment. I don't see how you can through and apportion costs when nobody knows what the costs are or how they evolved. Could we get something on that order explaining all of this?

Miller: I think what we will do is just have all of the questions asked and then I'm going to have my Chief Deputy Brian to go through how we are actually apportioning the costs, percentages of the costs. We will also discuss all of these questions that you have about what we think the costs are going to be so far. We have had a number of meetings already talking about that. There has been a lot of media coverage about the costs and we are trying to get the word out about what we think the costs are going to

be in every way that we can, but rather than going through a half hour dissertation with you about all the costs at the public participation portion, I am just going to ask everyone to make their comments about the costs and then we can answer it all at one time, I think.

Baker: Technically, so this is public participation and we start going into the public hearing, I am advised that we actually have a motion to open the public hearing. If all of the questions are related to the apportionment. I don't know if there are any just general public comments or not. If there aren't, we can close that and then formally open the public hearing for that type of discussion.

Miller: Uh, okay. Well, so you need a motion to open the public hearing.

Baker: Yep.

Miller: And that is not done when we opened the meeting.

Baker: Nope.

Miller: As we still have the public participation. Any other members of the public wish to ask a question. I am going to try and answer every question, but if they are all sort of similar maybe I can answer them all at once.

I am Paul Lafata from Chesterfield Township also. I have questions on who's responsible for the project accounting and project management of the project. There are concerns based on a billing dispute between Ric-Man that there were no controls in place in the start because it's an issue right now. How dependable are the cost estimates from the contract engineer, from AEW. They estimated that the video portion of it was going to cost \$2.2 million and there is a Pennsylvania firm doing it for \$1.5 million. That was a 32 percent error.

Miller: To the good.

Lafata: That is a concern. Thirty-two percent on millions of dollars is a lot of money to pass on to our residents. The real costs really are not going to be available until actually everything is in the ground, repaired and all the surface work is done. So I don't know how we reconcile that real cost versus what somebody is going to ask for and estimate for bond costs. The other thing is, I am assuming this is a special assessment hearing, this means that property values have to increase based on this special assessment. So is the county assessor gone out and done any work to reassess because from my understanding that is a primary requirement for a special assessment district which I guess you are going to call all these townships that are listed and cities that are listed as a special assessment district. So has the county assessor gone out and actually done the math to make sure that these parcels that are going to be assessed are actually increasing in value for what they are going to have to

pay based on the bond. Thank you.

Miller: Let me just try and answer some of your questions as I can. Of what is sort of background of all this sewer interceptor has been. And I say that is I stepped into this job on January 1<sup>st</sup>. So there is probably all kinds of questions about what happened in the last seven years. And I have a lot of those same questions. However, this sewer interceptor, this particular piece of asset was acquired by Macomb County Public Works in 2009. Anthony Marrocco purchased this from the Detroit Water & Sewer system. It was previously their asset. Now, it belongs to Macomb County. In 2010, there was a drainage district, a Chapter 20, under the state statute, to purchase this. To put together a consortium of communities, the 11 communities who are in the interceptor drainage district. So this is their asset. It's not owned by Macomb County. The County has nothing really to do with this if you would. It's this drainage district. There are other drainage districts in the County. For instance, there is the 8 ½ Mile Drainage District that is comprised of St. Clair Shores and Eastpointe. All their sewage goes through something that is called Chapaton, which is a big pump station that's at 9 Mile and Jefferson. Using that as another example. So there are these various drainage districts throughout the County. This is the big one. This is our big major interceptor. So whether or not the Public Works Commissioner and the MID ever should have purchased this asset, I don't know the answer to that. But, anyway it was and so this is what's been going on now since 2010. In regards to this sewer collapse, as everybody knows, this is the third time that there has been a sinkhole at this particular location. There are all kinds of theories about whether/why that happened and again, they are all theories. I don't know. Except that I do know that the sewer has collapsed, and we have about 600,000 people who flush their toilets through this sewer. So there is no option other than to fix that. It has to be fixed. And in regards to the costs, what we've tried to do and I said that as the new Public Works Commissioner, we are going to be totally transparent and accountable for everything that happens while I'm here. I can't tell you what happened before. In fact, much of it is a mystery to me. But, when this sewer collapsed on Christmas Eve, Ric-Man, you mentioned his name, the company's name, was called out by my predecessor on a time and material basis. Time and material basis to respond to the emergency. And time and material is not the best way to operate a contract. However, on an emergency basis that's what you are going to do. You have an emergency and don't take bids. You have to respond to the emergency. So they were on-site immediately, along with AEW, you mentioned them, the engineers. So they were called out on-site along with other engineers and folks to help with this situation and try and get it under control. For instance, on December the 27<sup>th</sup>, they had to discharge almost 13 million gallons of raw sewage into the Clinton River. That was their choice. They were either going to do that or they were going to have it all backed up into people's basements. So I don't fault them for doing that. However, I will say that we have not had a discharge since then. In the time that I've been here, we have not had a single discharge even though it rains everyday it seems like around here. In regard to the costs, one of the things that we immediately did upon taking office, once I was able to actually get sworn into this office and appear on-site. On January 1<sup>st</sup>, we instituted an electronic log out on site so that everything that was

going on there, personnel that were on-site, the kind of equipment that was being used on site, all of these kinds of things were entered into an electronic log. As I've said, and I've said this many times, one thing when you are in an emergency situation everybody's running around almost in a chaotic situation. Five years, ten years, four months later, you have people saying, where's the documentation for all of this. So we are keeping very careful records on all of this. As part of this administration, we are not going to just let contracts out to people without bidding them, which has been the past practice here for years and I'm not operating that way. So we had a design done, I think, in a very quick amount of time and actually bid this project out and when you talk about the engineer's estimates. The engineers, AEW, estimated that the cost of this project for excavation and fixing the pipe was going to be about \$32 million. Don't quote me exactly that number. Around \$32 million. We had five bidders and all of them were within four percent. If you could imagine, four percent of each other. So the engineers' estimate was very good. So the bid was let to Dan's Excavating, who's a Macomb County company and they are out on-site now. The transition from Ric-Man will continue to be on-site until we have the new contractor come was very smooth and was handled very professionally by both parties. We also had a bid to inspect this pipe. When you mentioned about the engineer's estimate for that. It was \$2.2 million is what the engineers estimated to have a company actually inspect the pipe. And it came in at \$1.5 million to the good for the taxpayers. It was less money. So that was good. One of the reasons that we are having this pipe inspected is to not only inspect the immediacy of the sewer collapse area because the pipe in that immediate area of course was installed at the same time back in the 70s, in the same soil conditions, same kind of pipe. So it's suspect. Even though we are having Dan's Excavating replace the long section of this pipe, we are concerned that there might be other problems. We need to make sure that while we have the contractor out on site, we all don't come back five years from now and say my God we have another sinkhole at 15 Mile Road. I'm not interested in that happening. I'm sure nobody in this county is. We can't go through that again. Not only in the immediacy, actually over 17 miles of pipe is going to be inspected for \$1.5 million. So it's the entire MID. The entire Macomb Interceptor Drainage District is now going to be inspected. Whether it's me or my successor, you're now going to have a good record of the condition of the pipe. If there are any anomalies, if there is anything that we need to know going forward, we will have the best information available to make decisions about spending money of the rate payers. Because the only people who own this are the 11 communities and the rate payers in those communities have to pay for whatever happens. If there are contracts that have been let or different things that happened. Then of course all of the treatment of their sewage flow that goes through this. So that's the boat we are in at this point. We think we actually are going to get a very good product at a good price. We are going to document everything that we're doing financially so that any member of the public is going to be able to feel free to come in and take a look at everything we've done. What has happened in the past, honestly there are a bazillion questions in my mind about what happened. And most I don't think I can answer for you. But, going forward, we are definitely going to be as transparent as we can. Any other members of the public, please identify yourself.

Mario Grillo: Are you going to be lining the inside of the pipe?

Miller: What's going to actually happen. I wish I had one of my engineers here. So you are just listening to me here. I am not an engineer. Essentially what they're doing is they are going to replace this particular section of pipe with something called Hobas. And Hobas is a very high tech type of material. It's now heavily used in the industry. It is very expensive. It will never break. They estimated that the life of this will be a couple hundred years. It is made out of a polymer and fiberglass. As they are excavating this site, they are building a shaft above the pipe. The shaft is going to be 300 feet long, 25 feet wide and then it will be 60 feet deep cause that's how deep the pipe is. So what they are doing right now, they've tested about 12 feet deep and now they are putting in 244 cylinders, steel cylinders, with steel I-beams in about half of them. So they are building a cage and once they get that done, it's probably going to be another two months before they are done with all of that drilling. Then they will be able to excavate the rest of that and replace that section of pipe. Now we do need an inspection on the other immediate areas of this pipe and if we see that there is going to be some other work that has to be done, we will hopefully line it. Not the entire new pipe, but we could actually line it with some sections of Hobas or we could do some grouting or whatever we want in this section.

Chris Dilbert: I read in the resolution, in the second paragraph, the 2010 it says Lenox Township and the Village of New Haven.

Baker: Our attorney can speak to that, Mike Homier. That is the route that we are going to originally petition and improve that which was required. So I think that is one of the 'whereas' that shows that it was originally petitioned by those two communities and has nothing to do with your apportionment or any change. The apportionment is based on flow of all the 11 communities. That's a percentage of the flow.

No Name: Is that why you have legal precedent. Is that why you are referring back to something that is 7 years old.

Baker: It is referring to that the original district that was petitioned properly. The attorney can speak to that. It's just a 'whereas'. It's just giving a little history of the entire district.

Viviano: This drainage district was formed in 2010 by a petition of two communities, so that's all it says. Those are the two communities who petitioned to form the drainage district. It really has no bearing. Now we are doing an apportionment based on flow. It's not a special assessment. It's an apportionment under the drain code.

Miller: So those two communities actually petitioned. They were the originators of the petition that is known as a Chapter 20 drain drainage district. Lenox and New Haven actually petitioned this office to start this drainage district which is a requirement under the statute. You have to have a petition signed by the stakeholders in order to



comprise the drainage district. So how that ever happened, I don't know. Marrocco was here. I don't know who was in Lenox and New Haven at the time.

Homier: I would also add to that at least for the purposes of the Chapter 20 drain in establishing a drainage district that language is specific both in the petition and the approval of the petition for those purposes set forth in that paragraph that you can construct, finance, operate, maintain, repair, rehabilitate, remove from service, extend and add drainage branches and otherwise improve which is why now with the failure it allows the drainage district to apportion those costs related to this rehabilitation, improvement, repair, maintain project. What we refer to as the 2017 project.

Miller: This is a section of Hobas and you can see how heavy it is. It is just a small section. This is an amazing technology. And by the way, it is an American product. Everything that is on there, in that site is American. All that steel we got, it was all made in Indiana. We are not putting any Chinese steel in the ground. Quality.

Lafata: Still trying to get back to the cost of the loan of the bond. Going through the assessment. It mentions costs in three or four areas and what it is, the cost. It says that we have engineering costs and everything else. What are they specifically and how much is the bond amount, what is going to be paid to this special assessment.

Miller: We have paid quite a few bills already. We still have bills to pay. Ric-Man and others, with all the emergency work that was done. Other contractors that are onsite. Besides the actual fix of the sewer, we had to construct a long-term by-pass which has been \$10 or \$12 million to construct this. This is above ground, over the top of 15 Mile. That has been a major expense with all the various pumps because what we are doing is lifting the sewage up 60 feet, out of a manhole into this by-pass where we run a couple of barrel pipes down 15 Mile Road and then we're dumping it back into a manhole further down, 6 thousand feet down actually. So we are estimating the cost to be about and I'll let Brian talk to this.

Baker: So we estimated the cost at \$70 million. We have had several meetings that we have talked about that. We have not finally priced the bond. The bonds are going to be sold May 16<sup>th</sup>. The final piece of the puzzle is, we are still waiting on the state, the potential state appropriation that I think has been discussed in the paper in order to determine if we deal with \$65 million bond or a \$68 million bond. But the total project cost is \$70 million and as Candice said that's Dan's Excavating, the original Ric-Man contract, the long-term by-pass, the dewatering, improving the road once the dirt is put back in and opening that road up. So the bonds will be sold May 16<sup>th</sup>. They are going to close the end of May and the new cost that will be allocated to the communities starting July 1 will be a 25 year bond. That will be paid off, that debt service will be paid off over 25 years. And again, as Joe Viviano mentioned, it is not any special assessment on a homeowner, so it's not property value based. It will be on your water and sewer bill, your sewer. It will be based on sewage flows of a community. So it's not a condition of improving the value of property.

Lafata: I just have one other comment. Is this \$70 million going to contain any contingencies from the contractor or the engineering firm, because I understand a lot of these projects have built-in contingencies and they have a tendency to overrun. Is everything taken into consideration with this \$70 million.

Baker: A 10 percent contingency is factored in. If the work gets done sooner, which we hope, we will be able to save money. To push us back, it will cost money, additional funds. We do have some reserves in order to take care of any additional contingencies. And as well as a possible Phase 2. We are not talking about that at this point. But, as Candice said, if we have to then reline the remaining sections, that would be an additional bond. So that is something that still has to be determined once we get into that. That's kind of the \$1.5 million and we got a SAW grant. The inspection of the remaining interceptor line. Once we get in there and decide that it needs to be lined with Hobas, that would be a Phase 2 project. But that has not been awarded yet. That would have to be brought back to the MID board for discussion.

Miller: What he is saying is that in regards to the \$1.5 million for the inspection. We actually got a state grant for that where they pay like 90 percent of that. So that was good. And in addition to that, once we have the inspection done, we will be able to have the best information to see whether or not we have to do more than what we are talking about here. More, Phase 2. That's where we start hammering these numbers, \$100 million. Who knows where it is going depending on the kind of information that we get. I think it's highly likely that we will have to do some, something to that stretch of pipe that is in the immediate vicinity. In the immediate vicinity there because as I say it's the same pipe, same ground. I just can't imagine that we're not going to have to do something to that pipe. We're going to know that probably in about a month or so.

Lafata: You mentioned a state SAW grant which I have some familiarity about and that actually usually drives a contributing match which is a certain percentage.

Miller: Right. It's 10 percent on the first million and 25 percent above that.

Lafata: It also comes with some direct commitments from the county or from the user of the grant which actually results in a 10 percent increase in rate, increases for sewage for your time once you develop your asset management plan. Are they in place for the county just like they are for the other cities and townships. Because if you read the SAW grant and you are committed to do an asset management plan, which is the inspection and manhole covers and all this other stuff to find out if you have any future or possible places that need to be replaced. But there are also some requirements when you accept that SAW grant which commits you to spending money and raising rates. Has anybody looked at the SAW grant to find out if those commitments are the same as any other city or township.

Miller: I cannot believe that by accepting the SAW grant that we have to raise rates or

anything like that. However, the purpose of the SAW grant as you correctly say for the most part is to do asset management which is going to be a big part of this department now. Because I think like any business, you need to know what your assets are. If you are in the trucking business, you need to know how many trucks you have and what the condition of the trucks are and when you have the maintenance scheduled, etc. and it's really no different, in my mind, when you have underground assets. We are doing an asset management plan. We are actually going to be rolling out a very high tech kind of asset management tool that all of our departments and other agencies will be able to access. This kind of information, like the 17 miles of inspection that we are doing with this SAW grant will be a component of our asset management. As I mentioned earlier about Chapaton and the pump station. All of the assets that we have under our umbrella, jurisdiction here are going to be evaluated and we are going to be put on life cycle kinds of funding so that when something does happen, you do have some cash available to do something. And we are going to try and run this thing in a much more business oriented kind of way and a more transparent way. Let me ask this gentleman.

Unknown: I'm trying to follow everything that is going on. There has been a lot in the newspaper obviously about this and there are a couple of articles that mention a \$240 million cost as a possibility. What I just heard from this gentleman was that this what is called a Phase 1 project is going to be \$70 million. There could be a follow on, which is what I believe it said in the paper about lining further to prevent any breaks or cracks or things like that. That would be a Phase 2 and be held completely separate and be another bond that would have to be pushed out at some point in time. Am I understanding this correctly?

Miller: Sir, the \$240 million, I have never talked about any number like that.

Unknown: I don't want you to think we were against spending \$240 million even if we go the next phase. So no, if we go to the next phase they are estimating \$70 million and I, I didn't know what to tell you about that. It also mentioned in a different article that what they call a Phase 2 line will be about \$75 million. So the whole project will roughly be between say \$150 and \$250 million depending on the line.

Miller: Well it could be, this part of the project that we are proceeding with could be about \$70 million, and if we go to Phase 2, it's hard to say honestly. If you did the whole of what engineering was talking about, Phase 2 that would be another \$70 million so now you're looking around \$140, it isn't anywhere near that. I think that the \$240 million was a little refinancing about \$90 million of existing loans that will save money. Ninety million, plus a potential \$150 million between Phase 1 and Phase 2 that was the \$240 million. So it is a real significant number. Ninety million is for refinancing existing project cost. We will still feel an impact on that at the community level. Yes, the rates would go down because were refinancing with a lower interest rate.

So in other words, so what happened here is that when they bought this interceptor in 2009, \$95 million was spent to buy this so they could lower the garnishment in county funds, and we have paid off debt now over these years and the outstanding debt is about \$83 million and were going to be refinancing that and that will be \$3.4 million dollars of interest savings.

Let's go over to this gentlemen, here.

Chesterfield Township resident: I just wanted to follow up on the SAW Grant you mentioned that this bond issue and charges from the sewer. But after several rates going to go up 5%, but what Paul said is also true. We found out SAW Grants mandate a 10% rate increase. So in other words, the percentage increase with this is top dollar when all is said and done, including the 10% SAW Grant.

Miller: I appreciate your comments. Under the SAW Grant quotes "it will give you 90% state back" you can figure the grant is good for 90% and then a 10 % match. So 10% of that first million and \$500,000 of the 5% of that.

Resident: You mentioned refinancing, I did a little math in there, my townships are responsible for some of the \$70 million. I'm assuming since its ordered refinancing that its savings that the actual cost to the township is going to be less than 7% of that \$70 million cost savings from what I first heard.

Baker: Refinancing savings is over the life of the time that remains so it's not annual.

Resident: The annual savings goes up and down too, the township, we realize it's not up and down over its time. So assuming that we do the math on this of interest for over 25 years and savings, were going to include that in that cost to the township.

Baker: Yes, it will. So you will have to pay the bond issue of the \$70 million, and then there will be savings on the existing bonds, the savings on the existing bonds and the new money costs.

Miller: These are good questions. Anyone else? No?

We want to make sure the people feel as comfortable as they can. This is a terrible situation that has happened. We want to make sure this never happens again. It has to be done and we are trying our best here to make sure that the rate payers can pay for this unfortunately.

We are trying to get some resources. We've got funds from the MDEQ and we hope that we can get some additional state funding to offset some of these costs. We'll see in about a week or so. Right now, it is very much up in the air. We've tried to contract federal funding. I have been on the phone trying to get federal funding. And if we go into a Phase 2, rather than a bond, I hope that we can apply for SRF funding which is a

lower interest rate. And that would be a good thing for us. So we are looking at that. We've got somebody helping us through this process. And we'll see how we do with that. Okay, if there are any other questions or comments.

Homier: With regard to the special assessment. I just want to explain that this is the special assessment hearing. The assessment is based on a percentage of use over a 5-year period of time for these public corporations. The resolution itself, will direct the chairperson to then approve the special assessment roll which will apply the percentages back to the bond which won't be sized until May 16<sup>th</sup>. So anywhere between May 16<sup>th</sup> and May 31<sup>st</sup>, we'll have approval of a special assessment roll then because the bonds will be sold on the 16<sup>th</sup> and at that time we will know how many percentages, which are based on use again. So the estimated cost of the project will be known after the 16<sup>th</sup>. So with that special assessment roll, a public hearing is not required for any special assessment roll will likely be approved by the drain board during the time between May 16<sup>th</sup> and before the closing.

Miller: Okay, I am going to close this section of the public participation. As the attorney suggested, I am going to open up the public hearing.

Homier: I think it is going to have to be the public hearing portion. We have two issues: public comment and then you have the public hearing itself. What I would like to do is to open the public hearing if anybody has any comments in the public hearing, they can make those comments as part of that public hearing and its apportionment.

Miller: Okay. Are there any comments then? Please identify yourself.

Moran: I am Jennifer Moran, from the City of Sterling Heights, a law firm representing Sterling Heights on their behalf. I would like to read a formal statement to the Board from the City of Sterling Heights (see attached).

Viviano: Chair can I respond.

Miller: Yes

Viviano: Frankly, I think that my advice to the Board is that I don't think those comments go to the apportionment issue, which is based on 5-year flow. That is just a percentage that everyone is supposed to pay. Now we are talking about a separate issue, which is whether you should file a lawsuit against the Macomb County Wastewater Disposal Drainage District.

Miller: Anthony Marrocco

Viviano: What you are talking about is a totally separate discretionary decision that you can certainly raise, but it is not a proper objection to the apportionment numbers, which are based on flow. Certainly the City of Sterling Heights has a statutory right to state its

objections, whether to overrule those objections is the Board's decision clearly under the statute. And then whether to file a complaint against Macomb County, like they are asking you to, is an entirely separate issue from the apportionment.

Miller: This is not owned by Macomb County. The County was never the agent for the Wastewater District, which is like an amoeba. The problem is Anthony Marrocco felt that the drainage board could completely give control to some amoeba. Something that is not even a construct of any state statute. Right?

Viviano: There would have to be multiple questions asked about that contract. Sterling Heights, I would be more than willing to talk to you off the record. There are multiple questions about that contract and what was legal and what was done back then. Sterling Heights is saying in 2010, the MID Board entered into a contract with the Wastewater District. Under the contract, the Wastewater District was to operate and maintain the MID. The Wastewater District was run by the Public Works Office and so these repairs would be under that construct. So if we should file a lawsuit that being such as it is, the contract would be looked through. So what Sterling Heights is saying is we have a breach of contract. That breach of contract, a contract claim against that entity. The contract was revoked a couple of months ago. Communities don't own the sewer, they are just charged for it.

Miller: I appreciate the comments and questions being asked. Why for the last, never apparently, one individual who was making all of these contracts for the last seven years without any form of a public hearing, never a question. No one objecting to contracts made. All the questions you are raising on the sinkhole. Why were no questions asked before. Was it because everybody was afraid of Marrocco politically. It's crazy. If something were to happen here, essentially (couldn't understand). You are not actually suing the County, you are suing yourselves. There are no objections from any other communities other than Sterling Heights? Each community is assessed based on a percentage of the sewage flow, a 5-year flow. Bonds will be sold on May 16, 2017. Communities can pay upfront with no interest charged.

Lafata: Do communities need to take control of the sewer district, the statutory drainage district governance structure.

The public hearing was closed as there were no more comments or objections.

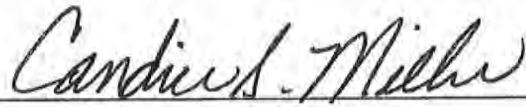
A motion was made by Mr. Santo, supported by Ms. Miller to approve Resolution No. 2017-04 – Resolution confirming apportionments; issuing order setting apportionments; and directing preparation of Special Assessment Roll.

Ayes: Santo, Miller

Nays: None

Motion approved.

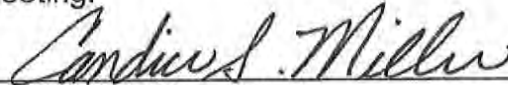
The meeting was adjourned on a motion by Mr. Santo, supported by Ms. Miller, and unanimously approved.



Candice S. Miller, Chair  
Macomb County Public Works Commissioner

STATE OF MICHIGAN  
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings and not an official transcript taken by the Intra-County Drainage District shown on the attached set of minutes, on April 19, 2017, the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.



Candice S. Miller, Chair  
Macomb County Public Works Commissioner

DATED: 5/11/17

8690.bd

# SULLIVAN, WARD, ASHER & PATTON, P.C.

ATTORNEYS AND COUNSELORS AT LAW

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DAVID M. TYLER (1930-2002)  
RICHARD G. WARD (1929-2015)  
PHILLIP J. O'BRIEN (RETIRED)

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April 18, 2017

Macomb Interceptor Drain Board  
c/o Candice Miller, Chairperson of MID Board  
21777 Dunham Road  
Clinton Township, MI 48036

**RE: 2016 15 Mile Road Interceptor Failure**

Dear Ms. Miller:

Enclosed please find an Objection by the City of Sterling Heights to the tentative apportionments of cost assessed by the Macomb Interceptor Drain Board arising from the 2016 failure of the 15 Mile Road interceptor.

The City Manager and counsel will be present at the Public Hearing to be held on Wednesday, April 19, 2017 to orally present the Objection.

Very truly yours,

SULLIVAN, WARD,  
ASHER & PATTON, P.C.

Kevin J. Gleeson  
Jennifer R. Moran

KJG/JRM/adt  
Attachment

cc: Mark D. Vanderpool (Via Email: [mvanderpool@sterling-heights.net](mailto:mvanderpool@sterling-heights.net))  
Jeffrey A. Bahorski, J.D. (Via Email: [jbahorski@sterling-heights.net](mailto:jbahorski@sterling-heights.net))  
Marc Kaszubski (Via Email: [mkaszubski@orlaw.com](mailto:mkaszubski@orlaw.com))



## **OBJECTION BY THE CITY OF STERLING HEIGHTS**

### **Public Hearing on Tentative Apportionments of Cost Wednesday, April 19, 2017**

---

The City of Sterling Heights objects to and challenges the tentative apportionments of cost assessed by the Drainage Board of the Macomb Interceptor Drain Drainage District ("the Drainage District") arising from the 2016 catastrophic failure of the 11-foot wide interceptor under 15 Mile Road.

The Drainage Board has represented that the total costs associated with repair of the failure and the resumption of service is approximately \$70 million. The City of Sterling Heights will be apportioned 31.7% of the costs associated with repair and resumption of service. Notwithstanding, the apportionment of costs to any of the eleven communities of the Drainage District is wholly improper where the 15 Mile Road interceptor failure was caused by the Macomb County Wastewater Disposal District's ("the Wastewater District") breach of its contractual obligations to maintain and make improvements to the Macomb Interceptor System.

The Drainage District owns, operates, and maintains a system of sewer interceptors, sanitary manholes, sewage flow meters, gates, valves, pump station and ancillary equipment, which was purchased from the City of Detroit on September 2, 2010. The Macomb Interceptor System requires operation and maintenance services to remain in operational condition.

On September 22, 2010, the Drainage District contracted with Macomb County, by its County Agency the Wastewater District, pursuant to Section 471 of the Drain Code of 1956, to operate, maintain and make improvements to the Macomb Interceptor System. The Wastewater District was required to hire consultants and contractors, apply for grants and loans, and carry out activities necessary and appropriate for the operation, maintenance, improvements and administration of the Macomb Interceptor System. The Wastewater District was further required to provide annual reports to the Drainage Board of its activities for the preceding twelve months.

For years prior to the 2016 catastrophe, pursuant to NTH Consultants' published report titled Sewer Condition Assessment Inspection; DWSD Construction Contracts PCI 13, 14, 15B, 15C, 24, 25, 42A, and 45, the Wastewater District was aware that the 15 Mile Road interceptor was in need of repair and facing possible failure. The interceptor collapse and sinkhole was directly caused by indifference to the NTH Consultants' report, and the Wastewater District and/or Macomb County's failure to maintain and improve the Macomb Interceptor System, in breach of the 2010 Agreement with the Drainage District.

The City of Sterling Heights and its tax payers should not bear the financial burden of a catastrophic failure caused by the Wastewater District and/or Macomb County's own breach of contract. The Drainage Board must act on behalf and for the benefit of the members of the Drainage District and seek proper legal redress against the Wastewater District and/or Macomb County.

An adjourned meeting of the Intra-County Drainage District for the **MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham Road, Clinton Township, Michigan, on May 8, 2017 at 11:03 A.M.

PRESENT: Candice S. Miller, Chair  
Bryan Santo, Member  
Robert Mijac, Member

ALSO PRESENT: Brian Baker, Chief Deputy, Karen Czernel, Deputy, Emily Engleman, Administrative Assistant, Keith Graboske, P.E., Chief Engineer, Dan Heaton, Public Relations Manager, Vincent Astorino, Engineer II, Evans Bantios, Engineer II, Lynne Seymour, Environmental Engineer II, Thomas Stockel, Construction Engineer, Bruce Manning, Acting Financial Manager, Barbara Delecke, Administrative Services, Macomb County Public Works; Don Coddington, DPW Director, Chesterfield Township; Robert Cannon, Supervisor, Clinton Township; Joe Nichols, Mayor, Fraser; Sermed Saif, Tri-County Engineering, representing Lenox Township; Benjamin Aloia, Aloia & Associates; Lou Urban, Anderson, Eckstein & Westrick, Inc.; Bryce Huffman, Michigan Radio; Jameson Cook, Macomb Daily; Christine Hall, Detroit Free Press; Amanda York, Representative Sander Levin's Office

The meeting was called to order by the Chair, Candice S. Miller. Item No. 11 was moved to Item No. 6. A motion was made by Mr. Mijac, supported by Mr. Santo and unanimously carried to approve the agenda with the recommended change.

Minutes of the meeting of April 10, 2017 were presented and approved on a motion by Mr. Mijac, supported by Mr. Santo and unanimously carried.

The meeting was opened to public participation, then closed, there being no comments from the public.

Mr. Bantios gave a sinkhole update. The contractor has begun building the walls for the shaft which will allow for inspection of the pipe. To date, 136 piers out of 244 have been installed. An inspection was done upstream of the sinkhole. The engineer's recommendation will be forthcoming. The CS-3 facility at Garfield and 15 Mile Roads is being fine-tuned. The length of the Harrington Drain is being cleaned out. Rib-sets have been installed upstream of the sinkhole to stabilize the sewer. There is a lot of cracking and deformation of the sewer.

Mr. Urban, Anderson, Eckstein & Westrick, Inc. (AEW) stated that the emergency contract with Ric-Man Construction was terminated on March 18, 2017 and Dan's Excavating began work on the recovery shaft. The long-term by-pass pumping has been operational since April 10, 2017. Three thousand, seven hundred feet of the interceptor was dewatered. Doetsch Environmental was hired to clean out the sewer starting at furthest east-end manhole nearest the sinkhole. The engineering team was able to access the interceptor in late April. Through a CCTV investigation from CS-3 down to the collapse, it was discovered that there is severe cracking, fracturing, etc. The pipe has failed, but has not collapsed. The shaft, a temporary earth retention system, is being built. AEW is recommending that the shaft be expanded by 20 feet. The dewatering wells installed have driven the water level from 14 feet down to below the interceptor. H2S gas is

created from sanitary sewerage, which essentially eats the concrete. The CCTV video was shown to the Board. AEW is recommending that Hobas pipe be used to reline the sewer because of the amount of degradation and the soil conditions present. The interceptor was installed in the late 1960s, early 1970s and is at its design length. A 9 foot tube is being recommended for the 10 foot pipe. Some capacity and storage will be lost.

The Hobas liner was used in the repair of the Oakland-Macomb Interceptor Drain. The Hobas pipe costs approximately \$707 per foot for a 10 foot in-diameter pipe and \$622 per foot for a 9 foot in-diameter pipe. It will cost approximately \$6 million to purchase and install the pipe liner. The by-pass system put in place cost between \$10 and \$12 million and is operational. The theory is to repair the pipe while everything is in place and operational and prevent a future collapse. There will be significant savings if the repair is made now.

The goal for project completion is to have everything done by November. Mr. Urban showed the video to the Board and members of the audience.

Mr. Mijac asked why only 3,700 feet of sewer has been investigated. Mr. Bantios explained that a SAW Grant has been secured to inspect the remaining portion of the sewer. In 2009/2010, before Detroit Water & Sewerage Department sold the MID to Macomb County, inspections and repairs were done on the worst sections of the pipe. The installation of Hobas pipe will reduce the flow and capacity through the pipe, but Macomb County will still be able to honor the contracted capacity with the communities.

Don Coddington, Chesterfield Township asked for verification that the 3,700 feet of pipe investigated was going east toward the Clintondale Pump Station.

Robert Leonetti, District 10, Macomb County Board of Commissioners asked about repairs to the OMID. Mr. Urban explained that Hobas pipe was used from 8 Mile Road to I-696 and also at Dodge Park, along 15 Mile Road. The repairs needed on the OMID system were very similar to the MID. There is a 100 day procurement and delivery time for the Hobas pipe. Mr. Urban asked that the Board approve this purchase so that work can continue in a timely manner. Mr. Coddington asked if the 9 foot liner being installed going east, would have to be grouted to make up the difference in pipe size. Mr. Urban explained that the \$6 million additional cost is the engineer's estimate for completion of the project.

A motion was made by Mr. Mijac, supported by Mr. Santo to approve a \$1,009,462 change order to Dan's Excavating, Inc. to extend the recovery shaft 20 feet to the east and an \$800,000 credit for the permanent access shaft savings; approve the purchase of 3,700 feet of Hobas pipe for \$2.5 million; and authorize the solicitation of bids for the installation of the Hobas lining (\$3,500,000 engineer's installation estimate) for a total estimated project change of \$6,209,462.

Ayes: Mijac, Santo, Miller  
Nays: None

Motion approved.

Mr. Baker stated that the bond sale is scheduled for May 17, 2017. Letters were sent to all MID

communities to see if they were interested in an early payment option due May 12, 2017. This will help in sizing the bond. With the lining added in, the bond is estimated to be \$70 million. There are \$5 million in grants. On May 25, 2017, a special meeting for the 2017 Special Assessment Roll and to approve the FY-2018 MIDD Budget will be held at 10:00 a.m. in the Macomb County Public Works Office. An Executive Summary of the MID budget was provided to the Board. The MID budget starts July 1, 2017 and is 30 percent of the budget. The remaining 70 percent is for the Great Lakes Water Authority (GLWA). The GLWA has a proposed 10 percent increase. Controllable costs for the MID are going up .5 percent. The interceptor repair debt, which is about \$4 million is included in the budget. The 2010 Bond Refinancing will save approximately \$300,000 based on current rates. The refinancing was previously approved by the MID Board and the Macomb County Board of Commissioners. Actual numbers will be known after May 25, 2017. Negotiations are taking place to lower the GLWA sewer charges. The GLWA will announce a one percent reduction in the increase this week on the water portion.

Mr. Mijac asked Mr. Baker his opinion on the GLWA charging Macomb County too much. Based on the sewer share changes, charges are based on flow and strength of flow. A proposal to assess costs on strength of flow is on the table. The flow is stronger when sewer systems are repaired because there is less infiltration. Oakland and Macomb Counties now have the ability to hold back flow on peak capacity flow, thereby saving Detroit money. Oakland and Macomb are trying to reduce the cost shift to us from Detroit.

A motion to receive and file Mr. Baker's report was made by Mr. Santo, supported by Mr. Mijac and unanimously carried.

Ms. Czernel spoke about work being done to prepare an application for an SRF loan in the event that we proceed with Phase 2. The application is due July 1, 2017. A public hearing is required in order to proceed and will be held on June 8, 2017. A \$3 million grant was awarded from the State of Michigan and should be available this week. Federal funds are being sought for pre-mitigation disaster funding. A \$100,000 MSHDA grant was received and another one for \$150,000 may also be available.

An amended contract was provided to the Board for the Nostalgia Antique Appraisal Services by Mr. Aloia. The hourly rate was negotiated from \$300 down to \$150, with a not to exceed of \$7,500. This appraiser is for personal property in the Albu home.

A motion was made by Mr. Mijac, supported by Mr. Santo to approve the Appraiser Retention Contract with Nostalgia Antique Appraisal Services, retroactively to April 6, 2017, to determine fair market value and/or replacement cost for the purpose of "just compensation" for damage to personal property, with a not to exceed cost of \$7,500.

Ayes: Mijac, Santo, Miller  
Nays: None

Motion approved.

Mr. Aloia spoke about the temporary license agreement with Noble Appliance Center Holding, LLC at no cost. The terms and conditions were worked out with engineers and property owners.

A motion was made by Mr. Santo, supported by Mr. Mijac to approve the Temporary License Agreement with Noble Appliance Center Holding, LLC for use of property to install pumping facilities over a portion of Licensor's property.

Ayes: Santo, Mijac, Miller  
Nays: None

Motion approved.

Mr. Aloia presented the Freedom of Information Act (FOIA) Procedures and Guidelines on behalf of Mr. Viviano. FOIA procedures were in place, but there was no written policy. Mr. Aloia asked the Board to adopt the procedures and guidelines as presented.

A motion was made by Mr. Mijac, supported by Mr. Santo to approve the Resolution adopting Freedom of Information Act Procedures and Guidelines.

Ayes: Mijac, Santo, Miller  
Nays: None

Motion approved.

The Chair presented the invoices totaling \$18,701,366.40 to the board for review and approval.

Motion was made by Mr. Mijac, supported by Mr. Santo to approve the invoices as presented.

Ayes: Mijac, Santo, Miller  
Nays: None

A trial balance sheet was presented to the Board by Mr. Manning. The largest expenses came from Dan's Excavating, Inc., Ric-Man Construction and Anderson, Eckstein & Westrick, Inc.

A motion to receive and file the financial report given by Mr. Manning was made by Mr. Santo, supported by Mr. Mijac and unanimously carried.

The next regular meeting will be held on June 12, 2017, 10:00 a.m. at the Macomb County Public Works Office.

The meeting was adjourned at 12:10 p.m. on a motion by Mr. Mijac, second by Mr. Santo, and unanimously approved.



\_\_\_\_\_  
Candice S. Miller, Chair  
Macomb County Public Works Commissioner

STATE OF MICHIGAN  
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taken by the Intra-County Drainage District shown on the attached set of minutes, on May 8, 2017, the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.



---

Candice S. Miller, Chair  
Macomb County Public Works Commissioner

DATED: 5/15/17

8713.bd



**Candice S. Miller**

Public Works Commissioner  
Macomb County

## **Bond Sold to Pay for Sewer Interceptor Repair**

### *Debt Refinance to Save MIDD \$5.9M*

The Macomb Interceptor Drain Drainage District has sold a \$70 million bond to pay for the repair of the 15 Mile Sewer Interceptor collapse.

The bond will pay for the bulk of the \$75 million in costs associated with the emergency response to the collapse, which occurred on Christmas Eve 2016, and the repair of the 11-foot diameter sewer line. Just over \$5 million in state funds have also been secured to pay for the work.

At the same time as the bond sale, the Macomb County Public Works Office, acting as agent for the MIDD, has refinanced an existing \$77 million bond at an interest rate that will save MIDD rate payers \$5.9 million in interest costs over the next 18 years.

The previous debt was incurred in 2010 when the MIDD assumed ownership of the sewer interceptor system that had been built and previously operated by the Detroit Water and Sewerage Dept. Under the terms of the deal, the debt will still be paid off in 2035, as was originally scheduled, but the new, lower interest rate will result in \$5.9 million in savings.

The new bond will be financed over 25 years. The interest rate is 3.07 percent.

“Thanks to the diligent work of our accountants, bond counsel and legal team, this savings is welcome news to our rate payers,” said Macomb County Public Works Commissioner Candice Miller.

The sale of the new \$70 million bond – both the new sale and the refinance took place on Wednesday, June 7 – will generate much-needed revenue for the MIDD and its ongoing work on 15 Mile Road. At the MIDD’s board meeting on Monday, June 12, the MIDD board is expected to approve re-paying a \$20 million short-term loan from Macomb County and approve as much as \$10 million in bills related to the 15 Mile Road project. The county approved the short-term loan earlier this year as an emergency action to address the 15 Mile Road sewer collapse while the bond sale was being arranged.

“Though the bond sale was delayed for three weeks as we had to work through a number of issues, our great team was able to calm the markets and execute this sale at very favorable terms for our MIDD residents,” Miller said.

Meanwhile, at the work site on 15 Mile Road, work continues on schedule as construction crews continue to work on digging and supporting the 65-foot deep 300-foot by 28-foot shaft necessary to access the collapsed pipe. The shaft construction is scheduled to be completed in early July, at which time the old pieces of pipe will be removed and the new pipe installed.

**ADDRESS:** 21777 Dunham Road, Clinton Township, MI 48036 • Phone: 586-469-5325 • Fax: 586-469-5933

**ENGINEERING:** • Phone: 586-469-5910 • Fax: 586-469-7693 **SOIL EROSION:** • Phone: 586-469-5327 • Fax: 586-307-8264

**Bendzinski & Co.**



**municipal finance advisors**

June 7, 2017

Ms. Candice S. Miller, Public Works Commissioner  
County of Macomb  
21777 Dunham Road  
Clinton Township, MI 48036

RE: \$126,425,000 Macomb Interceptor Drain Drainage District, County of Macomb, State of Michigan, Drain and Refunding Bonds, Series 2017A (Limited Tax General Obligation)

Dear Ms. Miller:

This letter will confirm our recommendation that you, on behalf of the Macomb Interceptor Drain Drainage District, accept and sign the Bond Purchase Agreement based on the offer of Citigroup Global Markets, Inc., to buy the above referenced bond issue. The Bonds are being issued by the Macomb Interceptor Drain Drainage District (the "Drainage District") for the purposes of (i) paying all or a portion of the cost of acquiring and constructing repairs and improvements to the Drainage District's sewer interceptor system, (ii) repaying amounts loaned by the County of Macomb to the Drainage District for payment of initial costs of the Project, (iii) refunding or paying the principal of and interest on all or a portion of the Macomb Interceptor Drain Drainage District, County of Macomb, State of Michigan, Drainage District Drain Bonds, Series 2010A (Limited Tax General Obligation) (Federally Taxable – Build America Bonds – Direct Payment), the proceeds of which were used (a) to finance the construction of improvements to the Macomb Interceptor Drain and costs related thereto and (b) to finance the acquisition of the Garfield Interceptor Drain from the City of Detroit and costs related thereto, and (iv) paying the costs of issuance of the Bonds. The True Interest Cost on the Series 2017A Bonds is 3.039749%. This produces gross savings of \$5,924,012.35 or Net Present Value Savings of \$4,727,443.47 or 6.13% over the remaining life of the 2010A Bonds after paying all costs associated with the refunding. Therefore, we recommend that you accept and sign the Bond Purchase Agreement.

For your review, we have attached a copy of the Results of Bidding.

Should you have any questions, or require any additional information, please do not hesitate to call.

Sincerely,

**BENDZINSKI & CO.**  
**Municipal Finance Advisors**

Robert J. Bendzinski, CIPMA  
Registered Municipal Advisors

RJB/jll

Enclosure

Cc: Brian Baker, Chief Deputy Commissioner  
Stephen Smigiel, Finance Director  
Bruce Manning, Finance Director  
Albert L. Lorenzo, Deputy County Executive

615 Griswold Street • Suite 1225 • Detroit, Michigan 48226-3997  
Telephone • (313) 961-8222  
e-mail • [rjb@bendzinski.com](mailto:rjb@bendzinski.com)





**RESULTS OF NEGOTIATED SALE**

**\$126,425,000**

**MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT  
COUNTY OF MACOMB, STATE OF MICHIGAN  
DRAIN AND REFUNDING BONDS, SERIES 2017A  
(LIMITED TAX GENERAL OBLIGATION)**

**NEGOTIATED SALE DATE: JUNE 7, 2017**

**AWARD DATE: JUNE 7, 2017**

Citigroup Global Markets, Inc.	Underwriter's Discount	\$535,295.87
Robert W. Baird & Co., Inc.	Premium	\$22,445,541.20
Fifth Third Securities, Inc.	True Interest Cost	3.039749%

<b>SERIAL BONDS</b>						<b>TERM BONDS</b>		
Coupon			Coupon			Coupon		
Year	Rate	Yield	Year	Rate	Yield	Year	Rate	Yield
2018	5.000%	0.820%	2028	5.000%	2.180% *	2042	5.000%	2.880% *
2019	5.000%	0.890%	2029	5.000%	2.300% *			
2020	5.000%	1.020%	2030	5.000%	2.400% *			
2021	5.000%	1.130%	2031	5.000%	2.470% *			
2022	5.000%	1.260%	2032	5.000%	2.540% *			
2023	5.000%	1.390%	2033	5.000%	2.610% *			
2024	5.000%	1.560%	2034	5.000%	2.670% *			
2025	5.000%	1.720%	2035	3.000%	3.170% *			
2026	5.000%	1.910%	2036	4.000%	3.100% *			
2027	5.000%	2.050%	2037	4.000%	3.170% *			

\* Yield to call date of May 1, 2027.

Bendzinski & Co., Municipal Finance Advisors, acted as municipal advisors to the Macomb Interceptor Drain Drainage District in the development and sale of this issue.

**RATING**

S&P Global Ratings  
Moody's Investors Service, Inc.

AA+  
Aa1

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Telephone • (313) 961-8222  
e-mail • info@bendzinski.com

**DRAINAGE BOARD FOR THE  
MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT**

**RESOLUTION NO. 2017-\_\_**

**RESOLUTION CONFIRMING SPECIAL ASSESSMENT ROLL**

At a special meeting of the Drainage Board for the Macomb Interceptor Drain Drainage District held on the 12th day of June, 2017, at 10:00 A.M.

The following resolution was offered by Member \_\_\_\_\_ and supported by Member \_\_\_\_\_.

WHEREAS, the Drainage Board for the Macomb Interceptor Drain Drainage District (“Drainage Board”) was established pursuant to Chapter 20 of the Drain Code, Act 40 of 1956, MCL 280.1 *et seq.*; and

WHEREAS, pursuant to Chapter 20, the Drainage Board previously issued an Order of Determination on May 21, 2010, finding it necessary and practicable to acquire, locate, establish, construct, finance, operate, maintain, repair, rehabilitate, remove from service, extend, add relief drains, add branches and otherwise improve the Macomb Interceptor Drain, as described in the petition filed with the Macomb County Public Works Commissioner on April 20, 2010, by Lenox Township and Village of New Haven; and

WHEREAS, on March 27, 2017, the Drainage Board approved and adopted certain plans, specifications, and an estimate of costs from the engineering firm of AEW, Inc. to acquire, locate, establish, construct, finance, operate, maintain, repair, rehabilitate, remove from service, extend, add relief drains, add branches and otherwise improve the Macomb Interceptor Drain (“2017 Project”); and

WHEREAS, on March 27, 2017, the Drainage Board tentatively established the apportionments to the public corporations to be assessed and scheduled a public hearing on the apportionments for April 19, 2017; and

WHEREAS, after providing all notice required by law, the Drainage Board held a public hearing on the apportionments on April 19, 2017; and

WHEREAS, following the conclusion of the public hearing, the Drainage Board confirmed the apportionments and issued a Final Order of Apportionment on April 19, 2017; and

WHEREAS, the Drainage Board further directed the Chairperson of the Drainage Board to prepare a special assessment roll assessing the cost of the 2017 Project against the several public corporations in accordance with the Final Order of Apportionment; and

WHEREAS, the Chairperson has prepared the special assessment roll, and the Drainage Board now wishes to confirm such roll pursuant to the Drain Code.

NOW, THEREFORE, IT IS HEREBY RESOLVED AS FOLLOWS:

1. The Drainage Board hereby approves and confirms the Special Assessment Roll for the 2017 Project, which is attached as **Exhibit A** and incorporated by reference.

2. The Chairperson of the Drainage Board shall certify to each public corporation assessed the amount of the total assessment against it, the amount of the various installments, the due date of each installment, and the rate of interest upon installments from time to time unpaid, as further set forth in this Resolution.

3. The Special Assessment Roll shall be divided into fifty (50) equal semiannual installments, over a twenty-five (25) year period, each of which installments shall be due and payable on April 3 and September 6 of each year. The first installment shall be due and payable on September 6, 2017.

4. Installment payments and interest on unpaid installments shall be payable as set forth on Exhibit A.

5. Each year, at least 30 days before the time of the levying of taxes by each public corporation, the Chairperson of the Drainage Board shall notify each assessed public corporation of the amount of the installment and interest next becoming due, but the failure to notify a public corporation shall not excuse it from making payment of the installment and interest. On or before the due date of an installment, each public corporation shall pay to the County Treasurer the full amount thereof, together with interest accruing to the due date. If a public corporation fails or neglects to account to the County Treasurer for the amount of an installment and interest, then the County Treasurer shall advance the amount thereof from County funds if bonds or other evidences of indebtedness have been issued to finance the project, in anticipation of the collection of the installment and interest pursuant to Chapter 20 of the Drain Code. The County Treasurer shall immediately notify the public corporation of the amount advanced by the County on account of the default by the public corporation in paying the installment and interest assessed against it. The County Treasurer shall also notify the State Treasurer, or other appropriate disbursing official, who shall deduct the amount from moneys in his possession belonging to the public corporation which are not pledged to the payment of debts, but the state treasurer or other official shall not withhold in any one year a sum greater than 25% of the total amount owed by the delinquent public corporation as stated in the notice from the County Treasurer.

6. If the County advances money for a public corporation and is not reimbursed, the County may order the public corporation and its officers to levy upon its next tax roll an amount sufficient to make the reimbursement on or before the date when its taxes become delinquent, and the public corporation and its tax levying and collecting officials shall levy and collect those

taxes and reimburse the County. The foregoing shall not prevent the County from obtaining reimbursement by any other legal method. The tax levying officials of each of the other public corporations assessed shall levy sufficient taxes to pay assessment installments and interest as the same become due unless there has been set aside moneys sufficient therefor. A city or village may elect to spread the tax levy upon the County tax roll instead of the city or village tax roll.

7. Because the Special Assessment Roll is prepared based on an estimate of the cost of the 2017 Project, the special assessments and the installments thereof may be corrected by adding any deficiency or deducting any excess after the actual cost has been ascertained and determined by the Drainage Board. The Drainage Board may order the corrections to be made upon the original roll or may order that a new corrected roll or a supplemental roll be prepared and submitted for approval by the Drainage Board.

8. Any and all resolutions in conflict with this resolution are repealed only to the extent necessary to give this Resolution full force and effect.

YEAS: \_\_\_\_\_

NAYS: \_\_\_\_\_

THE RESOLUTION WAS DECLARED ADOPTED.

STATE OF MICHIGAN            )  
                                          )  
COUNTY OF MACOMB         )

I, the undersigned, DO HEREBY CERTIFY that the foregoing is a true and complete copy of certain proceedings taken by the Drainage Board at a special meeting held on the 12th day of June, 2017, at 10:00 A.M.

\_\_\_\_\_  
Candice S. Miller, Chairperson

**EXHIBIT A**

**MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT**

**SPECIAL ASSESSMENT ROLL**

*See Attached Roll Prepared by Bendzinski & Co.*

**I certify that the Special Assessment Roll was confirmed by the Drainage Board for the Macomb Interceptor Drain Drainage District on June 12, 2017.**

**Date: June 12, 2017**

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Candice S. Miller, Chairperson  
Drainage Board  
Macomb Interceptor Drain Drainage District

84242:00004:3105426-3

Period Ending	Chesterfield Charter Township 7.6515%			Clinton Charter Township 21.1545%			Fraser City 4.2078%			Harrison Charter Township 5.8325%		
	Principal	Interest	Assessment	Principal	Interest	Assessment	Principal	Interest	Assessment	Principal	Interest	Assessment
11/1/2017	\$ 78,820.47	\$ 74,228.22	\$ 74,228.22	\$ 236,318.68	\$ 222,550.26	\$ 222,550.26	\$ 45,916.97	\$ 44,183.49	\$ 44,183.49	\$ 65,036.84	\$ 61,247.65	\$ 61,247.65
5/1/2018	100,022.46	100,022.46	100,022.46	285,066.03	259,886.28	259,886.28	56,594.51	53,937.21	53,937.21	82,531.16	82,531.16	82,531.16
11/1/2018	95,079.40	100,022.46	100,022.46	285,066.03	259,886.28	259,886.28	56,594.51	53,937.21	53,937.21	82,531.16	82,531.16	82,531.16
5/1/2019	100,027.77	97,645.48	97,645.48	289,502.18	293,759.63	293,759.63	59,540.37	56,122.34	56,122.34	81,535.54	80,569.85	80,569.85
11/1/2019	104,976.14	95,144.78	95,144.78	314,798.33	288,262.07	288,262.07	62,488.83	56,633.83	56,633.83	86,638.57	86,638.57	86,638.57
5/1/2020	110,277.56	92,520.38	92,520.38	330,634.20	277,393.62	277,393.62	65,644.88	55,071.69	55,071.69	89,541.00	89,541.00	89,541.00
11/1/2020	115,579.79	89,763.43	89,763.43	346,530.08	269,127.76	269,127.76	68,797.53	53,430.64	53,430.64	93,367.92	93,367.92	93,367.92
5/1/2021	121,235.07	86,873.94	86,873.94	363,485.68	260,464.51	260,464.51	72,163.77	51,710.71	51,710.71	100,054.24	100,054.24	100,054.24
11/1/2021	127,597.26	83,843.06	83,843.06	382,560.73	251,377.37	251,377.37	75,950.79	49,906.61	49,906.61	105,289.85	105,289.85	105,289.85
5/1/2022	133,959.45	80,653.13	80,653.13	401,635.78	241,813.35	241,813.35	79,797.81	48,007.84	48,007.84	110,533.46	110,533.46	110,533.46
11/1/2022	140,675.09	77,304.14	77,304.14	421,770.55	231,772.45	231,772.45	83,735.22	46,014.40	46,014.40	116,074.71	116,074.71	116,074.71
5/1/2023	147,880.74	73,787.27	73,787.27	441,905.33	221,228.19	221,228.19	87,732.65	43,921.02	43,921.02	121,615.97	121,615.97	121,615.97
11/1/2023	154,813.29	70,102.50	70,102.50	464,159.55	210,180.56	210,180.56	92,150.82	41,727.70	41,727.70	127,740.51	127,740.51	127,740.51
5/1/2024	162,317.17	66,232.17	66,232.17	487,473.50	198,576.57	198,576.57	96,779.40	39,423.93	39,423.93	134,156.70	134,156.70	134,156.70
11/1/2024	170,718.77	62,167.43	62,167.43	511,847.18	186,389.73	186,389.73	101,618.37	37,004.45	37,004.45	140,864.54	140,864.54	140,864.54
5/1/2025	178,201.89	57,895.46	57,895.46	537,280.58	173,935.55	173,935.55	106,867.73	34,463.99	34,463.99	147,864.02	147,864.02	147,864.02
11/1/2025	186,391.52	53,419.42	53,419.42	564,833.43	160,161.54	160,161.54	112,137.87	31,797.29	31,797.29	155,446.79	155,446.79	155,446.79
5/1/2026	195,591.25	48,709.63	48,709.63	592,386.28	146,040.70	146,040.70	117,608.01	28,993.85	28,993.85	163,019.56	163,019.56	163,019.56
11/1/2026	207,478.09	43,770.10	43,770.10	622,058.88	131,231.05	131,231.05	123,498.53	26,053.65	26,053.65	171,195.62	171,195.62	171,195.62
5/1/2027	219,840.28	40,657.93	40,657.93	654,133.63	121,900.17	121,900.17	127,285.95	24,201.16	24,201.16	177,445.23	177,445.23	177,445.23
11/1/2027	222,313.20	36,581.12	36,581.12	666,557.05	109,077.49	109,077.49	132,393.31	21,655.44	21,655.44	183,444.71	183,444.71	183,444.71
5/1/2028	231,159.57	31,594.66	31,594.66	693,060.15	95,746.15	95,746.15	137,595.06	19,008.74	19,008.74	190,735.83	190,735.83	190,735.83
11/1/2028	244,823.59	26,156.67	26,156.67	728,021.08	80,218.87	80,218.87	144,537.93	15,568.86	15,568.86	200,360.12	200,360.12	200,360.12
5/1/2029	254,811.06	20,085.08	20,085.08	764,061.73	60,138.87	60,138.87	151,691.29	11,955.41	11,955.41	210,276.05	210,276.05	210,276.05
11/1/2029	267,545.44	13,714.05	13,714.05	802,111.83	41,117.33	41,117.33	159,265.23	8,163.13	8,163.13	220,775.27	220,775.27	220,775.27
5/1/2030	280,996.73	7,024.92	7,024.92	842,461.38	21,062.03	21,062.03	167,260.05	4,181.50	4,181.50	231,857.78	231,857.78	231,857.78
11/1/2030	3,087,845.64	\$ 3,087,845.64	\$ 3,087,845.64	\$ 12,742,133.40	\$ 9,257,945.76	\$ 9,257,945.76	\$ 2,529,729.96	\$ 1,838,004.40	\$ 1,838,004.40	\$ 3,506,739.48	\$ 3,506,739.48	\$ 3,506,739.48
5/1/2042	7,337,758.56	\$ 7,337,758.56	\$ 7,337,758.56	\$ 22,000,079.15	\$ 22,000,079.15	\$ 22,000,079.15	\$ 4,347,733.76	\$ 4,347,733.76	\$ 4,347,733.76	\$ 6,054,601.98	\$ 6,054,601.98	\$ 6,054,601.98



Period Ending	Lemox Township			Macomb Township			New Haven Village			Shelby Charter Township			
	Principal	Interest	Assessment	Principal	Interest	Assessment	Principal	Interest	Assessment	Principal	Interest	Assessment	
11/1/2017	\$ -	\$ 7,999.19	\$ 7,999.19	\$ -	\$ 144,754.01	\$ 144,754.01	\$ -	\$ 8,491.86	\$ 8,491.86	\$ -	\$ 104,769.82	\$ 104,769.82	
5/1/2018	8,484.07	10,991.25	19,485.32	153,709.44	198,896.64	352,606.08	9,017.01	11,667.92	20,684.93	111,251.36	143,958.26	255,209.61	
11/1/2018	-	10,778.90	10,778.90	185,416.32	195,055.90	360,472.22	10,877.02	11,442.50	22,317.51	134,200.07	141,176.97	275,377.04	
5/1/2019	10,246.21	10,522.74	20,768.95	195,420.49	190,420.49	385,840.98	11,443.11	11,170.57	22,613.68	141,184.46	137,821.97	275,821.97	
11/1/2019	-	10,522.74	10,522.74	185,948.84	185,948.84	385,840.98	11,443.11	11,170.57	22,613.68	141,184.46	137,821.97	275,821.97	
5/1/2020	10,253.36	10,253.36	20,506.72	204,716.16	185,948.84	390,760.00	12,009.20	10,884.50	22,899.69	148,168.85	134,191.36	279,006.43	
11/1/2020	-	10,253.36	10,253.36	185,948.84	185,948.84	390,760.00	12,009.20	10,884.50	22,899.69	148,168.85	134,191.36	279,006.43	
5/1/2021	11,312.73	9,970.44	21,283.17	204,716.16	180,425.93	385,840.98	12,009.20	10,884.50	22,899.69	148,168.85	134,191.36	279,006.43	
11/1/2021	-	9,970.44	9,970.44	180,425.93	180,425.93	385,840.98	12,009.20	10,884.50	22,899.69	148,168.85	134,191.36	279,006.43	
5/1/2022	11,884.08	9,673.94	21,558.02	215,055.36	180,425.93	385,840.98	12,009.20	10,884.50	22,899.69	148,168.85	134,191.36	279,006.43	
11/1/2022	-	9,673.94	9,673.94	180,425.93	180,425.93	385,840.98	12,009.20	10,884.50	22,899.69	148,168.85	134,191.36	279,006.43	
5/1/2023	12,455.43	9,673.94	22,129.37	225,394.56	175,049.55	400,044.11	12,222.25	10,268.87	22,613.68	153,135.40	126,696.83	289,832.23	
11/1/2023	-	9,673.94	9,673.94	185,454.68	169,414.68	395,459.43	12,222.25	10,268.87	22,613.68	153,135.40	126,696.83	289,832.23	
5/1/2024	13,064.87	9,361.95	22,426.82	236,423.04	169,414.68	405,877.72	12,869.21	9,988.33	23,801.52	171,117.56	122,618.45	293,736.00	
11/1/2024	-	9,361.95	9,361.95	185,454.68	169,414.68	405,877.72	12,869.21	9,988.33	23,801.52	171,117.56	122,618.45	293,736.00	
5/1/2025	13,750.49	9,058.33	22,808.82	248,830.08	163,504.11	417,334.19	14,597.04	9,591.59	24,188.62	180,087.49	118,340.51	298,438.00	
11/1/2025	-	9,058.33	9,058.33	185,504.11	163,504.11	417,334.19	14,597.04	9,591.59	24,188.62	180,087.49	118,340.51	298,438.00	
5/1/2026	14,436.11	8,691.57	23,127.68	265,237.12	157,283.36	428,520.45	15,324.87	9,226.66	24,551.53	189,077.42	113,838.07	302,915.45	
11/1/2026	-	8,691.57	8,691.57	185,752.43	150,752.43	428,520.45	15,324.87	9,226.66	24,551.53	189,077.42	113,838.07	302,915.45	
5/1/2027	15,159.82	8,330.66	23,490.48	274,333.44	150,752.43	435,085.87	16,093.13	8,843.54	24,936.67	198,556.23	109,111.14	307,667.37	
11/1/2027	-	8,330.66	8,330.66	185,752.43	150,752.43	435,085.87	16,093.13	8,843.54	24,936.67	198,556.23	109,111.14	307,667.37	
5/1/2028	15,883.53	7,951.67	23,835.20	287,429.76	148,894.09	441,723.85	16,861.40	8,441.21	25,302.61	208,075.05	104,147.23	312,182.28	
11/1/2028	-	7,951.67	7,951.67	185,894.09	148,894.09	441,723.85	16,861.40	8,441.21	25,302.61	208,075.05	104,147.23	312,182.28	
5/1/2029	16,682.42	7,554.58	24,237.00	301,904.64	136,708.35	458,612.99	17,710.53	8,015.68	25,730.21	218,511.63	98,946.36	317,457.99	
11/1/2029	-	7,554.58	7,554.58	186,708.35	136,708.35	458,612.99	17,710.53	8,015.68	25,730.21	218,511.63	98,946.36	317,457.99	
5/1/2030	17,521.40	7,137.49	24,658.89	317,088.80	129,160.78	476,225.53	18,600.10	7,576.91	26,177.01	229,487.10	93,483.57	322,970.67	
11/1/2030	-	7,137.49	7,137.49	185,160.78	129,160.78	476,225.53	18,600.10	7,576.91	26,177.01	229,487.10	93,483.57	322,970.67	
5/1/2031	18,397.47	6,699.46	25,096.93	337,922.24	121,234.01	494,156.25	19,530.11	7,111.91	26,642.01	240,961.46	87,746.39	328,707.84	
11/1/2031	-	6,699.46	6,699.46	185,234.01	121,234.01	494,156.25	19,530.11	7,111.91	26,642.01	240,961.46	87,746.39	328,707.84	
5/1/2032	19,311.63	6,239.52	25,551.15	348,464.56	112,910.56	517,375.92	20,500.55	6,623.66	27,134.20	257,934.70	81,722.35	334,657.05	
11/1/2032	-	6,239.52	6,239.52	186,174.33	112,910.56	517,375.92	20,500.55	6,623.66	27,134.20	257,934.70	81,722.35	334,657.05	
5/1/2033	20,300.97	5,756.73	26,057.70	367,386.24	104,174.33	541,550.57	21,551.86	6,111.14	27,663.00	265,905.71	75,398.98	341,304.59	
11/1/2033	-	5,756.73	5,756.73	185,174.33	104,174.33	541,550.57	21,551.86	6,111.14	27,663.00	265,905.71	75,398.98	341,304.59	
5/1/2034	21,292.31	5,249.18	26,541.49	385,307.52	94,989.88	580,297.20	22,625.17	5,572.35	28,175.51	278,876.72	68,751.34	347,628.06	
11/1/2034	-	5,249.18	5,249.18	185,356.99	94,989.88	580,297.20	22,625.17	5,572.35	28,175.51	278,876.72	68,751.34	347,628.06	
5/1/2035	22,358.83	4,716.88	27,075.71	404,607.36	85,356.99	605,654.39	23,735.35	5,007.27	28,742.61	292,845.50	61,779.42	354,624.92	
11/1/2035	-	4,716.88	4,716.88	185,356.99	85,356.99	605,654.39	23,735.35	5,007.27	28,742.61	292,845.50	61,779.42	354,624.92	
5/1/2036	23,044.45	4,381.49	27,425.94	431,014.40	79,287.98	626,302.38	24,463.18	4,651.24	29,114.41	301,625.43	57,386.74	359,212.17	
11/1/2036	-	4,381.49	4,381.49	185,302.38	79,287.98	626,302.38	24,463.18	4,651.24	29,114.41	301,625.43	57,386.74	359,212.17	
5/1/2037	23,954.61	3,920.60	27,875.21	459,357.12	70,947.93	647,305.05	25,435.62	4,161.97	29,595.99	313,798.67	51,350.23	365,148.50	
11/1/2037	-	3,920.60	3,920.60	185,357.12	70,947.93	647,305.05	25,435.62	4,161.97	29,595.99	313,798.67	51,350.23	365,148.50	
5/1/2038	24,910.85	3,441.43	28,352.29	450,789.12	62,276.45	627,585.57	26,444.49	3,653.30	30,097.79	326,270.78	45,074.26	371,345.05	
11/1/2038	-	3,441.43	3,441.43	185,097.72	62,276.45	627,585.57	26,444.49	3,653.30	30,097.79	326,270.78	45,074.26	371,345.05	
5/1/2039	26,167.83	2,818.66	28,986.49	473,535.36	51,006.72	638,542.08	27,778.85	2,992.19	30,921.19	342,734.00	36,917.49	379,651.49	
11/1/2039	-	2,818.66	2,818.66	185,168.54	51,006.72	638,542.08	27,778.85	2,992.19	30,921.19	342,734.00	36,917.49	379,651.49	
5/1/2040	27,462.89	2,164.46	29,627.35	496,970.88	39,168.54	658,139.42	29,153.64	2,297.72	31,451.35	359,665.09	28,349.14	388,045.23	
11/1/2040	-	2,164.46	2,164.46	185,744.06	39,168.54	658,139.42	29,153.64	2,297.72	31,451.35	359,665.09	28,349.14	388,045.23	
5/1/2041	28,834.13	1,477.89	30,312.02	521,784.96	26,744.06	648,529.02	30,609.30	1,568.88	32,178.17	377,655.95	19,356.74	397,012.68	
11/1/2041	-	1,477.89	1,477.89	185,694.44	26,744.06	648,529.02	30,609.30	1,568.88	32,178.17	377,655.95	19,356.74	397,012.68	
5/1/2042	30,281.55	757.04	31,038.59	547,977.60	13,699.44	662,677.04	32,145.83	803.65	33,949.47	396,613.58	9,915.34	406,528.91	
11/1/2042	-	757.04	757.04	185,699.44	13,699.44	662,677.04	32,145.83	803.65	33,949.47	396,613.58	9,915.34	406,528.91	
				\$ 4,573,584.15	\$ 382,761.00	\$ 7,960,753.15	\$ 2,867,503.72	\$ 6,021,672.47	\$ 1,398,575.15	\$ 4,866,190.44	\$ 5,988,993.24	\$ 4,358,347.94	\$ 10,356,941.18

Period Ending	Sterling Heights City 1.8081%			Utica City 1.8081%			Washington Charter Township 2.8073%			TOTAL		
	Principal	Interest	Assessment	Principal	Interest	Assessment	Principal	Interest	Assessment	Principal	Interest	Assessment
11/1/2017	\$ 333,349.19	\$ 333,349.19	\$ 333,349.19	\$ 18,985.73	\$ 18,985.73	\$ 18,985.73	\$ 31,301.40	\$ 29,477.71	\$ 29,477.71	\$ 1,050,036.73	\$ 1,050,036.73	\$ 1,050,036.73
5/1/2018	353,972.36	458,097.06	812,069.42	20,160.32	36,087.27	46,247.58	35,583.26	25,583.26	35,583.26	1,442,798.56	1,442,798.56	1,442,798.56
11/1/2018	426,989.08	489,187.75	916,176.83	24,318.95	25,382.36	49,902.20	37,758.19	39,721.19	39,721.19	1,414,923.39	1,414,923.39	1,414,923.39
5/1/2019	449,211.56	498,513.02	947,724.58	24,975.23	24,975.23	49,950.46	38,777.23	38,777.23	38,777.23	1,381,298.62	1,381,298.62	1,381,298.62
11/1/2019	471,434.04	477,282.73	948,716.77	24,335.67	24,335.67	48,671.34	39,723.30	38,777.23	38,777.23	1,414,958.59	1,381,298.62	1,381,298.62
5/1/2020	485,245.84	415,496.88	830,742.72	23,664.41	23,664.41	47,328.82	41,668.41	37,784.15	37,784.15	1,345,923.65	1,345,923.65	1,345,923.65
11/1/2020	493,115.79	403,115.79	806,231.58	22,959.25	22,959.25	45,918.50	36,741.94	36,741.94	36,741.94	1,308,798.69	1,308,798.69	1,308,798.69
5/1/2021	515,053.64	403,115.79	918,169.43	29,562.44	22,959.25	52,521.69	45,896.36	35,647.10	35,647.10	1,269,798.73	1,269,798.73	1,269,798.73
11/1/2021	544,450.76	390,139.45	934,590.21	31,008.92	22,220.19	53,229.11	48,145.20	34,499.61	34,499.61	1,228,923.77	1,228,923.77	1,228,923.77
5/1/2022	573,027.52	376,526.18	949,553.70	32,636.21	21,444.97	54,081.18	50,671.77	33,295.96	33,295.96	1,186,048.81	1,186,048.81	1,186,048.81
11/1/2022	601,594.28	362,202.61	963,796.89	34,253.50	20,629.06	54,882.56	53,198.34	33,029.19	33,029.19	1,140,923.86	1,140,923.86	1,140,923.86
5/1/2023	631,753.36	347,162.76	978,916.12	35,951.19	19,772.48	55,724.67	55,855.27	30,699.23	30,699.23	1,093,548.91	1,093,548.91	1,093,548.91
11/1/2023	661,912.44	331,868.92	993,787.36	37,698.89	18,872.95	56,572.35	58,532.21	29,302.60	29,302.60	1,043,798.96	1,043,798.96	1,043,798.96
5/1/2024	685,246.16	314,821.11	1,000,067.27	38,597.93	17,930.48	57,527.87	61,475.87	27,839.29	27,839.29	991,674.01	991,674.01	991,674.01
11/1/2024	730,167.20	297,439.96	1,027,607.16	41,506.30	16,940.54	58,446.84	64,547.90	26,302.30	26,302.30	936,924.06	936,924.06	936,924.06
5/1/2025	766,675.56	279,185.78	1,045,861.34	43,685.62	15,900.88	59,586.50	67,796.30	24,688.10	24,688.10	879,424.12	879,424.12	879,424.12
11/1/2025	804,771.24	260,018.89	1,064,790.13	45,895.34	14,809.24	60,704.58	71,165.06	22,993.19	22,993.19	819,049.18	819,049.18	819,049.18
5/1/2026	846,041.56	239,899.61	1,085,941.17	48,185.87	13,663.36	61,849.22	74,814.55	21,214.06	21,214.06	755,674.24	755,674.24	755,674.24
11/1/2026	887,311.88	218,748.57	1,106,060.45	50,536.40	12,458.71	62,995.11	78,464.04	19,343.70	19,343.70	689,049.31	689,049.31	689,049.31
5/1/2027	931,756.84	196,565.77	1,128,322.61	53,067.74	11,195.30	64,263.04	82,394.26	17,382.10	17,382.10	619,174.38	619,174.38	619,174.38
11/1/2027	960,328.60	182,589.42	1,147,918.02	54,695.03	10,399.29	65,094.31	84,920.83	16,146.19	16,146.19	575,146.42	575,146.42	575,146.42
5/1/2028	998,424.28	163,882.85	1,163,305.85	56,864.75	9,306.89	65,170.13	86,286.59	14,447.77	14,447.77	514,649.49	514,649.49	514,649.49
11/1/2028	1,038,107.28	143,414.36	1,181,521.64	59,124.87	8,168.09	67,292.96	91,798.71	12,681.98	12,681.98	451,749.55	451,749.55	451,749.55
5/1/2029	1,090,488.84	117,461.68	1,207,950.52	62,102.24	6,889.97	68,992.21	96,430.76	10,387.01	10,387.01	369,999.63	369,999.63	369,999.63
11/1/2029	1,144,457.72	90,199.46	1,234,657.18	65,182.01	5,137.26	70,319.27	101,203.17	7,976.24	7,976.24	284,124.72	284,124.72	284,124.72
5/1/2030	1,201,601.24	61,588.02	1,263,189.26	68,436.59	3,507.71	71,944.30	106,256.31	5,446.16	5,446.16	193,999.81	193,999.81	193,999.81
11/1/2030	1,261,919.40	31,547.99	1,293,467.39	71,871.98	1,796.80	73,668.77	111,590.18	2,789.75	2,789.75	99,374.90	99,374.90	99,374.90
5/1/2042	\$ 19,085,955.68	\$ 13,887,109.36	\$ 32,973,065.04	\$ 1,087,029.72	\$ 789,794.13	\$ 1,876,823.85	\$ 1,687,748.76	\$ 1,226,259.56	\$ 1,226,259.56	\$ 43,680,844.10	\$ 43,680,844.10	\$ 43,680,844.10

**Bendzinski & Co.**



**municipal finance advisors**

**Macomb Interceptor Drain Drainage District  
County of Macomb, State of Michigan  
Drain and Refunding Bonds, Series 2017A (NEW MONEY PORTION)**

Period Ending	Principal	Interest	Debt Service
11/1/2017		\$ 1,050,037.78	\$ 1,050,037.78
5/1/2018	1,115,000	1,442,800.00	2,557,800.00
11/1/2018		1,414,925.00	1,414,925.00
5/1/2019	1,345,000	1,414,925.00	2,759,925.00
11/1/2019		1,381,300.00	1,381,300.00
5/1/2020	1,415,000	1,381,300.00	2,796,300.00
11/1/2020		1,345,925.00	1,345,925.00
5/1/2021	1,485,000	1,345,925.00	2,830,925.00
11/1/2021		1,308,800.00	1,308,800.00
5/1/2022	1,560,000	1,308,800.00	2,868,800.00
11/1/2022		1,269,800.00	1,269,800.00
5/1/2023	1,635,000	1,269,800.00	2,904,800.00
11/1/2023		1,228,925.00	1,228,925.00
5/1/2024	1,715,000	1,228,925.00	2,943,925.00
11/1/2024		1,186,050.00	1,186,050.00
5/1/2025	1,805,000	1,186,050.00	2,991,050.00
11/1/2025		1,140,925.00	1,140,925.00
5/1/2026	1,895,000	1,140,925.00	3,035,925.00
11/1/2026		1,093,550.00	1,093,550.00
5/1/2027	1,990,000	1,093,550.00	3,083,550.00
11/1/2027		1,043,800.00	1,043,800.00
5/1/2028	2,085,000	1,043,800.00	3,128,800.00
11/1/2028		991,675.00	991,675.00
5/1/2029	2,190,000	991,675.00	3,181,675.00
11/1/2029		936,925.00	936,925.00
5/1/2030	2,300,000	936,925.00	3,236,925.00
11/1/2030		879,425.00	879,425.00
5/1/2031	2,415,000	879,425.00	3,294,425.00
11/1/2031		819,050.00	819,050.00
5/1/2032	2,535,000	819,050.00	3,354,050.00
11/1/2032		755,675.00	755,675.00
5/1/2033	2,665,000	755,675.00	3,420,675.00
11/1/2033		689,050.00	689,050.00
5/1/2034	2,795,000	689,050.00	3,484,050.00
11/1/2034		619,175.00	619,175.00
5/1/2035	2,935,000	619,175.00	3,554,175.00
11/1/2035		575,150.00	575,150.00
5/1/2036	3,025,000	575,150.00	3,600,150.00
11/1/2036		514,650.00	514,650.00
5/1/2037	3,145,000	514,650.00	3,659,650.00
11/1/2037		451,750.00	451,750.00
5/1/2038	3,270,000	451,750.00	3,721,750.00
11/1/2038		370,000.00	370,000.00
5/1/2039	3,435,000	370,000.00	3,805,000.00
11/1/2039		284,125.00	284,125.00
5/1/2040	3,605,000	284,125.00	3,889,125.00
11/1/2040		194,000.00	194,000.00
5/1/2041	3,785,000	194,000.00	3,979,000.00
11/1/2041		99,375.00	99,375.00
5/1/2042	3,975,000	99,375.00	4,074,375.00
	<u>\$ 60,120,000</u>	<u>\$ 43,680,887.78</u>	<u>\$ 103,800,887.78</u>

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# State Revolving Fund Project Plan Project Summary Macomb Interceptor Drain Repair Project Macomb County Public Works Commissioner

HRC Job No. 20170112

The Office of the Macomb County Public Works Commissioner (OMCPWC) is requesting authorization from the Macomb Interceptor Drain Drainage District (MIDDD) Board to apply for a low-interest loan from the MDEQ State Revolving Fund (SRF) for improvements to the remainder of the Macomb Interceptor Drain (MID) from the ITC Corridor & 15 Mile Road to Garfield Road & Clinton River Road (known as PCI-12A) that have not already been replaced or rehabilitated. Application for the loan does not obligate the MIDDD to construct any of the proposed projects. The purpose of the application (Project Plan) is to prioritize the most critical projects as the requested amount of funding often exceeds the MDEQ's budget for the SRF program. The Project Plan was developed based on MDEQ guidance documents and past experience completing Project Plan for the OMCPWC and numerous other communities/entities within the State of Michigan and contains the following information:

- Project Background
- Analysis of Potential Alternatives
- Description and Evaluation of Selected Alternative
- Evaluation of Environmental Impacts
- Mitigation of Impacts
- Public Participation

The improvement alternative selected for the MID PCI-12A, at this time, was to structurally replace the remaining segments of the Interceptor that have not already been replaced or rehabilitated. The selection was based on a present-worth cost analysis of anticipated project costs for the improvement alternatives and took into consideration reliability and consumer confidence as social factors.

Environmental impacts potentially caused by the proposed improvement projects were evaluated for short-term & long-term, and direct & indirect impacts. This evaluation provides the project team with important factors to consider ahead of time when designing, permitting, and constructing the proposed improvements.

The Draft Project Plan was made available for public viewing on the OMCPWC website and at the front desk of the OMCPWC main office on May 8, 2017 and a public hearing to present the contents of the Draft Project Plan was held on June 8, 2017 in order to fulfill the requirements of the Public Participation portion of the application. Comments from the public viewing period and the public hearing will be incorporated into the final Project Plan prior to submittal to the MDEQ.

The proactive rehabilitation, replacement, and maintenance of infrastructure is the cost-effective approach to infrastructure reinvestment and is typically less impactful to the surrounding businesses and residents. The MDEQ's SRF Program is a prudent avenue to secure funding assistance for potential projects and would save the MIDD significant monies over financing these projects themselves. Therefore, it is recommended that the OMCPWC apply for a low-interest loan under the State's SRF program for all eligible costs for the proposed improvement projects detailed in the Project Plan.

**HRC**  
 HUBBELL, ROTH & CLARK, INC.  
 CONSULTANTS

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**PUBLIC HEARING**  
 MACOMB INTERCEPTOR DRAIN REPAIR PROJECT

CLEAN WATER STATE REVOLVING FUND PROJECT PLAN  
 SRF PROJECT NO. S659-01

Candice S. Miller  
 Macomb County Public Works Commissioner  
 Macomb Interceptor Drain Drainage District

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**INTRODUCTIONS**

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- Candice S. Miller, Macomb County Public Works Commissioner
- Office of the Macomb County Public Works Commissioner
  - Brian Baker, Chief Deputy Public Works Commissioner
  - Evans Bantios, P.E., Engineer II, Wastewater Services
- Hubbell, Roth & Clark, Inc.
  - Bradley Shepler, P.E., Associate
  - Emily Ause, EIT

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**WHAT IS THE PURPOSE OF THIS PUBLIC HEARING?**

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- Present a summary of the Clean Water State Revolving Fund (SRF) Project Plan
  - System Background
  - Project Need/System Reliability/Water Quality
  - Analysis of Alternatives
  - Capital, Operation & Maintenance, User, and Other Associated Costs
  - Social & Environmental Impacts and their Mitigation
- Provide a forum for Community Participation

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### CLEAN WATER STATE REVOLVING FUND (SRF)

■ **What is it? How is it funded?**

- Administered by the Michigan Department of Environmental Quality's (MDEQ) Office of Drinking Water and Municipal Assistance, Revolving Loan Section
- 20 year low interest loans to local municipalities/drainage districts (current rate is 2.5%)
- Approximately \$150 million a year available in loans
- Typically used to fund wastewater and storm water quality improvement projects

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### CLEAN WATER STATE REVOLVING FUND (SRF) CONTINUED

■ **Application Process**

- Clean Water State Revolving Fund (SRF) Project Plan Preparation Guidance
- Preliminary draft Project Plan submittal
  - HDEQ Program Manager assigned for project plan
- Publishes a draft project plan
  - Determine immediate and long-term (10 year) needs of the system
  - Present Words/Alternatives Analysis to determine most cost effective alternative
  - Consider long and short-term impacts and mitigation techniques
  - Public involvement/inter-agency Public Comment
- Submit a final Project Plan
  - Project Priority List (PPL) created based on a point system
    - Factors include: O&M, Storage, Receiving, Performance, Population, Disadvantaged Community, etc.

■ **Loan Acceptance Process**

- Submitting an Application does not obligate agency to accept the loan
- Loan is available for up to 3 years
- Typically, design and construction begin after loan acceptance

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### FY17 PPL

Michigan Department of Environmental Quality  
Office of Drinking Water and Municipal Assistance  
Revolving Loan Section

Agency	Project	Priority	Score	Comments
Alcona	Water Treatment Plant	1	100	
Alcona	Water Treatment Plant	2	95	
Alcona	Water Treatment Plant	3	90	
Alcona	Water Treatment Plant	4	85	
Alcona	Water Treatment Plant	5	80	
Alcona	Water Treatment Plant	6	75	
Alcona	Water Treatment Plant	7	70	
Alcona	Water Treatment Plant	8	65	
Alcona	Water Treatment Plant	9	60	
Alcona	Water Treatment Plant	10	55	
Alcona	Water Treatment Plant	11	50	
Alcona	Water Treatment Plant	12	45	
Alcona	Water Treatment Plant	13	40	
Alcona	Water Treatment Plant	14	35	
Alcona	Water Treatment Plant	15	30	
Alcona	Water Treatment Plant	16	25	
Alcona	Water Treatment Plant	17	20	
Alcona	Water Treatment Plant	18	15	
Alcona	Water Treatment Plant	19	10	
Alcona	Water Treatment Plant	20	5	
Alcona	Water Treatment Plant	21	0	
Alcona	Water Treatment Plant	22	0	
Alcona	Water Treatment Plant	23	0	
Alcona	Water Treatment Plant	24	0	
Alcona	Water Treatment Plant	25	0	
Alcona	Water Treatment Plant	26	0	
Alcona	Water Treatment Plant	27	0	
Alcona	Water Treatment Plant	28	0	
Alcona	Water Treatment Plant	29	0	
Alcona	Water Treatment Plant	30	0	
Alcona	Water Treatment Plant	31	0	
Alcona	Water Treatment Plant	32	0	
Alcona	Water Treatment Plant	33	0	
Alcona	Water Treatment Plant	34	0	
Alcona	Water Treatment Plant	35	0	
Alcona	Water Treatment Plant	36	0	
Alcona	Water Treatment Plant	37	0	
Alcona	Water Treatment Plant	38	0	
Alcona	Water Treatment Plant	39	0	
Alcona	Water Treatment Plant	40	0	
Alcona	Water Treatment Plant	41	0	
Alcona	Water Treatment Plant	42	0	
Alcona	Water Treatment Plant	43	0	
Alcona	Water Treatment Plant	44	0	
Alcona	Water Treatment Plant	45	0	
Alcona	Water Treatment Plant	46	0	
Alcona	Water Treatment Plant	47	0	
Alcona	Water Treatment Plant	48	0	
Alcona	Water Treatment Plant	49	0	
Alcona	Water Treatment Plant	50	0	

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### PROJECT BACKGROUND

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- **Macomb Interceptor Drain (MID) installed between 1970 and 1999 by the Detroit Water & Sewerage Department (DWSD)**
  - In 2010, DWSD transferred all operation and maintenance responsibilities to the Macomb Interceptor Drain Drainage District (MIDDD)
  - Over 600,000 Macomb County residents and businesses rely on this system to collect and transport sanitary sewage
  - Conveys between 30 cubic feet and 50 cubic feet of sanitary sewage per second (cfs)

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4/29/17 HUSSELL, POTH & CLARK, P.C. | MID REPAIR PROJECT PUBLIC HEARING 2

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### MACOMB COUNTY SERVICE AREA

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4/29/17 HUSSELL, POTH & CLARK, P.C. | MID REPAIR PROJECT PUBLIC HEARING 3

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### PROJECT BACKGROUND

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- **MID PCI-12A Details:**
  - Located:
    - 15 Mile Road from the ITC Corridor to Garfield Road, and
    - Garfield Road from 15 Mile Road to just south of Clinton River Road
  - Installed via Tunnel section between 1971 & 1973
  - 11-foot diameter non-reinforced, cast-in-place, concrete pipe with wall thickness between 14 and 22-inches
  - 55 to 70-feet below ground surface
  - Tunnel sections, rigid steel structure (inside diameter), wood lagging/steel liner plates (outside diameter), grout, precast concrete block rib arch

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4/29/17 HUSSELL, POTH & CLARK, P.C. | MID REPAIR PROJECT PUBLIC HEARING 4

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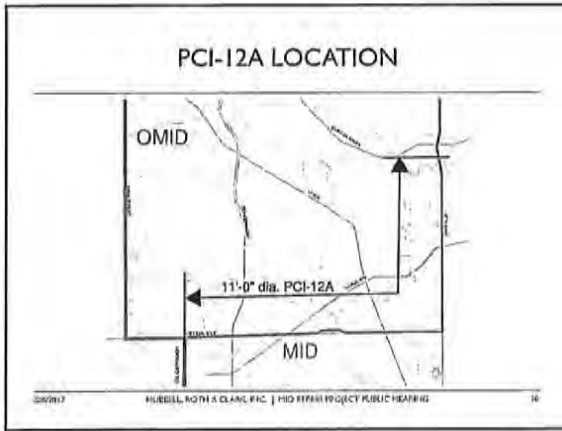
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### PROJECT BACKGROUND

■ MID PCI-12A Details:

- Located:
  - 15 Mile Road from the ITC Corridor to Garfield Road, and
  - Garfield Road from 15 Mile Road to just south of Clinton River Road
- Installed via Tunnel section between 1971 & 1973
- 11-foot diameter non-reinforced, cast-in-place, concrete pipe with wall thickness between 14 and 22-inches
- 55 to 70-feet below ground surface
- Tunnel sections, rigid steel structure (inside diameter), wood lagging/steel liner plates (outside diameter), grout, precast concrete block rib arch

02/01/17 HUBBELL, ROTH & CLARK, P.C. | MID RIFAN PROJECT PUBLIC HEARING 17

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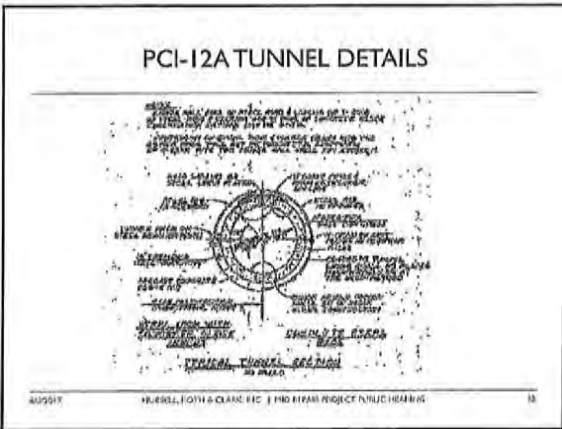
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### PROJECT BACKGROUND

- Since the completion of the MID PCI-12A, three (3) separate failures have occurred:
  - 1978: Result of dewatering prior to installation of a sewer tap in the City of Fraser;
  - An 8-foot diameter by-pass line (PCI-37) was installed around the pipe failure
  - Existing interceptor was abandoned
  - 2004: Unprovoked sinkhole emerges at surface
  - Detailed sewer inspections in 2006 were performed afterwards to determine the cause of failure and reduce chances of future collapse
  - Cause of failure (see images on following slide): high ground water levels, cracks, fine soil particles, inflow/infiltration, voids
  - Thirty-three (33) locations of inflow and infiltration were found
  - Rehabilitation work was completed in four (4) areas, a total of 1,700-feet of the interceptor
  - 2016: Unprovoked sinkhole emerges at surface
  - Cause of failure similar to that of the 2004 sinkhole
  - 2006 sewer inspections and condition reports did not show any signs of potential failure at the location of this sinkhole

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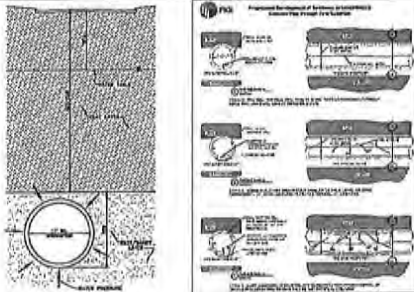
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### PIPE FAILURE DETAILS/PROBABLE CAUSES




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### PROJECT NEED

- Continued failure of MID PCI-12A not acceptable level of service to Macomb County businesses and residents
- Reactionary repairs are not a cost-effective solution to failures on the interceptor

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### PROJECT NEED CONTINUED: ANALYSIS OF THE ALTERNATIVES

- **No Action**
  - Continued deterioration; inevitable failure
  - Costly and impactful repairs
- **Recovery Shaft/PCI-12A Structural Replacement**
  - Long-term correction of unfavorable in-situ conditions
- **Recovery Shaft/PCI-12A Rehabilitation**
  - Short-term and cost-effective method to manage condition
  - Difficult to predict potential failures in sewer
- **Regional Alternatives**
  - Not feasible or favorable to return the operation and maintenance of the MID to DWSD/GLWA

047017 HUBBELL, FOTH & CLARK, P.C. | MID REPAIR PROJECT PUBLIC HEARING 16

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### CURRENT STATUS

- **Portions of the Project are not eligible for SRF funding**
  - Work constructed before MDEQ completes environmental assessment (EA) not eligible for SRF funding
  - Estimated date of EA clearance: October 1, 2017
  - Emergency work needed to be started ASAP
- **Bypass Pumping**
  - Functioning as intended
  - Prevents sewage from flowing into the Clinton River
  - Allows for work to be done on the interceptor
- **Segment 1 - Recovery Shaft/Replacement of Interceptor**
  - Open-cut excavation and replacement of failed pipe
- **Segment 2 - Recovery Shaft to Gate CS-3**
  - Accelerated pipe replacement to take advantage of in-place bypass pumping
  - Potential cost savings of \$4 million to \$8 million
  - Construction to start late July to early August 2017

047017 HUBBELL, FOTH & CLARK, P.C. | MID REPAIR PROJECT PUBLIC HEARING 17

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### FUTURE PROJECTS & PLANNING

- **New 9'-2" to 9'-6" diameter glass fiber reinforced polymer mortar pipe (GFRPMP) installed within the remainder of the existing 11'-0" diameter MID PCI-12A**
- **Broken up into five (5) Segments**
  - Segment 1: Recovery Shaft Construction & Interceptor Replacement - not eligible for SRF loan funding (current)
  - Segment 2: Structural Replacement of PCI-12A (Recovery Shaft to CS-3) - not eligible for SRF loan funding (current)
  - Segment 3: Structural Replacement of PCI-12A (CS2 to Metro Parkway)
  - Segment 4: Structural Replacement of PCI-12A (Metro Parkway to PCI-14)
  - Segment 5: Structural Replacement of PCI-12A (Robson Drive to TTC Corridor)
- **Additional Working Installations:**
  - Two (2) bypass pumping manholes
  - One (1) working shaft

047017 HUBBELL, FOTH & CLARK, P.C. | MID REPAIR PROJECT PUBLIC HEARING 18

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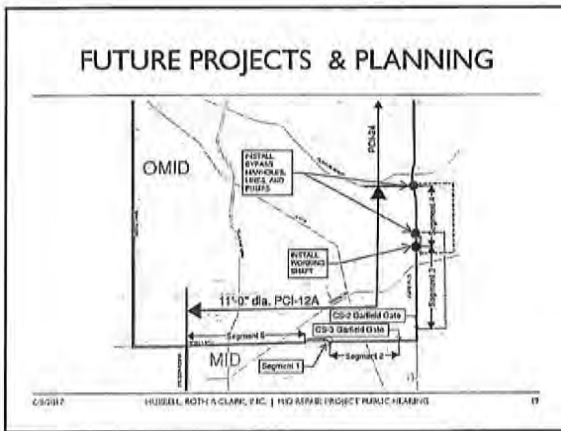
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### PROJECT SCHEDULE FY 18 (SEGMENT 3)

ACTIVITIES	DATE DATE
Final Project Plan Submission FERC	May 8, 2017
Advanced Public Hearing	May 9, 2017
Final Project Plan Public Availability Act Public	May 8, 2017
Public Hearing	June 6, 2017
Site Resolution of Adoption of Project Plan	June 15, 2017
Final Project Plan Submission FERC	June 16, 2017
Initial Design of Improvement	September 1, 2017
Final Determination or Decision Analysis	February 1, 2018
Final EIS on FERC	February 15, 2018
Final Application Submission FERC	March 1, 2018
Advertisement for Bid	March 1, 2018
Final Application Submission FERC	April 18, 2018
Submission of Construction	May 1, 2018
Final Application Submission FERC	May 1, 2018
FERC Closing	June 5, 2018
Start of Construction	July 9, 2018
Complete Construction	November 15, 2018

4/15/17 HUSSELL, BORTH & CLARK, P.C. | HO MAFA PROJECT PUBLIC HEARING 20

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- ### ESTIMATED PROJECT COSTS
- Emergency Stabilization of Site & Bypass Pumping System Installation and Maintenance up to Segment 1 Construction: \$20,000,000
  - Segment 1: \$35,500,000
  - Segment 2: \$8,000,000 to \$10,000,000
  - Segment 3 (estimated): \$22,720,000
  - Segment 4 (estimated): \$18,110,000
  - Segment 5 (estimated): \$25,430,000
  - Total Project Cost: \$135,000,000
- 4/15/17 HUSSELL, BORTH & CLARK, P.C. | HO MAFA PROJECT PUBLIC HEARING 21

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### ANTICIPATED USER COSTS

- If the loan is awarded and accepted, the MIDDD is responsible for cost of improvements, and system operation & maintenance costs
- Assumptions:
  - 2,007,000 thousand cubic feet of sewage generated per year
  - Average sewage contribution of 80 to 100 gallons per capita per day (gpcd)
  - 2.51 people per household

LAD0017 HUSSELL, ROTH & CLARK, P.C. | MIDDD REPAIR PROJECT PUBLIC HEARING 22

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### ANTICIPATED USER COSTS

Item	Segment 3 Cost	Segment 4 Cost	Segment 5 Cost	Total
<b>Total Costs (Rounded to the nearest \$1,000)</b>	<b>\$22,738,000</b>	<b>\$18,110,000</b>	<b>\$35,410,000</b>	<b>\$44,140,000</b>

Anticipated User Costs – Financing of Segment 3 through Segment 5	
Interest Rate of Bonds	3.0%
Length of Lease	30 Years
Lease Amount	\$44,390,000
Average Annual Debt Service	\$4,355,390
Average Sewage Rate Increase (per mcf)	\$2.12
Anticipated Yearly Impact to Avg. Household	\$10.79 to \$15.97

LAD0017 HUSSELL, ROTH & CLARK, P.C. | MIDDD REPAIR PROJECT PUBLIC HEARING 23

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### POTENTIAL IMPACTS & MITIGATIONS

Short-Term Impact	Mitigation
Isolated occurrences	All sites disturbed will be restored to meet all rules, codes, or local regulatory and requirements.
Traffic disruptions: limited detours, traffic flow patterns, delays	Construction activities will be coordinated and detours established
Increase in noise rates	Spread out over the entire study area
Soil erosion, debris, unpleasant appearance of view, dust, and excessive use and storage of large machinery	All work will occur within existing structures, road right-of-way, or private easements. This will help protect on farms, businesses and the environment adjacent
Increased noise	The work hours will be maintained in accordance with OSHA standards and Placer and Colusa County and/or local ordinances
Long-Term Impact	Mitigation
Increased reliability of the MIDDD system	No mitigation necessary

LAD0017 HUSSELL, ROTH & CLARK, P.C. | MIDDD REPAIR PROJECT PUBLIC HEARING 24

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### CHANGES TO THE PROJECT PLAN SINCE THE DRAFT

- Segment 2 will not be eligible to be funded under the SRF Program

6/8/2017

HUBBELL, FOTH & CLARK, P.C. | 110 HENRI PROJECT PUBLIC HEARING

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### PROJECT PLAN QUESTIONS/COMMENTS

- Please state your name and address for the record.
- In order to allow the opportunity for everyone to participate, we request comments be limited to the scope of this SRF Project Plan Public Hearing.
- The Office of the Macomb County Public Works Commissioner sincerely appreciates your participation in this process.

6/8/2017

HUBBELL, FOTH & CLARK, P.C. | 110 HENRI PROJECT PUBLIC HEARING

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**A RESOLUTION AGREEING TO SUBMISSION OF POTENTIAL PHASE TWO  
RECONSTRUCTION  
FOR MACOMB INTERCEPTOR DRAIN REPAIR PROJECT AND  
DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE**

**WHEREAS**, the Macomb Interceptor Drain Drainage District (MIDDD) Board is currently reconstructing a failed portion of the Macomb Interceptor Drain (MID), it is also preparing for the possible need for implementation of improvements to the remainder of the MID PCI-12A, a facility owned and operated by the MIDDD, located in City of Sterling Heights, Clinton Township and City of Fraser.

**WHEREAS**, the MIDDD Board authorized Hubbell, Roth & Clark, Inc. to prepare a Project Plan in preparation for possible improvements to the remainder of the MID PCI-12A; and

**WHEREAS**, said Project Plan was presented at a Public Hearing held on Thursday, June 8, 2017 and all public comments have been considered and addressed;

**NOW THEREFORE BE IT RESOLVED**, that the MIDDD Board formally adopts said Project Plan submission for and SRF loan from the State of Michigan, and agrees to implement the selected alternative (Recovery Shaft/PCI-12A Structural Replacement), assuming all components of the selected alternative are determined to be necessary, by the MIDDD Board, to assure an improved structural integrity and reliability of the MID PCI-12A.

**BE IT FURTHER RESOLVED**, that the Wastewater Services Engineer II, a position currently held by Evans Bantios, is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Plan as the first step in applying to the State of Michigan for a State Revolving Fund Loan to assist in the implementation of the selected alternative.

Yeas:

Nays:

I certify that the above Resolution was adopted by the Macomb Interceptor Drain Drainage District Board on Monday, June 12, 2017.

BY:

\_\_\_\_\_  
Candice S. Miller  
Macomb Interceptor Drain Drainage District Board, Chairman

**Macomb Interceptor Drain Drainage District (MIDD)**  
**FY 2018 Budget & Charges**  
**Executive Summary**

June 12, 2017

Attached is a copy of the proposed MIDD 2017/18 budget. On June 7, 2017, the Great Lakes Water Authority (GLWA) adopted their sewer charges. The GLWA's costs account for 62% of the 11 MIDD communities' charges. On June 7, 2017 the MIDD was able to successfully sell the \$70 million interceptor repair bonds and refinanced existing debt saving \$5.9 million. As of result of these actions, the MIDD budget and final charges are ready for adoption at the June 12, 2017 MIDD board meeting.

The total budget is proposed to increase by \$5.0 million or 6.7%, from \$74.7 million to \$79.8 million. The \$79.8 million MIDD budget includes \$56.6 million of pass through charges from the Great Lakes Water Authority (GLWA) and the Oakland Macomb Interceptor Drainage District (OMID) which accounts for over 70% of the budget.

The GLWA charges increase by \$2.3 million or 4.9% due to a two year sewer share phase in that is shifting costs from Detroit to the suburbs. Further, Macomb's share of OMID flow, and thereby its share of costs, increased slightly compared to the Oakland OMID communities.

The OMID costs decreased by \$645,000 or 8.2% as the prior year budget incorrectly included a \$980,000 principal amount (the correct amounts were billed). Absent this change, the OMID costs would have increased \$335,000 or 4.8% largely for the cost of insuring the OMID interceptor and costs relating to the Northeast Pump Station. The OMID board has adopted its budget.

Macomb's portion totals \$23.2 million (29% of total) and increased \$3.4 million. The \$3.6 million debt payment on the 15 Mile Interceptor repair bonds and initial lining accounts for the entire increase. Savings from refinancing the 2010 MIDD bonds will save \$426,000 next year and \$5.9 million over the remaining life of the bonds. The new debt and debt refinancing have already been approved by the MIDD Board and the Board of Commissioners.

**The portion of the MIDD budget (Operations & Maintenance) that establishes Macomb's fixed sewer charges totals \$8.9 million and rose only \$192,000 or 2.2%.** Legal fee savings, use of cash reserves to offset a portion of SRF debt payments, and one-time prior year costs have allowed Public Works to fund several new initiatives while holding the increase to below the GLWA and OMID increases. New projects include the rebuilding of a critical drop shaft, the design of the repairs to five additional drop shaft structures, seven new flow and H2S meters, a Wastewater Master Plan, Biofilter improvements, new metering software, and revenue financed reserves to lessen future debt needs.

The average sewer charge increase to the 11 MIDD communities is 6.7%. There is slight charge variability among the MIDD communities due to the updated five year average sewer flow volumes and the effect of the 2010 MIDD bond refunding savings. The new 15 Mile interceptor debt accounted for an average 3.4% increase. Attached is more detailed budget and charge information which will explain the charges by cost center.

Should you have any questions, please do not hesitate to contact the Macomb County Public Works Office.



**MIDD Budget  
Total Sewer Charges**

<u>Cost Category</u>	<u>2016/17 Charge</u>	<u>2017/18 Charge</u>	<u>Change</u>	<u>% Change</u>	<u>% of Total</u>
GLWA - OMID	\$45,680,803	\$48,129,224	\$2,448,421	5.4%	60.3%
GLWA CSO Program	721,883	757,506	35,623	4.9%	0.9%
GLWA Highland Park	605,149	420,065	(185,084)	-30.6%	0.5%
<b>Total GLWA</b>	<b>47,007,835</b>	<b>49,306,795</b>	<b>2,298,960</b>	<b>4.9%</b>	<b>61.8%</b>
OMID O&M	2,379,272	2,667,162	287,890	12.1%	3.3%
OMID Debt	5,535,682	4,602,562	(933,120)	-16.9%	5.8%
<b>Total OMID</b>	<b>7,914,954</b>	<b>7,269,724</b>	<b>(645,230)</b>	<b>-8.2%</b>	<b>9.1%</b>
<b>Subtotal GLWA and OMID</b>	<b>54,922,789</b>	<b>56,576,519</b>	<b>1,653,730</b>	<b>3.0%</b>	<b>70.9%</b>
MIDD New Debt - Interceptor	0	3,607,838	3,607,838	100.0%	4.5%
MIDD Existing Debt	11,116,401	10,689,988	(426,413)	-3.8%	13.4%
<b>MIDD O&amp;M/Charge Required Revenue</b>	<b>8,707,748</b>	<b>8,899,463</b>	<b>191,715</b>	<b>2.2%</b>	<b>11.2%</b>
<b>Total MIDD</b>	<b>19,824,149</b>	<b>23,197,289</b>	<b>3,373,140</b>	<b>17.0%</b>	<b>29.1%</b>
<b>Total Budget</b>	<b>\$74,746,938</b>	<b>\$79,773,808</b>	<b>\$5,026,870</b>	<b>6.7%</b>	<b>100.0%</b>

MIDDD COMMUNITIES  
TOTAL SEWER CHARGES  
FY 2017 vs FY 2018

Cost Category	2016/2017 Charge	2017/2018 Charge	Difference	% Change	Page #
1) GLWA-OMID <sup>(1)</sup>	45,680,803	48,129,224	2,448,421	5.4%	2
2) GLWA CSO Program	721,883	757,506	35,623	4.9%	2
3) GLWA Highland Park	605,149	420,065	(185,084)	-30.6%	2
4) OMID O&M <sup>(2)</sup>	2,379,272	2,667,162	287,890	12.1%	2
<b>5) MIDDD O&amp;M/Charge Required Revenue</b>	<b>8,707,748</b>	<b>8,899,463</b>	<b>191,715</b>	<b>2.2%</b>	<b>2,4</b>
6) Sub Total	58,094,855	60,873,420	2,778,565	4.8%	
7) OMID Debt <sup>(3)</sup>	5,535,682	4,602,562	(933,120)	-16.9%	3
8) MIDDD Existing Debt <sup>(4)</sup>	11,116,401	10,689,988	(426,413)	-3.8%	3
9) New MIDDD Debt(2016 Sinkhole) <sup>(5)</sup>	0	3,607,838	3,607,838	100.0%	3,27
10) Sub Total Debt(See page 3)	16,652,083	18,900,388	2,248,305	13.5%	
<b>TOTAL</b>	<b>74,746,938</b>	<b>79,773,808</b>	<b>5,026,870</b>	<b>6.7%</b>	

Communities	2016/2017 Charge	2017/2018 Charge	Difference	% Change
Chesterfid Twp	6,010,762	6,361,522	350,760	5.8%
Clinton Twp	15,681,009	16,570,958	889,949	5.7%
Fraser	3,176,169	3,313,231	137,062	4.3%
Harrison Twp	4,188,681	4,536,013	347,332	8.3%
Lenox Twp	1,184,517	1,283,397	98,880	8.3%
Macomb Twp	9,955,379	10,696,986	741,607	7.4%
New Haven <sup>(6)</sup>	1,003,024	1,022,398	19,374	1.9%
Shelby Twp	7,149,839	7,594,657	444,818	6.2%
Sterling Heights	22,968,636	24,727,534	1,758,898	7.7%
Utica	1,343,302	1,405,985	62,683	4.7%
Wash Twp	2,085,620	2,261,127	175,507	8.4%
<b>TOTAL</b>	<b>74,746,938</b>	<b>79,773,808</b>	<b>5,026,870</b>	<b>6.7%</b>

**NOTES**

- 1) Pending GLWA approval of sewer share charges
- 2) Increase mostly relates to SAW grant match, insurance, and NE Pump Station
- 3) PY budget amount had an incorrect principal amount included. Actual amount paid by communities for 16/17 was \$4,555,612
- 4) Includes anticipated savings from refunding of 2010 MIDDD debt
- 5) Estimated bond of \$70 million. Bond will close at end of May. Will be used to pay for all sinkhole expenses
- 6) New Haven flow change  
New Haven's flow decreased by 23.04% because of rolling average dropping off 2011 and adding 2016

	2011	2016	% Change
	21,640.53	16,654.00	-23.04%

**MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT**  
**2017-2018 SEWER CHARGES**  
**(Excludes Non Revenue Debt)**  
**Effective July 1, 2017**

OMIDD Charges to MIDDD	Total Annual	% Macomb County	Allocated to Macomb City	Monthly	Five Year Rolling Averages per actual consumption 7/1/2011-6/30/2016											
					Chesterfld Twp	Clinton Twp	Fraser	Harrison Twp	Leroux Twp	Macomb Twp	New Haven	Shelby Twp	Sterling Heights	Ulica	Wash Twp	
GLWA-OMID	70,945,200	67.84%	46,123,224	4,010,769	263,527	650,064	163,763	233,944	30,554	550,909	32,435	400,182	1,273,275	72,519	112,594	4,010,769
GLWA CSO Program	1,251,800	60.52%	757,508	63,125	4,453	13,380	2,956	3,682	481	8,702	510	6,298	20,040	1,141	1,772	63,125
GLWA Highland Park	619,200	67.84%	420,065	35,005	2,474	7,418	1,473	2,042	267	4,828	283	3,493	11,113	633	983	35,005
OMID O&M	3,986,790	66.90%	2,667,182	222,264	15,712	47,109	9,352	12,884	1,593	30,640	1,797	22,177	70,561	4,019	6,240	222,264
Total GLWA and OMID Charges (Pg 16)	76,802,790		51,973,957	4,331,163	306,176	917,971	182,247	252,032	32,895	597,077	35,025	432,150	1,374,989	78,312	121,589	4,331,163
MIDDD O&M/Charge Required Revenue (Pg 4)	8,898,453	100.00%	8,898,453	741,621	52,426	157,183	31,206	43,258	5,650	102,237	5,997	73,997	235,438	13,409	20,820	741,621
	85,702,253		60,872,420	5,072,784	358,602	1,075,154	215,453	295,690	38,645	699,314	41,022	505,147	1,610,427	91,721	142,409	5,072,784
			Annual Total		4,303,225	12,901,849	2,561,437	3,550,681	463,741	8,391,789	492,264	6,073,765	19,325,125	1,100,653	1,706,911	60,872,420

DEBT WORKSHEET  
OMID and MIDD

**MIDD 2017-2018 DEBT WORKSHEET**

Not Part of Monthly Invoice. Will be invoiced separately every 6 months  
Does not include paying or calculation agent fees

	Principal	Interest	Interest Rebate	Total	Chsterlid Twp.	Clinton Twp.	Fraser Twp.	Harr Twp.	Lnx Twp.	Macomb Twp.	New Haven Twp.	Shelby Twp.	St. Hgls.	Ufca	Wash Twp.	Total
MIDD DEBT SERVICE(FLOW BASED)																
OMI CWRP #6388-01 26,076,000	607,700	251,964	-	859,663	65,825	187,721	38,792	50,103	4,205	112,749	8,979	79,525	275,261	15,506	20,959	859,663
OMI 6.7 Million Bond Series 2010B (Recovery Zone Bonds)	144,200	142,284	(54,378)	232,120	17,774	60,887	10,474	13,528	1,195	30,444	2,424	21,473	74,354	4,187	5,670	232,120
OMI 2014A	207,280	122,685		329,965	25,265	72,053	14,889	19,231	1,614	43,277	3,448	30,524	105,654	5,952	6,080	329,965
OMI-2011 \$25,530,000 SRF 5388-02	627,692	288,970		916,662	78,576	224,082	45,308	69,807	5,019	0	10,718	0	328,578	18,509	25,087	916,662
OMI-2013 SRF 5388-03	1,959,160	572,416		2,531,576	153,823	467,191	98,543	124,593	10,455	280,505	22,346	0	695,057	38,590	52,252	1,941,576
SAV Loan Project 2001-01	276,610	165,968		442,578	0	144,146	29,787	38,473	0	0	6,895	0	211,368	11,907	0	442,578
Clintondale Pump Station Rehab-2011	1,200,000	1,165,000		2,365,000	180,321	614,252	105,269	137,252	11,521	308,872	24,595	217,852	764,062	42,477	57,526	2,365,000
NGI Phase 2015 Refunding District Apportionment 37.9992%	267,894	280,990		548,884	42,028	119,858	24,768	31,990	2,665	71,989	5,733	60,775	175,750	9,900	13,408	548,884
NGI Bond Series 2010 \$16,865 million District Appt 4.5529%	26,522	35,911	(14,161)	48,272	3,772	10,759	2,223	2,872	241	6,482	615	4,558	15,777	899	1,204	48,272
MIDD 2017A Sinkhole Bond	1,115,000	2,492,838		3,607,838	255,043	784,664	151,811	210,442	27,485	487,362	28,177	359,978	1,145,358	65,233	101,263	3,607,838
MIDD SRF 6624-01	145,000	86,438		231,438	16,928	50,700	10,265	13,232	1,314	31,479	2,176	22,376	72,519	4,379	6,070	231,438
Macomb Interceptor Bonds-2010 Refunding Appt 87.2903%	2,448,493	2,419,464		4,867,957	372,740	1,052,986	219,667	233,709	23,814	538,482	50,841	450,315	1,558,700	87,803	118,910	4,867,957
<b>Totals</b>	<b>8,335,651</b>	<b>7,995,940</b>	<b>(68,539)</b>	<b>16,262,951</b>	<b>1,222,095</b>	<b>3,659,109</b>	<b>751,794</b>	<b>985,332</b>	<b>89,498</b>	<b>2,021,702</b>	<b>167,646</b>	<b>1,237,377</b>	<b>5,402,409</b>	<b>305,332</b>	<b>410,459</b>	<b>16,262,951</b>

	Chsterlid Twp.	Clinton Twp.	Fraser Twp.	Harr Twp.	Lnx Twp.	Macomb Twp.	New Haven Twp.	Shelby Twp.	St. Hgls.	Ufca	Wash Twp.	Total
INDIVIDUAL DEBT SERVICE(NEGOTIATED)												
NGI Phase 2015 Refunding	705,000	739,462			209,372	115,215						885,578
NGI Bond Series 2010	570,000	817,839	(304,353)		520,788	247,073						1,038,072
Macomb Interceptor Bonds-2010 Refunding	2,805,000	2,771,744				283,515		283,515			141,757	708,787
<b>Totals</b>	<b>4,140,000</b>	<b>4,339,045</b>	<b>(304,353)</b>	<b>0</b>	<b>730,160</b>	<b>645,803</b>	<b>362,288</b>	<b>283,515</b>	<b>0</b>	<b>0</b>	<b>141,757</b>	<b>2,637,437</b>

TOTAL by COMMUNITY

Estimated. SRF loan is based on draws to date. Assumes maximum draw will occur in 17/18 budget year.

OMID	4,602,862
MIDD	14,297,826
<b>TOTAL</b>	<b>18,900,688</b>

**MIDDD  
Operations Maintenance  
Budget to Actual**

Description	Page #	Actual 2015/2016	Proj Actual 2016/2017	Budget 2016/2017	Budget 2017/2018	Budget Change	% Change	Notes
<b>EXPENSE</b>								
Public Works Wastewater Personnel Cost	5	1,130,477	1,524,823	1,524,823	1,499,667	(25,156)	-1.6%	
Office Operations	6	243,960	110,000	114,100	120,600	6,500	5.7%	
SCADA	7	418,041	600,000	533,800	155,800	(378,000)	-70.8%	Software/hardware was completed in 16/17
Sewer Systems Projects/Studies/Eng. Design	8	4,046,290	3,100,000	2,995,000	5,595,000	2,600,000	86.8%	Drop shaft repair, Bluewater software, and master plan
Legal Services	9	498,959	550,000	975,000	650,000	(325,000)	-33.3%	Legal savings from ending ongoing litigation
Clintondale PS O&M	10	423,128	450,000	557,400	470,000	(87,400)	-15.7%	Decrease in anticipated utility expenses
NGI O&M	11	142,793	875,000	656,500	204,000	(452,500)	-68.9%	Replacement of the air release valves completed
Meters O&M	12	85,266	300,000	317,000	377,000	60,000	18.9%	Increase in meter maintenance
MID O&M		80,910	142,403	174,225	0	(174,225)	-100.0%	No longer necessary. Costs are consolidated in other categories
Biofilter O&M		0	120,000	127,225	198,000	70,775	55.6%	Will be adding woodchips. See page 13 for description
Contribution to Emergency Reserve	13	1,148,010	3,100,000	3,100,000	1,000,000	(2,100,000)	-67.7%	Less needed due to settlement of litigation
Sewage Disposal Charges - Mt. Clemens		184,791	190,000	208,000	208,000	0	0.0%	
Debt Service -SRF Revenue Bonds	15	535,246	723,502	723,500	173,396	(550,104)	-76.0%	Used cash on hand to offset the revenue bond debt as projects are nearing completion.
<b>Total</b>		<b>8,937,869</b>	<b>11,486,728</b>	<b>12,004,573</b>	<b>10,649,463</b>	<b>(1,355,110)</b>	<b>-11.3%</b>	
<b>REVENUE</b>								
Reimbursements <sup>(1)</sup>	14	446,974	623,811	250,000	275,000	25,000	10.0%	
Grants/SRF Funding	14	2,389,704	1,230,103	1,500,000	1,220,000	(280,000)	-18.7%	Relates to SAW Grant reimbursement
MIDDD O&M/Charge Required Revenue	2	8,908,812	8,707,748	8,707,748	8,898,463	191,715	2.2%	
Carryforward	14	0	1,540,825	1,540,825	250,000	(1,290,825)	-83.8%	Money collected for projects in 16/17 but not completed until 17/18.
Interest		4,655	555	6,000	5,000	(1,000)	-16.7%	
<b>TOTAL</b>		<b>11,150,145</b>	<b>12,103,042</b>	<b>12,004,573</b>	<b>10,649,463</b>	<b>(1,355,110)</b>	<b>-11.3%</b>	
Reserve <sup>(2)</sup>		5,000,000	8,600,000		9,600,000			

**Additional Notes**

1) MIDDD receives reimbursement from OMID for SCADA and personnel from other drainage districts. Also, \$500,000 includes settlement with Inland Waters in 16/17 and \$100,000 settlement for 17/18

2) Needed for possible sinkhole phase 2, future drop shaft repairs, sinkhole litigation/claims, and MIDDD's share of OMID's portion of NEPS/NIEA repair and upgrades

**Public Works Wastewater Disposal Division**  
**Personnel Cost**  
**FY 2017/2018**

Position	Salary Min	Salary Max	Number of Positions	BUDGET 2016/2017	BUDGET 2017/2018	NOTES
Chief Engineer-Wastewater Services	82,660	104,358	1	104,348	104,358	
Deputy Commissioner-Government Relations	62,000	79,861	0	39,535	0	No longer part of Wastewater Services
Wastewater Engineer II	58,436	78,694	3	236,061	236,082	
Operations Manager-Wastewater Services	61,898	78,147	0	72,828	0	Moved to General Fund
Wastewater Field Supervisor	53,396	68,673	1	68,666	68,673	
SCADA System Manager	49,729	66,968	1	33,481	66,968	
Engineer I	49,729	66,968	1	57,443	66,968	
GIS Specialist/Engineering Tech	42,368	53,490	0.5	62,424	26,745	
Wastewater Field Operator	39,372	49,707	3	149,108	149,121	
Wastewater Services Specialist	37,494	47,337	1	47,331	47,337	
Incentive Pay, P.E.				3,600	2,400	
Admin support from GF(Candice,Karen, Brian,Dan,Tony)		475,106	33%	56,182	156,785	
			<b>11.83</b>	<b>931,006</b>	<b>925,437</b>	
Overtime				30,000	35,000	
Standby Pay				25,000	30,000	
Longevity				2,800	1,800	
Fringe Benefits				57,800	66,800	
				515,016	487,430	
Accounting Support Staff			Subtotal	1,503,823	1,479,667	
COLA				20,000	20,000	
				1,000	0	
<b>Grand Total Wages/Fringe Benefits</b>				<b>1,524,823</b>	<b>1,499,667</b>	

MIDDD  
Office Operations

Project #	MIDDD OFFICE OPERATIONS	BUDGET 2016/2017	BUDGET 2017/2018	NOTES
09-0014.3	Bank Fees	100	100	
	Command Center	1,500	1,500	
	Computer Consultant(33%)	5,300	5,300	
	Dues, Membership & Subscriptions	9,000	9,000	
	Equipment Repair & Maintenance	25,000	25,000	
	Equipment	0	1,000	
	Gasoline(County)	8,500	8,500	
	Internal Service Cost(County)	25,000	30,000	cross charge from county for telephone, car insurance, and building insurance
	Office Supplies	3,000	3,000	
	Operating Supplies	9,000	9,000	
	Parking & Mileage	500	500	
	Personnel-Non WWS Employees	12,000	12,000	charge to WW for personnel from Chapaton
	Postage & Shipping	100	100	
	Training	1,000	1,000	
	Uniforms	1,000	1,000	
	Electricity	2,000	1,000	
	Water Hauler	100	100	
	Internet	1,000	1,000	
09-0014.3	Weather Radar	1,500	1,500	
	Telephone	5,000	5,000	
09-0014.4	Vehicle Maintenance	3,500	5,000	
	Total	\$ 114,100	120,600	

SCADA

Project #	SCADA	BUDGET 2016/2017	BUDGET 2017/2018
09-0014.29	Wonderware/SCADA upgrade	350,000	0
	Motor City-SCADA as needed	120,000	92,000
	Future costs of upgrade-Life Cycle	50,000	50,000
	Comcast	5,900	5,900
	Sprint	7,900	7,900
	Total	533,800	155,800



SYSTEM PROJECTS/STUDIES/CONSULTING

Project #	Engineer	Macomb System	BUDGET 2016/2017	BUDGET 2017/2018
09-0014.13	HRC	Sewage Metering Facility Rehab(SRF 5487-01)-Completed	500,000	0
09-0014.13	Lakeshore	-Engineering SRF	1,000,000	0
09-0014.22	GWE	-Construction SRF	125,000	100,000
09-0014.23	J&A	As Needed Services-Giffels	100,000	50,000
09-0014.23-1		McMARS Operations	0	50,000
		McMars Rollout Support	0	100,000
		Bluewater <sup>(5)</sup>	0	0
		Biofilter Ventilation System(SRF 5540-01)-completed		
09-0014.24	GWE	-Engineering SRF	10,000	0
09-0014.24		-Construction SRF	90,000	0
09-0014.28	FTCH	As Needed Services - FTCH	75,000	100,000
09-0014.33		Contract Capacity Study	50,000	0
09-0014.35	HRC	Engineering Meter Rehab(SYS-1 & SYS-2) <sup>(1)</sup>	50,000	250,000
09-0014.40		Development of Web App	100,000	0
09-0014.41		Northern Macomb WW Feasibility Study	10,000	0
09-0014.44	ASI	Meter Dye Dilution Testing/As needed	50,000	100,000
5 saws		SAW Engineering <sup>2)</sup>	350,000	1,570,000
TBD		Drop Shaft Repair <sup>3)</sup>	0	2,000,000
TBD <sup>5)</sup>		Engineering Contingency	210,000	200,000
TBD <sup>7)</sup>	Metco	As needed Metco	75,000	75,000
TBD		Wastewater master plan/Contract Capacity <sup>4)</sup>	200,000	600,000
	HRC	As needed-HRC	0	100,000
		Level Sensors/Pressure/H2S <sup>6)</sup>	0	300,000
		<b>Total</b>	<b>2,995,000</b>	<b>5,595,000</b>

NOTES

- As part of the MIDD SRF meter rehabilitation project sites SY-S-1 and SY-S-2 were not included. Over the past two years HRC has put together a technical memo with their recommendations on what work is required at those facilities to get them up to the standards of the other MIDD metering facilities. This proposed budget item would be bid out to an engineering firm to put together drawings for rehabilitation of sites SY-S-1 and SY-S-2. Once that work is complete this would either develop into an SRF project or budgeted repair depending on the projected construction cost.
- Offset by grant revenue shown on page 14
  - SAW Grant Program Chesterfield Interceptor: SAW 1405-01
  - Wastewater Asset Management Plan: SAW 1406-01
  - SAW Grant Program Plan: SAW 1128-01
  - MCWDD Design & Wastewater Asset Mgmt Plan: SAW 1130-01
- As part of the MCWDD SAW Grant Giffels Webster performed a drop shaft assessment at 21 - MIDD metering facilities. Out of those it was determined that ST-S-4 needs immediate attention and 5 other facilities (MA-S-2, CT-S-2, HR-S-2, ST-S-5, and UT-S-1) are in critical condition and should be addressed. This funding would cover construction of ST-S-4 repairs along with the design for the repairs of the additional 5 structures. This work would be bid out and plans are already being put in place for possible SRF funding.
- Efforts are underway to take initial steps toward developing a Preliminary Wastewater Master Plan, a much needed tool for future planning and management of the MIDD wastewater system. The initial effort is a fast-track study to last only several months.
- Currently the MIDD system only has one flow meter within the interceptors (MC-S-1) that it consists of and therefore there is a lack of control from an operational stand point. This work would include installing seven flow meters for flow control throughout the system at strategic locations. These sites would also have air pressure and H2S sensors to help monitor corrosion and any pressure concerns through the MIDD interceptors. These units would use low maintenance flow meters and would be tied into the Macomb County Public Works Office (MCPWO) SCADA network. This work will include design and construction costs.
- This program is for the replacement of the outdated Macomb County data review tool (MCMARS). Phase 1 of this program should be complete within the next month and then this budgetary allowance would be used for Phase 2. This next phase would expand the current platform to a high-end engineering tool that could be used for all the data that is currently being brought into the MCPWO system through its SCADA system. This program is also a web based tool that once complete will be provided to all the MIDD communities and provide them with notifications when issues arise with their metering sites.

LEGAL SERVICES

Project #	Legal Services	BUDGET 2016/2017	BUDGET 2017/2018
09-0014.26	MID v OMID	300,000	0
14-0003	Regional Authority	75,000	0
0092-05	2004 15 Mile Sewer Collapse	250,000	0
0092-05.1	2016 Sinkhole/General MIDD	0	650,000
	Legal contingency	350,000	0
	Total	975,000	650,000

**CLINTONDALE PUMP STATION  
OPERATIONS and MAINTENANCE**

<b>Project</b>	<b>Clintondale Pump Stat O &amp; M</b>	<b>2016/2017 BUDGET</b>	<b>2017/2018 BUDGET</b>
10-0004.3	O&M	147,400	145,000
10-0004.3	Life Cycle/Future repairs	75,000	75,000
10-0004.3	Spare Parts	35,000	0
	Utilities	300,000	250,000
	Total	557,400	470,000

**NORTH GRATIOT INTERCEPTOR  
OPERATIONS and MAINTENANCE**

<b>Project</b>	<b>NGIO &amp; M</b>	<b>2016/2017 BUDGET</b>	<b>2017/2018 BUDGET</b>
	O&M	120,000	164,000
	Life Cycle /Future Parts	30,000	30,000
	Spare Parts	10,000	0
	Contingency	24,000	0
	ARV Chamber and Valve Replacement	462,500	0
	Utilities	10,000	10,000
	<b>Total</b>	<b>656,500</b>	<b>204,000</b>

**METERS  
OPERATION and MAINTENANCE**

Project	METERS O & M	2016/2017 BUDGET	2017/2018 BUDGET
09-0014.19-1&-2	Inspect, clean, calibrate and target meters	30,000	0
	Martin Controls-Meter Maintenance	250,000	300,000
	Utilities	10,000	50,000
	Contingency	27,000	27,000
	Total	317,000	377,000

**BIOFILTER  
OPERATIONS and MAINTENANCE**

Project	BIOFILTER O & M	2016/2017 BUDGET	2017/2018 BUDGET
	O&M / Labor	85,000	100,000
	Life Cycle	23,000	23,000
	Spare Parts	1,500	0
	Water	0	0
	Woodchips <sup>(1)</sup>	0	75,000
	Contingency	17,725	0
	Total	127,225	198,000

**NOTES**

1) The Biofilter facility consists of three large media filter beds that contain wood chips to trap the H2S gases that flow through them. These wood chips have a life span of 4 years and are due for replacement. This will consist of removing all the old spent wood chips and then replacing with new. This work will be bid out and coordinated through the MCPWO.

Revenue Detail

Revenue	2016/2017 BUDGET	2017/2018 BUDGET
Reimbursements <sup>(1)</sup>	250,000	275,000
Grants/SRF Funding <sup>(2)</sup>	1,500,000	1,220,000
Carryforward <sup>(3)</sup>	1,540,825	250,000
Interest	6,000	5,000
<b>Total</b>	<b>3,296,825</b>	<b>1,750,000</b>

**NOTES**

- 1) Reimbursement from OMID for personnel, SCADA, and engineering. Also, reimbursed from Chapaton Pump Station for personnel Plus \$20,000 for 5 months as part of Inland Waters settlement.
- 2) Projected SAW funding
  - MCWDD Design & Wastewater Asset Mgmt Plan SAW 1130-01 1,220,000
  - SAW Grant Program Chesterfield Interceptor SAW 1405-01
  - Wastewater Asset Management Plan SAW 1406-01
  - SAW Grant Program Plan SAW 1128-01
- 3) Remaining projects that were charged in prior years that should be completed in 17/18
  - Master Plan 200,000
  - Contract Capacity Study 50,000

Revenue Bond Calculation  
SRF 5540-01 and 5487-01

Payment Date	2017/2018 BUDGET
Fall 2017	213,900
Spring 2018	472,900
Less Cash on Hand	(513,404)
Total	173,396

**NOTE**

Previous budget and charges based on maximum SRF draws from State. As actual SRF debt payments were lower than budgeted, the cash on hand will be used to offset current SRF debt payments.

	Fall 2017
5540-01 Interest	19,650
5540-01 Principal	100,000
5487-01 Interest	94,250
Total	213,900
	Spring 2018
5540-01 Interest	18,650
5487-01 Principal	360,000
5487-01 Interest	94,250
Total	472,900



# Oakland Macomb Interceptor Drain Drainage District (OMIDDD) FY 2018

Charge Summary

June 7, 2017

Effective July 1, 2017

## Exhibit A

### Annual Operating Charges

	2018 Budget	COSDS		Annual		Monthly	
		%	Macomb	COSDS	Macomb	COSDS	Macomb
<b>GLWA</b>							
Common-to-all and OMIDDD Charges	\$ 71,564,400	32.16%	67.84%	\$ 23,015,111	\$ 48,549,289		
CSO Program	1,251,600	39.48%	60.52%	494,094	757,506		
Total	72,816,000			23,509,205	49,306,795	\$ 1,959,100.42	\$ 4,108,899.58
<b>OMIDDD</b>							
Operations and Maintenance Expense							
Sewer System Maintenance	325,980	33.10%	66.90%	107,899	218,081		
Sewer System Engineering	108,160	33.10%	66.90%	35,801	72,359		
Pump Maintenance Unit	-	33.10%	66.90%	-	-		
Systems Control Unit	1,162,440	33.10%	66.90%	384,768	777,672		
Mapping Unit	1,050	33.10%	66.90%	348	702		
Miss Dig	3,500	33.10%	66.90%	1,159	2,341		
General and Administrative	1,174,000	33.10%	66.90%	388,594	785,406		
Subtotal	2,775,130			918,569	1,856,561	76,547.42	154,713.42
Non Operating							
Major Maintenance	400,000	33.10%	66.90%	132,400	267,600	11,033.33	22,300.00
Emergency Maintenance	-	33.10%	66.90%	-	-		
Capital Improvement	1,000,000	33.10%	66.90%	331,000	669,000	27,583.33	55,750.00
Subtotal	1,400,000			463,400	936,600		
O&M Non-Rate Revenue	(188,340)	33.10%	66.90%	(62,341)	(125,999)	(5,195.08)	(10,499.92)
<b>FY 2018 Total Fixed Charges</b>	<b>\$ 76,802,790</b>			<b>\$ 24,828,833</b>	<b>\$ 51,973,957</b>	<b>2,069,059.42</b>	<b>4,331,163.08</b>



Bruce Manning &lt;bruce.manning@macombgov.org&gt;

## GLWA Charges

1 message

Brian Baker &lt;brian.baker@macombgov.org&gt;

Wed, Jun 7, 2017 at 3:13 PM

To: "Daniel J. Acciavatti" <dacciavatti@chesterfieldtp.org>, r.cannon@clintontownship-mi.org, Joseph Nichols <mayorjoe@micityoffraser.com>, kverkest@harrison-township.org, rtrombly@lenoxtp.org, supervisor@macomb-mi.gov, CHRIS DILBERT <presidentdilbert@gmail.com>, rstathakis@shelbytp.org, mctaylor@sterling-heights.net, Mark Vanderpool <mvanderpool@sterling-heights.net>, mayordionne@comcast.net, Work <olearyd@washingtontwpmi.org>, john.d.slocum4.mil@mail.mil, RCory@brucetwp.org, rbinson@centerline.gov, suzannepixley@gmail.com, villageofromeo@yahoo.com, rtaylor@roseville-mi.gov, walby@scsmi.net, mayor@cityofwarren.org, dchampine@centerline.gov

Cc: Candice Miller <candice.miller@macombgov.org>, Karen Czernel <karen.czernel@macombgov.org>, Dan Heaton <dan.heaton@macombgov.org>, Anthony Forlini <anthony.forlini@macombgov.org>, Bruce Manning <bruce.manning@macombgov.org>

Macomb County GLWA Water or Sewer Customers,

The Great Lakes Water Authority (GLWA) approved the July 1, 2017 wholesale water & sewer charges today. The attached memo provides additional details and shows the charges for each community and by sewer district. I just wanted to personally update you on the GLWA board's decision and my reasons for how I voted. Please pass this information on to your Finance or Public Works staffs.

### Water

I voted in favor of the water budget/charges. Due to GLWA bond refinance savings, keeping Genesee County as a customer through at least October 2017, and the Flint deal, water charges will increase an average of 2%. 7 communities with water contract re-openers will actually see rate reductions, while the remaining 100+ communities will see about a 3% increase.

### Sewer

I voted against the sewer charges. The GLWA will be allocating sewer costs more on a strength of flow basis (SOF) and less on actual sewage flows. As you know, most suburbs have dryer sewer systems (less rainwater inflow) and have spent money to rehabilitate their systems. Unfortunately, this results in a higher SOF cost for Macomb and other suburban communities. SOF as a cost factor was only recently introduced by Detroit in 2012. It now becomes a larger cost factor. I objected to this change as it is not the best approach to dividing costs and it does not follow the regional approach envisioned for the GLWA. By the time sewage gets combined downstream, the plant doesn't treat the combined flows any differently. Further, it dis-incentivizes communities to make needed investments to dry up their interceptor systems as it then increases the strength of flow and therefore sewer treatment costs. Instead, we should reward communities who make these needed improvements that benefit the entire region. Unfortunately, this new charge approach will unnecessarily create winner and losers and doesn't lead to the regional solution envisioned for the authority. I believe the sewer changes should not have been implemented until the sewer master plan is complete so that factors such as peaking and flow control can be taken into account. We need to reward communities for handling peak flows – much like we do with water costs for those with water towers or odd/even usage days.

In the end, the GLWA board approved phasing in the large proposed sewer cost shift from Detroit to the suburbs over 2 years, instead of only 1. Unfortunately, this approach only temporarily delays the full cost shift and doesn't change the end result. The 11 MIDD communities will now see the GLWA proposed 10% sewer increase over a 2 year period – a 5% increase now and another 5% (plus the typical 4% annual increase) next year. These sewer share are locked in for at least the next 3 years.

In short, the discussion again this year focused on how to divide the pie, not on making the pie smaller in order to recoup the \$50 million annual lease payment. My attempts to reduce any costs (including the addition of 80 full-time positions) or using some of the \$60 million contribution to reserves were not supported.

### MIDD Sewer Communities

The Public Works Office is working to update the MIDD budget as a result of the today's approved GLWA pass through charges and as a result of today's MIDD bond sale and refinancing. We expect to be able to email all final charge

information to you by the end of this week for the Monday, June 12, 2017 MIDD board meeting.

As always, should you have any questions or concerns, please do not hesitate to contact me.

Thanks

Brian


**Brian Baker**

Chief Deputy Public Works Commissioner  
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 **Final FY 2018 Charge Proposals.rev.pdf**  
354K

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MEMORANDUM

Final FY 2018 Wholesale Service Charge Proposals

June 6, 2017

To: Sue McCormick

From: Bart Foster

The intent of this memorandum is to provide an executive summary of the final FY 2018 proposed wholesale water and sewer service charges, and the corresponding annual water and sewer revenue requirements allocable to the Detroit customer class. The discussion and supporting exhibits herein present final proposals that reflect our understanding of three specific developments since the original proposals were submitted in January:

- Discussions regarding continued potential full service to Flint and temporarily extended full service to Genesee County for part of FY 2018; and
- Our understanding of agreements between GLWA and DWSD regarding development of a supplemental Memorandum of Understanding (“MOU”), or a related document, to clarify the intent of certain aspects of the Lease(s); and
- Ongoing review at the Board level of proposed modifications to Sewer SHARES for FY 2018.

Specifics regarding all of these elements are (or are in the process of being) documented in full detail elsewhere, and we’ll not attempt to articulate in detail herein. Rather, we will limit this presentation to a high level introduction to the topics and how they impact the proposed service charges for FY 2018. We’ll do so separately for the Water Charges and the Sewer Charges, although there are common themes with respect to the MOU topic.

We note that the *originally proposed* Water and Sewer Charges are delineated in our February 12, 2017 memorandum regarding “FY 2018 Cost of Service and Service Charge Recommendations”. Many of the analyses described in that report remain pertinent and applicable. This document has been prepared to summarize the original proposal and to briefly articulate the changes resulting in the final recommendations.

*[Balance of page intentionally left blank]*

### Water Charges

The *originally proposed* FY 2018 Water charge proposals were characterized by:

- A continuation of the amount of debt service assigned to the Local System (and directly charged to Detroit customers) contained in the FY 2016 and FY 2017 Budgets. This approach was being followed while GLWA and DWSD principals sought to establish the “Obligation Payable” (related to Local System assets) from DWSD to GLWA as part of the Lease implementation.
  - *The balance of the budgeted debt service was assigned to the Regional System and proportionally shared by all GLWA customers, including Detroit.*
- An overall initially proposed FY 2018 BUDGET that was equal to the FY 2017 BUDGET.
- A net negative budgeted revenue variance of approximately \$12.4 million, principally related to the expected departure of Genesee County, slightly offset by expected continued interim service to Flint for one quarter of FY 2018.
- An average increase in wholesale customer service charges of **4.0%**, entirely designed to address the Flint/GCDC budgeted revenue shortfall introduced above, as there was no need to increase charges for budget purposes.

The *final proposed* FY 2018 Water charge proposals are characterized by:

- A reallocation of debt service that reflects the tentative agreement reached by the GLWA and DWSD principals regarding the “Obligation Payable.”
  - *While the specifics of the full amortization schedule are still being worked out, the initial agreement regarding the amortization contemplates a FY 2018 “Obligation Payable” increase of approximately \$3.1 million, and a corresponding decrease of approximately \$3.1 million of Regional System debt service for FY 2018.*
- This change results in an overall proposed GLWA BUDGET for FY 2018 that is approximately one percent **lower** than the FY 2017 BUDGET.
- An increase in “short term” revenues from Flint/GCDC based on long-term service agreements with both of these customers that are in the final stages of negotiations.
  - *These agreements provide security to include an additional \$3.6 million of budgeted FY 2018.*
- An elimination of the originally budgeted deposit to the Budget Stabilization Fund required of the Detroit customer class.
  - *This approach aligns with the reduction in bad debt expense for the Detroit customer class reported as part of the FY 2016 financial statements.*
- With respect to the wholesale customer service charges, these adjustments produce a potential **\$6.7 million reduction in the wholesale revenue requirements included in the original proposal.**

- In coordination with GLWA management, we are recommending a reduction in the overall “revenue requirement from charges” equivalent to this amount. Implementation of this proposal will reduce the average “wholesale charge increase” from 4.0% to **2.0%**.
  - *Approximately half of this change is related to the reduction in the BUDGET associated with the Regional / Local debt service shift, with the remainder associated with the additional budgeted revenue from GCDC.*
  - *We are proposing to implement this adjustment by uniformly reducing each of the originally proposed charges (fixed monthly and commodity) for each wholesale Customer by 2% “across the board”. The accompanying schedule of proposed water charges attached to this memorandum has been computed in accordance with this premise.*

The following exhibit summarizes the changes in original and final Water Charge proposals, as introduced above.

	Original Proposals		Final Proposals			
	Annual Rev Req't	Budget/Charge Adjustment	Annual Rev Req't	Budget/Charge Adjustment	Rev Req't Variance	Impact Variance
<u>Suburban Wholesale</u>						
1 Total Wholesale Revenue Requirement	331,213,300	0.0%	328,119,300	-0.9%	(3,094,000)	-0.9%
2 less: Non-Operating Revenue	(2,968,900)		(2,968,900)		0	
3 Total Wholesale Revenue Req't from Charges	328,244,400	-0.3%	325,150,400	-0.9%	(3,094,000)	-0.7%
4 less: Revenue from Non-Contract Customers	(4,000,000)		(7,600,000)		(3,600,000)	
5 Balance from Contract Customers	324,244,400		317,550,400		(6,694,000)	
6 Allocated to Suburban Wholesale	308,392,500	4.0%	302,419,800	2.0%	(5,972,700)	-2.0%
7 Allocated to Detroit	15,851,900		15,130,600		(721,300)	
<u>Allocated Detroit Revenue Req't (a)</u>						
8 GLWA Wholesale Service	15,851,900		15,130,600		(721,300)	
9 Local Debt Service - Pre Bifurcation	31,219,800		34,313,800		3,094,000	
10 Local Debt Service - Post Bifurcation	3,172,900		3,172,900		0	
11 Other Indirect Retail Revenue Req'ts	9,793,300		9,432,800		(360,500)	
12 Subtotal Detroit Wholesale and Indirect	44,186,000		46,919,500		2,733,500	

(a) Excludes Direct O&M, etc.

**Sewer Charges**

The *originally proposed* FY 2018 Sewer charge proposals were characterized by:

- A continuation of the amount of debt service assigned to the Local System (and directly to Detroit customers) contained in the FY 2016 and FY 2017 Budgets. This approach was being followed while GLWA and DWSD principals sought to establish the “Obligation Payable” from DWSD to “Obligation Payable” (related to Local System assets) from DWSD to GLWA as part of the Lease implementation.
  - *The balance of the budgeted debt service was assigned to the Regional System and shared by all GLWA customers, including Detroit.*
- An overall initially proposed FY 2018 BUDGET that reflected a 2.0% increase compared to the FY 2017 BUDGET.

- An implementation of new Sewer SHARES that reflected the GLWA Administrative recommendation, which resulted in an effective cost shift (all else being equal) of approximately \$9.8 million from Detroit Customers to Suburban Customers.
  - *This recommendation sought to strategically reflect recommendations from a technical work group sponsored by the GLWA Customer Outreach initiative in a manner that embraced Rate Simplification concepts, and to balance alternative perspectives expressed during the review process.*
  - *The full technical recommendation would have produced a cost shift of approximately 12.0 million in the same direction, while ignoring the technical recommendations entirely would have essentially resulted in a \$3.1 million cost shift from Suburban Customers to Detroit Customers.*
- An average increase in wholesale customer service charges of 4.7%. This increase:
  - *Accommodated the 2.0% budget increase;*
  - *Implemented the GLWA Administrative Recommendation on SHARES;*
  - *Reflected a reduction in the budgeted / true-up bad debt expense related to Highland Park (and therefore a reduction in charges);*
  - *Resulted in a moderately wide degree of variable impact amongst Suburban Wholesale customers, resulting from the SHARE proposals.*

The **final proposed** FY 2018 Sewer charge proposals are characterized by:

- An approximate \$3.2 million reduction in proposed “new money” debt service included in the original budget expectations, as current CIP financing plans anticipate a delay in the budgeted bond sale;
- A reallocation of debt service that reflects the tentative agreement reached by the GLWA and DWSD principals regarding the “Obligation Payable”.
  - *While the specifics of the full amortization schedule are still being worked out, the initial agreement regarding the amortization contemplates a decrease of approximately \$4.8 million of Regional System debt service for FY 2018.*
- These two changes result in an overall 1.7% reduction in the originally proposed GLWA BUDGET for FY 2018. The final proposed FY 2018 BUDGET reflects an increase of approximately 0.3% compared to the FY 2017 BUDGET.
- An elimination of the originally budgeted deposit to the Budget Stabilization Fund required of the Detroit customer class.
  - *This approach aligns with the reduction in bad debt expense for the Detroit customer class reported as part of the FY 2016 financial statements.*
- Similarly, an elimination (for FY 2018) of the phased “bad debt true-up” for the Detroit retail customer class.
  - *This approach also aligns with the reduction in bad debt expense for the Detroit customer class reported as part of the FY 2016 financial statements.*
- An acceptance of the full technical proposal on the recommended SHARES, but . . .

- o *Via an implementation plan to phase in the approximate \$12 million impact over two, equal steps in FY 2018 and FY 2019.*
- With respect to the wholesale customer service charges, these adjustments produce a potential **\$7.6 million reduction in the revenue requirements included in the original proposal.**
- In coordination with GLWA management, we are recommending a reduction in the overall “revenue requirement from charges” equivalent to this amount. Implementation of this proposal will reduce the average “wholesale charge increase” from 4.7% to **1.9%**.
  - o *The proposed approach “narrows” the impact on various Suburban Wholesale customers, as the SHARE recommendations are implemented over a 2-year period. The accompanying schedule of proposed sewer charges have been computed in accordance with this premise.*

The following exhibit summarizes the changes in original and final Sewer Charge proposals, as introduced above.

	Original Proposals			Final Proposals			Variance		
	Annual Rev Req't	Fixed Monthly Chg	Charge Adjustment	Annual Rev Req't	Fixed Monthly Chg	Charge Adjustment	Annual Rev Req't	Fixed Monthly Chg	Charge Adjustment
<b>Suburban Wholesale</b>									
1 CMID	76,012,600	6,334,300	9.2%	72,815,900	6,068,000	4.6%	(3,196,700)	(266,300)	-4.6%
2 Rouge Valley	55,332,100	4,611,100	-0.3%	55,022,300	4,585,200	-0.8%	(309,800)	(25,900)	-0.6%
3 Oakland GWK	46,209,100	3,850,800	1.2%	45,751,500	3,812,600	0.2%	(457,600)	(38,200)	-1.0%
4 Evergreen Farmington	35,483,300	2,957,000	10.3%	33,733,200	2,811,100	4.8%	(1,750,100)	(145,900)	-5.4%
5 NE Wayne Co	25,379,000	2,114,900	5.2%	24,637,000	2,053,100	2.1%	(742,000)	(61,900)	-3.1%
6 Dearborn	20,325,500	1,693,700	3.7%	19,628,400	1,635,700	0.1%	(697,100)	(58,000)	-2.6%
7 Grosse Pointe Farms	2,756,200	229,700	3.3%	2,696,100	224,700	1.1%	(60,100)	(5,000)	-2.3%
8 Grosse Pointe Park	1,854,400	154,500	14.0%	1,739,500	145,000	7.0%	(114,900)	(9,500)	-7.1%
9 Melvindale	1,556,100	129,700	12.7%	1,468,200	122,300	6.3%	(87,900)	(7,400)	-6.4%
10 Farmington	1,171,900	97,700	5.6%	1,138,100	94,900	2.5%	(33,800)	(2,800)	-3.0%
11 Center Line	1,045,900	87,300	12.9%	986,200	82,200	6.5%	(59,700)	(5,100)	-6.4%
12 Allen Park	866,600	72,100	29.0%	771,000	64,300	14.7%	(95,600)	(7,800)	-14.2%
13 Highland Park	5,627,600	469,000	-3.3%	5,641,700	470,200	-3.0%	14,100	1,200	0.2%
14 Hamtramck	3,949,800	329,100	-3.3%	3,958,800	329,900	-3.1%	9,000	800	0.2%
15 Grosse Pointe	904,900	75,400	-3.9%	909,500	75,800	-3.3%	4,600	400	0.5%
16 Harper Woods	229,500	19,200	-4.4%	231,700	19,300	-3.5%	2,200	100	0.9%
17 Redford Township	255,200	21,300	-2.0%	254,700	21,200	-2.2%	(500)	(100)	-0.2%
18 Wayne County #3	45,700	3,900	-2.4%	45,500	3,800	-2.8%	(200)	(100)	-0.4%
19 Suburban Wholesale Total	279,005,400	23,250,700	4.7%	271,429,300	22,619,300	1.9%	(7,576,100)	(631,400)	-2.8%
20 Allocated Detroit Wholesale	179,295,600		-3.8%	178,969,200		-3.9%	(326,400)		-0.2%
21 Industrial Specific	19,651,300		0.6%	19,551,700		0.1%	(99,600)		-0.5%
22 Total GLWA Wholesale Service	477,952,300		1.0%	469,950,200		-0.6%	(8,002,100)		-1.6%
<b>Allocated Detroit Revenue Req't (a)</b>									
23 GLWA Wholesale Service	179,295,600			178,969,200			(326,400)		
24 Bad Debt True-Up	4,172,600			0			(4,172,600)		
25 Subtotal	183,468,200			178,969,200			(4,499,000)		
26 Local Debt Service - Pre Bifurcation	22,567,400			27,392,300			4,825,100		
27 Local Debt Service - Post Bifurcation	0			0			0		
28 Other Indirect Retail Revenue Req'ts	9,188,100			5,534,100			(3,654,000)		
29 Subtotal Detroit Wholesale and Indirect	215,223,700			212,895,800			(2,327,900)		

(a) Excludes Direct O&M, etc.

This discussion incorporates by reference the specific proposed charge schedules and the additional material that has been prepared to support these recommendations for Board consideration at the meeting scheduled for June 7, 2017.

We are prepared to discuss this matter at your convenience.



Great Lakes Water Authority  
 Calculation of Final Proposed FY 2018 Wholesale Water Service Charges

Community	Originally Proposed		Final Adjustment -2.0%	Adjusted Proposal	
	Fixed Mo \$/mo	Commodity \$/Mcf		Fixed Mo \$/mo	Commodity \$/Mcf
Allen Park	118,700	7.01		116,400	6.87
Almont Village	11,100	9.91		10,900	9.72
Ash Township	38,000	7.56		37,300	7.41
Belleville	15,800	8.81		15,500	8.64
Berlin Township	36,600	10.10		35,900	9.90
Brownstown Township	174,300	10.07		170,900	9.87
Bruce Twp	8,800	67.88		8,600	66.55
Canton Township	663,900	15.83		650,900	15.52
Center Line	24,200	5.94		23,700	5.82
Chesterfield Township	195,300	9.56		191,500	9.37
Clinton Township	400,500	7.93		392,600	7.77
Commerce Township	252,300	20.64		247,400	20.24
Dearborn	482,600	6.23		473,100	6.11
Dearborn Heights	194,300	7.33		190,500	7.19
Eastpointe	82,500	5.79		80,900	5.68
Ecorse	72,800	3.90		71,400	3.82
Farmington	50,000	8.44		49,000	8.27
Farmington Hills	455,800	9.96		446,900	9.76
Ferndale	50,100	5.91		49,100	5.79
Flat Rock	61,000	7.63		59,800	7.48
Fraser	66,500	8.36		65,200	8.20
Garden City	83,900	7.49		82,300	7.34
Gibraltar	23,900	11.05		23,400	10.83
Grosse Ile Township	65,200	12.62		63,900	12.37
Grosse Pt. Park	72,800	9.53		71,400	9.34
Grosse Pt. Shores	31,600	12.82		31,000	12.57
Grosse Pt. Woods	74,600	8.29		73,100	8.13
Hamtramck	34,800	4.72		34,100	4.63
Harper Woods	44,500	6.21		43,600	6.09
Harrison Township	73,100	6.32		71,700	6.20
Hazel Park	35,700	5.56		35,000	5.45
Huron Township	72,100	9.42		70,700	9.24
Imlay City	50,600	10.75		49,600	10.54
Imlay Twp	700	70.00		700	68.63
Inkster	93,800	7.68		92,000	7.53
Keego Harbor	15,500	11.90		15,200	11.67
Lapeer	70,600	10.05		69,200	9.85
Lenox Township	14,900	6.84		14,600	6.71
Lincoln Park	113,100	6.34		110,900	6.22
Livonia	695,800	11.28		682,200	11.06
Macomb Township	545,300	14.02		534,600	13.75
Madison Heights	103,300	5.87		101,300	5.75
Mayfield Twp	1,700	24.00		1,700	23.53

**TFG**

THE FOSTER GROUP

6/6/17

Great Lakes Water Authority  
 Calculation of Final Proposed FY 2018 Wholesale Water Service Charges

Community	Originally Proposed		Final Adjustment -2.0%	Adjusted Proposal	
	Fixed Mo \$/mo	Commodity \$/Mcf		Fixed Mo \$/mo	Commodity \$/Mcf
Melvindale	34,000	6.08		33,300	5.96
New Haven, Village of	17,900	10.06		17,500	9.86
N O C W A	1,189,200	10.22		1,165,900	10.02
Northville	38,300	9.54		37,500	9.35
Northville Township	310,300	18.68		304,200	18.31
Novi	453,600	13.25		444,700	12.99
Oak Park	67,900	5.43		66,600	5.32
Oakland Co. Drain Comm.	3,300	3.02		3,200	2.96
Plymouth	51,800	9.88		50,800	9.69
Plymouth Township	218,400	10.28		214,100	10.08
Redford Township	173,900	8.06		170,500	7.90
River Rouge	35,500	5.35		34,800	5.25
Riverview	46,700	8.36		45,800	8.20
Rockwood	15,200	11.43		14,900	11.21
Romeo	12,700	16.95		12,500	16.62
Romulus	188,400	7.69		184,700	7.54
Roseville	135,400	5.44		132,700	5.33
Royal Oak Township	11,400	7.69		11,200	7.54
S O C W A	1,167,900	7.24		1,145,000	7.10
Shelby Township	692,500	13.87		678,900	13.60
South Rockwood	5,200	8.06		5,100	7.90
Southgate	110,900	7.18		108,700	7.04
St. Clair County-Burtchville Twp	14,900	14.74		14,600	14.45
St. Clair County-Greenwood	20,300	14.23		19,900	13.95
St. Clair Shores	158,500	6.12		155,400	6.00
Sterling Heights	813,200	10.56		797,300	10.35
Sumpter Township	32,700	9.00		32,100	8.82
Sylvan Lake	12,000	14.30		11,800	14.02
Taylor	247,000	7.02		242,200	6.88
Trenton	108,400	9.62		106,300	9.43
Troy	686,800	12.04		673,300	11.80
Utica	30,200	9.94		29,600	9.75
Van Buren Township	148,000	9.21		145,100	9.03
Walled Lake	46,500	12.07		45,600	11.83
Warren	517,000	6.05		506,900	5.93
Washington Township	107,900	12.24		105,800	12.00
Wayne	141,500	11.94		138,700	11.71
West Bloomfield Township	492,200	14.94		482,500	14.65
Westland	307,800	7.76		301,800	7.61
Wixom	123,900	14.36		121,500	14.08
Woodhaven	104,400	13.43		102,400	13.17
Ypsilanti Comm Util Auth	553,800	8.96		542,900	8.78

BOND DEBT SERVICE

Macomb Interceptor Drain Drainage District  
 County of Macomb, State of Michigan  
 Drain and Refunding Bonds, Series 2017A (2010A BABS REFUNDING PORTION)  
 Verified Final Pricing Numbers

Period Ending	Principal	Interest	Debt Service
11/01/2017		1,167,519.31	1,167,519.31
05/01/2018	2,805,000	1,604,225.00	<u>4,409,225.00</u>
11/01/2018		1,534,100.00	1,534,100.00
05/01/2019	2,460,000	1,534,100.00	3,994,100.00
11/01/2019		1,472,600.00	1,472,600.00
05/01/2020	2,585,000	1,472,600.00	4,057,600.00
11/01/2020		1,407,975.00	1,407,975.00
05/01/2021	2,715,000	1,407,975.00	4,122,975.00
11/01/2021		1,340,100.00	1,340,100.00
05/01/2022	2,850,000	1,340,100.00	4,190,100.00
11/01/2022		1,268,850.00	1,268,850.00
05/01/2023	2,995,000	1,268,850.00	4,263,850.00
11/01/2023		1,193,975.00	1,193,975.00
05/01/2024	3,145,000	1,193,975.00	4,338,975.00
11/01/2024		1,115,350.00	1,115,350.00
05/01/2025	3,300,000	1,115,350.00	4,415,350.00
11/01/2025		1,032,850.00	1,032,850.00
05/01/2026	3,465,000	1,032,850.00	4,497,850.00
11/01/2026		946,225.00	946,225.00
05/01/2027	3,635,000	946,225.00	4,581,225.00
11/01/2027		855,350.00	855,350.00
05/01/2028	3,820,000	855,350.00	4,675,350.00
11/01/2028		759,850.00	759,850.00
05/01/2029	4,005,000	759,850.00	4,764,850.00
11/01/2029		659,725.00	659,725.00
05/01/2030	4,205,000	659,725.00	4,864,725.00
11/01/2030		554,600.00	554,600.00
05/01/2031	4,410,000	554,600.00	4,964,600.00
11/01/2031		444,350.00	444,350.00
05/01/2032	4,625,000	444,350.00	5,069,350.00
11/01/2032		328,725.00	328,725.00
05/01/2033	4,850,000	328,725.00	5,178,725.00
11/01/2033		207,475.00	207,475.00
05/01/2034	5,095,000	207,475.00	5,302,475.00
11/01/2034		80,100.00	80,100.00
05/01/2035	5,340,000	80,100.00	5,420,100.00
	66,305,000	33,176,144.31	99,481,144.31

BOND DEBT SERVICE

Macomb Interceptor Drain Drainage District  
 County of Macomb, State of Michigan  
 Drain and Refunding Bonds, Series 2017A (NEW MONEY PORTION)  
 Verified Final Pricing Numbers

Period Ending	Principal	Interest	Debt Service
11/01/2017		1,050,037.78	1,050,037.78
05/01/2018	1,115,000	1,442,800.00	2,557,800.00
11/01/2018		1,414,925.00	1,414,925.00
05/01/2019	1,345,000	1,414,925.00	2,759,925.00
11/01/2019		1,381,300.00	1,381,300.00
05/01/2020	1,415,000	1,381,300.00	2,796,300.00
11/01/2020		1,345,925.00	1,345,925.00
05/01/2021	1,485,000	1,345,925.00	2,830,925.00
11/01/2021		1,308,800.00	1,308,800.00
05/01/2022	1,560,000	1,308,800.00	2,868,800.00
11/01/2022		1,269,800.00	1,269,800.00
05/01/2023	1,635,000	1,269,800.00	2,904,800.00
11/01/2023		1,228,925.00	1,228,925.00
05/01/2024	1,715,000	1,228,925.00	2,943,925.00
11/01/2024		1,186,050.00	1,186,050.00
05/01/2025	1,805,000	1,186,050.00	2,991,050.00
11/01/2025		1,140,925.00	1,140,925.00
05/01/2026	1,895,000	1,140,925.00	3,035,925.00
11/01/2026		1,093,550.00	1,093,550.00
05/01/2027	1,990,000	1,093,550.00	3,083,550.00
11/01/2027		1,043,800.00	1,043,800.00
05/01/2028	2,085,000	1,043,800.00	3,128,800.00
11/01/2028		991,675.00	991,675.00
05/01/2029	2,190,000	991,675.00	3,181,675.00
11/01/2029		936,925.00	936,925.00
05/01/2030	2,300,000	936,925.00	3,236,925.00
11/01/2030		879,425.00	879,425.00
05/01/2031	2,415,000	879,425.00	3,294,425.00
11/01/2031		819,050.00	819,050.00
05/01/2032	2,535,000	819,050.00	3,354,050.00
11/01/2032		755,675.00	755,675.00
05/01/2033	2,665,000	755,675.00	3,420,675.00
11/01/2033		689,050.00	689,050.00
05/01/2034	2,795,000	689,050.00	3,484,050.00
11/01/2034		619,175.00	619,175.00
05/01/2035	2,935,000	619,175.00	3,554,175.00
11/01/2035		575,150.00	575,150.00
05/01/2036	3,025,000	575,150.00	3,600,150.00
11/01/2036		514,650.00	514,650.00
05/01/2037	3,145,000	514,650.00	3,659,650.00
11/01/2037		451,750.00	451,750.00
05/01/2038	3,270,000	451,750.00	3,721,750.00
11/01/2038		370,000.00	370,000.00
05/01/2039	3,435,000	370,000.00	3,805,000.00
11/01/2039		284,125.00	284,125.00
05/01/2040	3,605,000	284,125.00	3,889,125.00
11/01/2040		194,000.00	194,000.00
05/01/2041	3,785,000	194,000.00	3,979,000.00
11/01/2041		99,375.00	99,375.00
05/01/2042	3,975,000	99,375.00	4,074,375.00
	60,120,000	43,680,887.78	103,800,887.78

3,607,837



**Candice S. Miller**

Public Works Commissioner  
Macomb County

Date: June 1, 2017

To: Mary W. Bednar, P.E. CFM  
Director of Public Services

From: Vincent Astorino, Acting Chief Engineer  
Macomb County Public Works Office  
Candice S. Miller, Drain Commissioner

RE: Macomb Interceptor Drain Drainage District (MIDDD)  
Clintondale Pump Station Wet Weather Operation Plan

This technical memorandum outlines the "Wet Weather Operation Plan" identified in Terms "E" & "F" of *Memorandum of Understanding Between the Charter Township of Clinton and Macomb County Wastewater Disposal District*, dated September 24, 2012 (MOU); *Letter of Understanding*, signed March 20, 2013 (LOU); and Item 22b of the Charter Township of Clinton's *Revision to the 6<sup>th</sup> Amended Administrative Consent Order No. AACO-000028*, dated December 10, 2015 (ACO). This memorandum will be incorporated by reference in accordance with the MOU, LOU and ACO agreements noted above.

### **Operational Values & MID Hydraulic Capacity**

Hydraulic Capacity of the MID (Macomb Interceptor Drain) and the Clinton Township Sewer District "E" outlet is based on the following criteria:

1. Clinton Township utilized the professional services of Giffels Webster and ASI to model the hydraulic conditions affecting the discharge from this district to the MID 15 Mile Road Interceptor. Their report titled "Charter Township of Clinton SSO Control Program District E Hydrologic/Hydraulic Model Development and Alternative Analysis Report", dated July 19, 2013 is hereby referenced.
2. ASI modelled the Clintondale Pump Station (CPS), the 15 Mile Road Interceptor and the Lakeshore Interceptor for the MIDDD. ASI produced a report titled: "Clintondale Pump Station Discharge into 15 Mile Road Interceptor Analysis" dated October 27, 2016 is hereby referenced. This report defines the Clintondale Pump Station flow rates during dry and wet weather that will not adversely affect the District E outlet from Clinton Township through meter CT-S-5.

OFFICE LOCATION: 21777 Dunham Road, Clinton Township, Michigan 48036 • Phone: 586-469-5325 • Fax: 586-469-5933

MAILING ADDRESS: P. O. Box 806, Mt. Clemens, Michigan 48046-0806

ENGINEERING • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ SOIL EROSION • Phone: 586-469-5327 • Fax 586-307-8264

Inputs to be used to manage the HGL during wet weather in the 15 Mile Road Interceptor at Little Mack:

1. MIDDD Rain Gauges at CPS, CH-S-1, NGI PS, ST-S-3, UT-S-1, ST-S-4
2. Clinton Township Rain Gauges currently connected to SCADA, RG-5 @ Clintondale High School, 35100 Little Mack Avenue
3. MIDDD Weather Radar Service
4. MIDDD Flow meters at CT-S-2, CT-S-4, CT-S-5, CT-S-6, NGI PS, HR-S-1, HR-S-2, HR-S-3.

Inputs to be used to control the HGL in the 15 Mile Road Interceptor at Little Mack:

1. MIDDD Level Sensor in MH A immediately upstream of the CT-S-5 connection to the 15 Mile Road Interceptor (PCI15C).
2. MIDDD Flow meters at CPS.
3. MIDDD Level sensors at CPS.
4. MIDDD Pumps at CPS.
5. MIDDD Variable Speed Drives at CPS
6. MIDDD Level Sensor/flow meter DS of HR-S-1 at Station 92+02 on the Lakeshore Interceptor (LSI) (PCI-14) [upon completion of installation].

Key Hydraulic Grade Line Elevations in MID:

Key Elevations		
Location	Elevation in Feet (NAVD – 88)	Reason
CT-S-5 DS MH A LS# 15C-1	584.82	Begins backwater effect on CT system at 30" pipe in MH A. From AB Sheet C 11, GW Project # 8291.02.
CT-S-5 DS MH A LS# 15C-1	582.40	Crown of 15 Mile Road Interceptor @ tap from CT-S-5.
CPS Wet Well	537.56	Normal operating level (15 feet)
CPS Wet Well	542.56	High wet well alarm level (20 feet)
CPS Wet Well	543.56	Critical wet well alarm level (21 feet)
LSI @ LS# LSI-1	548.19	Storage in LSI full at MH (14-8) @ STA 92+02 in PCI 14.

Theoretical Capacity of 15 Mile Road Interceptor:

Hydraulic Elements rating curve for the 15 Mile Road Interceptor is provided in the supplemental information to be included with this wet weather operational plan. The rating curve estimates the HGL and remaining capacity that is available for the Clintondale Pump Station discharge into the 15 Mile Road Interceptor at Little Mack based on real time flows from Clinton Township Meters CT-S-4, CT-S-5, and CT-S-6.

The Manning's full flow capacity of the 15 Mile Road Interceptor at Little Mack is 45 cfs assuming a Manning's n = 0.013 and a slope of 0.00030 ft./ft.

## MID Wet Weather Operational Plan

The intention of this plan is to regulate the Maintain Wet Well Level Setpoint at CPS to keep the CT-S-5 downstream level at or below 5ft. or 584.41 feet NAVD88, while ensuring the CPS Wet Well stays at or below 20ft. or 542.56 feet NAVD88. To achieve this, the CT-S-5 level sensor reading will be the proportional-integral-derivative (PID) process variable to calculate the maintain level of CPS. When the level at CT-S-5 is zero, the PID loop will drive the maintain level at CPS to 15ft. or 537.56 feet NAVD88 while keeping flow rate at or below 45 cfs. When the level at CT-S-5 reaches 5ft. or 584.41 feet NAVD88, the PID loop will drive the maintain level at CPS to 20ft or 542.56 feet NAVD88. The PID loop never drives the maintain level higher than 20ft. or 542.56 feet NAVD88. The pumps at CPS will speed up or slow down as needed to ensure the Wet Well level is at the maintain level. Based on the operational procedures noted herein, sufficient storage is available in the LSI, within the critical wet well limits for a 25-year, 24-hour storm event when operating at a maximum flow rate of 45 cfs. Storms in exceedance of a 25-year, 24-hour storm that concurrently cause wet well levels to exceed 20ft will require the pumps to speed up as fast as necessary to hold the Wet Well at 20ft. or 542.56 feet NAVD88 regardless of the CT-S-5 level being greater than 5ft. or 584 feet NAVD88. In this event, Clinton Township shall be notified to monitor hydraulic grade levels in sewers upstream of the CT-S-5 meter connection.

### CLINTONDALE PUMP STATION (CPS)

- Dry Weather Maintain Level – 15ft. or 537.56 feet NAVD88
- Critical Level – 21ft. or 543.56 feet NAVD88

### CPS Wet Well Level Rising

- PCI15C level greater than 5ft. or 584.41 feet NAVD88, CPS Wet Well maintain level at 15ft. or 537.56 feet NAVD88
  - CPS Wet Well maintain level gradually rises above 15ft. or 537.56 feet NAVD88.
  - CPS lead pump gradually decrease speed to allow the Wet Well level to rise.
- CPS Wet Well greater than 20ft. or 542.56 feet NAVD88
  - CPS Wet Well maintain level calculated to 20ft. or 542.56 feet NAVD88.
  - CPS lead pump increases speed to hold Wet Well at 20ft. or 542.56 feet NAVD88
- CPS Wet Well level rises to the Critical Level of 21ft. or 543.56 feet NAVD88, CPS lead pump running at 100%
  - Lag pump will turn on, modulating speed to hold the Wet Well maintain level
  - Lead pump speed fixed at 100%
  - Lag pump will regulate speed to maintain a maximum of 45 cfs.

### CPS Wet Well Level Falling

- CPS Wet Well level drops to 20ft. or 542.56 feet, Lag pump running at 84%, Lead pump fixed at 100%
  - Lag pump speed fixed to 84%
  - Lead pump allowed to modulate speed to hold the Wet Well maintain level
  - Lead pump will regulate speed to maintain under 45 cfs.
- Lead pump running at 84%, Lag pump fixed at 84%.
  - Lag pump turned off
  - Lead pump speed increases to hold the Wet Well maintain level
    - Increases to account for the flow being generated by the lag pump

- PCI15C level sensor drops below 5ft. or 584.41 feet NAVD88
  - CPS maintain level begins dropping
  - Lead pump speed increases to lower the Wet Well level to the maintain level

### **Wet Weather Operational Plan Terms & Conditions**

1. MIDDD will agree to furnish the installation of a level sensor in the Lakeshore Interceptor downstream of HR-S-1 at MH (14-8) @92+00 and Clinton Township will agree to furnish a level sensor in MH A immediately downstream from CT-S-5. Both sites will be serviced and maintained by MIDDD.
2. MIDDD will provide SCADA read-only access to Clinton Township for the following sites (CT-S-1, CT-S-2, CT-S-3, CT-S-4, CT-S-5, CT-S-6, and Clintondale Pump Station Total Flow Rate). Clinton Township will provide SCADA read-only access to MIDDD for the RG-5 rain gauge and any future rain gauges installed by Clinton Township.
3. MIDDD will provide SCADA read-only access to Clinton Township for level sensor data that will be used to control the HGL in the 15 Mile Road Interceptor. These level sensors will be placed at the HR-S-1 and CT-S-5 permanent metering facilities.
4. Clinton Township requests the final ladder logic of the wet weather operation plan at the Clintondale Pump Station be provided by MIDDD.
5. MIDDD and Clinton Township will review the MID Wet Weather Operation Plan at least once every calendar year. Updates to this plan will be executed, if found to be necessary.

Accepted By:

CHARTER TOWNSHIP OF CLINTON

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Robert J. Cannon  
Township Supervisor

MACOMB COUNTY PUBLIC WORKS OFFICE

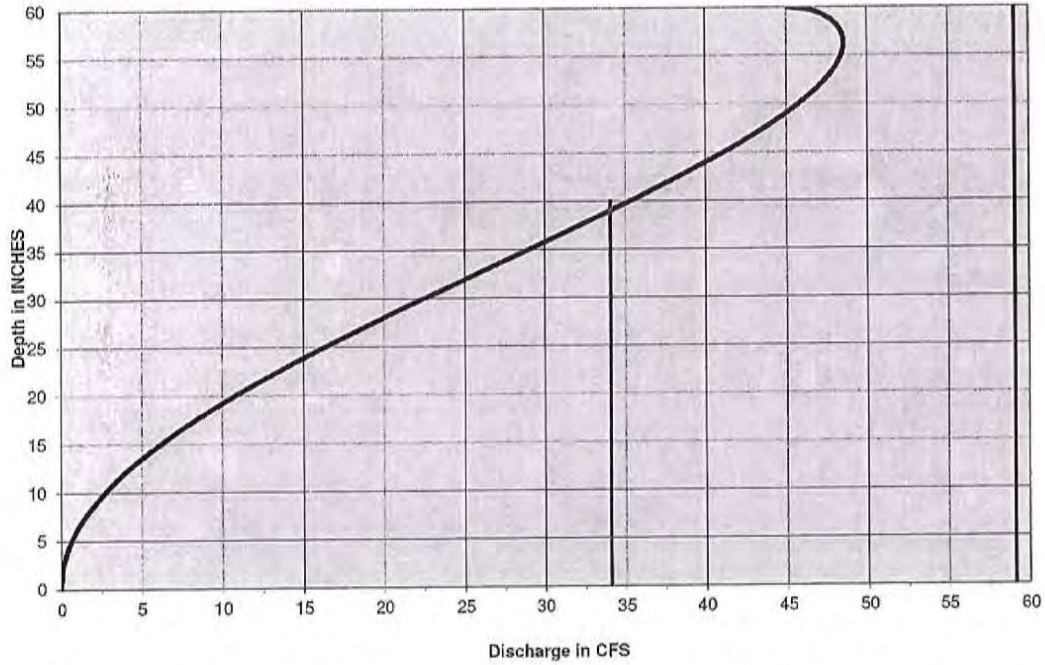
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Candice S. Miller  
Macomb County Public Works Commissioner  
MIDDD Drain Board Chairperson



# MID WET WEATHER OPERATIONAL PLAN SUPPLEMENTAL INFORMATION

PCI-15C Between Groesbeck and Little Mack  
60" Circular Pipe  
 $S_0 = 0.00030$  ft/ft  
 $n = 0.013$



— Manning's — CT Peak Flow — CT + 1 Pump @ CPS

**MEMORANDUM OF UNDERSTANDING  
BETWEEN THE CHARTER TOWNSHIP OF CLINTON AND  
MACOMB COUNTY WASTEWATER DISPOSAL DISTRICT**

This Memorandum of Understanding (MOU) is entered into on 09-24-2012 the Charter Township of Clinton (Township) and Macomb County Wastewater Disposal District (MCWWDD), which agree to the terms and conditions specified below regarding the Township's request for additional sewer flow capacity.

**Recitals**

1. The Township is currently subject to an Amended Consent Order No. ACO-SW00-002 dated August 8, 2008; and amendments AFO-SW02-001, AFO-SW07-006, AFO-SW08-002, and AFO-SW10-007 to the ACO issued by the Michigan Department of Environmental Quality, which require the Township to eliminate all sanitary sewer overflows (SSO) located in Clinton Township Areas A and E.
2. Wet weather flow from the CT-S-2 (Clinton Township Area A) and CT-UM-B (Clinton Township Area E) service areas exceed the Township's sanitary sewer and outlet capacities.
3. Wet weather flows may back up into basements or are diverted to the storm drainage system, which overflow to the Clinton River and its tributaries when flows exceed the local transport capacity. These backups and overflows constitute a threat to public health, safety and welfare.
4. The Detroit Water and Sewerage Department (DWSD) Master Plan allocates 48.62 cfs as a portion of the MCWWDD total capacity for use by the Township. This capacity represents the maximum allowable peak hourly wet weather flow rate for all Clinton Township Districts combined.
5. The MCWWDD currently has capacity in the outlet interceptors to accept additional flow from the Township that is generated from eliminating SSO. DWSD has agreed to allow MCWWDD to assign to communities available capacity over their Master Plan allocation for temporary control of excess flow, providing that the MCWWDD total capacity allocation is not exceeded at DWSD's Northeast Pump Station.
6. According to the DWSD Master Plan and modeling studies performed by MCWWDD, the MCWWDD will require its full allocated capacity at some time in the future to meet the projected dry weather flow needs of its member communities.
7. The completion of improvements to the Clintondale Pump Station will provide the necessary controls and operational plan to allow the MCWWDD to store flow in the Lakeshore Interceptor during peak wet weather events. This action will alleviate the hydraulic restriction caused by the interceptor hydraulic grade line for an event up to and including a 25 year, 24 hour rain event which prevents the requested outlet flow from the Township in Area E (CT-UM-B) (32.9 cfs) from entering the 15 Mile Road interceptor.
8. The Township currently has two unmetered connections to the MCWWDD from the CT-UM-A (Clinton Township Area G) and CT-UM-B (Clinton Township Area E) service areas. Clinton Township Service Area G is not subject to the amended ACO.

Based on the foregoing factors, the MCWWDD agrees to provide additional excess capacity to the Township, to the extent such capacity is available, for an initial period of 10 years after the date of this MOU, or until the Township constructs improvements to its sewer system to eliminate its excess flows. This MOU is subject to the following terms:

- A. The MCWWDD agrees to provide the Township its requested use of 90.85 cfs of capacity for the peak hour flow from a 25 year – 24 hour storm event.
- B. This grant of additional flow capacity is subject to the availability of dry weather flow capacity for the District and may be reduced or eliminated in the future based on the dry weather flow requirements of the District. This MOU may be extended or modified by mutual agreement.
- C. During the duration of the MOU, the Township will continue to explore and implement methods to reduce its wet weather flow.
- D. The MCWWDD agrees to charge the Township the same rate for all its wastewater volume in accordance with the current contract between the Township and MCWWDD unless modified by mutual agreement.
- E. The MCWWDD will use storage in the Lakeshore Interceptor, to the extent available, during wet weather to allow the Area E (CT-UM-B) discharge to enter the 15 Mile Road Interceptor without restriction from the hydraulic grade line in the 15 Mile Road Interceptor.
- F. The Township acknowledges the MCWWDD cannot guarantee the adequacy of the control logic or of the available of storage in the Lakeshore Interceptor under any or all wet weather conditions to effectively eliminate all hydraulic restriction to flow into the 15 Mile Road Interceptor. MCWWDD agrees to develop and implement an operational plan for the Clintondale Pump Station in accordance with the Township ACO.
- G. The Township agrees to construct and maintain metering facilities (parshall flume or a mutually agreed upon alternative if design deems a parshall flume will not be effective and/or prudent) acceptable to the MCWWDD to accurately measure the flows delivered in Area E and G. The meter shall be maintained for billing purposes at Township expense by the MCWWDD in accordance with good metering practices established by the Greater Detroit Regional Sewer System Flow Metering Task Force.

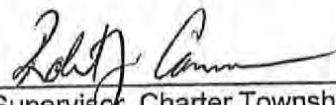
**Macomb County  
Wastewater Disposal District**

Anthony V. Marrocco

  
\_\_\_\_\_  
Macomb County *wm*  
Public Works Commissioner

**Charter Township of Clinton**

Robert Cannon

  
\_\_\_\_\_  
Supervisor, Charter Township of Clinton



**Candice S. Miller**

Public Works Commissioner  
Macomb County

Date: June 8, 2017

To: Candice S. Miller, Public Works Commissioner

From: Vincent Astorino, Acting Chief Engineer  
Macomb County Public Works Office

RE: Bluewater Phase II Project Management Plan by Johnson & Anderson

Johnson & Anderson has worked with the county on our data review tool MCMaRS since 2008. That program has been in use since that time and is in need of a major revision. Last year MCPWO started the development of a program called Bluewater which will be our new web based data review tool. Phase one of this project is nearing completion and was configured to replicate the existing software MCMaRS. This proposal is for Phase 2 of this work which will incorporate a lot of the new innovative engineering tools and MCPWO would like to have J&A take the lead on this portion of work. This program will be fully integrated with our current SCADA platform along with NEXGEN which is our asset management program. The goal is to make this software available to all of the MIDD communities as well.

Phase 1 work by J&A is under budget with \$60,000 remaining. This proposal is for \$45,000 so funding is available for this.



April 27, 2017

Vincent Astorino  
Engineer II- Wastewater Services  
Macomb County Public Works  
21777 Dunham Road  
Clinton Township, MI 48036

Re: Macomb County Public Works Commissioner Bluewater Project Phase 2 Project  
Management Implementation Proposal

Ref: J&A File No. 18098- Phase 2

Dear Mr. Astorino:

Johnson & Anderson, Inc. (J&A) is pleased to provide a proposal to provide project management implementation services for the completion of the Bluewater Phase 1 project and additional Phase 2 project to the Macomb County Public Works Commissioner (Owner).

## BACKGROUND

In 2008 J&A was engaged by the Macomb County Public Works Commissioner to develop an engineering tool to manage, analyze, and report on sanitary sewer meters and their data. This tool would be referred to as MCMARS (Macomb County Meter Analysis and Reporting System). The tool was built following the specifications of the original contract and would in subsequent years grow via the execution of additional contracts to contain the following functions:

- Management of sewer flow and rainfall meters
- Management of linear combinations of sewer flow meters into virtual meters
- Recording of data from sewer flow and rainfall meters from Wonderware historian
- Import/export data
- Chart and tabularize data
- Create Average Dry Weather Flow (ADWF) patterns to be used in sewer flow correction and RDII calculation
- Develop sewer flow meter correlations to be used in sewer flow correction
- Addition tools to assist operators in correcting sewer flow and preparing sewer flow for billing reports
- Output individual sewer flow meter reports and community based reports for the purpose to billing communities based on sewer flow volume

J&A assisted the OWNER's wastewater division in managing the data from the wastewater system, while at the same time providing enhancements to the MCMARS tool based on operator feedback. Soon, operators at the wastewater division became increasingly independent and J&A was engaged to build a web based tool allowing Macomb County communities to log into the

4494 Elizabeth Lake Road  
Waterford, Michigan 48328  
tel (248) 681-7800 fax (248) 681-2660

1060 W. Norton Avenue, Suite 7  
Muskegon, Michigan 49441  
tel (231) 780-3100 fax (231) 780-3115

2291 Water Street, Suite 6  
Port Huron, Michigan 48060  
tel (810) 987-7820 fax (810) 987-7895

MCMARS application to leverage the investment. This website allowed communities to chart and/or download data as prepared through the MCMARS application.

In 2015, the OWNER began to implement a project to build a more holistic system that is completely web based integrating MCMARS features with the MCMARS public portal as well as their new NEXGEN asset management system. J&A continued to support and develop MCMARS and assist the web UI developer, Ghadys, with the development of the new application.

The following agreement between J&A and the OWNER is separate and distinct from any other agreement between J&A and OWNER.

### **1.0 SCOPE OF SERVICES- PHASE2**

- 1.1 Project administration and coordination meeting to update all project team members and the OWNER on the status of the Phase 1 project and to determine next steps and schedule to complete Phase 1 deliverables.
- 1.2 Project implementation management of the Phase 1 deliverables.
- 1.3 Project implementation management of Phase 2 selected metric and analysis enhancement tools in Bluewater including NEXGEN and RDII.
- 1.4 Implementation of J&A developed SCADA Reporting Tool with Bluewater application.

### **2.0 RESPONSIBILITIES OF THE OWNER**

- 2.1 The OWNER shall provide access to all sites, personnel and information necessary to conduct the project review.
- 2.2 The OWNER shall designate an individual to be the primary contact person to facilitate information retrieval and interview scheduling.
- 2.3 The OWNER will attend all necessary meetings and assist with the coordination and development of the review and recommendation process.
- 2.4 The OWNER shall provide a secure remote login to access the system for development.
- 2.5 The OWNER shall provide all applications and associated licensing to be incorporated into Phase 2.

### **3.0 PROFESSIONAL FEE**

For services described in **Section 1.0- SCOPE OF SERVICES Items 1-3**, J&A proposes to charge and OWNER agrees to pay a not to exceed amount of **\$35,000.00** in accordance with the attached Schedule of Fees labeled Exhibit B without prior approval from the OWNER.

For services described in **Section 1.0- SCOPE OF SERVICES Item 4**, J&A proposes to charge and OWNER agrees to pay a not to exceed amount of **\$10,000.00** in accordance with the attached Schedule of Fees labeled Exhibit B without prior approval from the OWNER.

**We estimate our fee for the above SCOPE not to exceed the outlined costs without prior approval of the OWNER. Services beyond the scope of this agreement, if needed and authorized by the OWNER, shall also be at the actual rates and charges in accordance**

**with the Rate Schedule attached in Exhibit B. Invoices shall be rendered monthly.**

**4.0 TERMS AND CONDITIONS**

Services under this agreement may be terminated by either party upon thirty (30) days written notice. In the event of termination, OWNER shall pay J&A for all services and reimbursable expenses rendered to the date of termination.

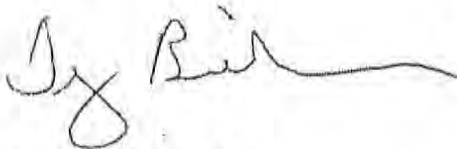
Amendment and Waiver. This Agreement may be amended, modified, waived or canceled only in writing signed by each of the parties hereto or, in the case of a waiver, by the party waiving compliance. No failure or delay by either party in exercising any right or remedy under this Agreement shall waive any provision of this Agreement nor shall any single or partial exercise by either party of any right or remedy under this Agreement preclude either of them from otherwise or further exercising these rights or remedies or any other rights or remedies granted by any law or any other document.

Governing Law. The laws of the State of Michigan shall govern the validity, construction, and performance of this Agreement, without regard to the conflict of law's provisions of any jurisdictions. Any legal proceeding related to this Agreement shall be brought in an appropriate Michigan court, and each of the parties hereto consents to the exclusive jurisdiction of that court for this purpose.

**5.0 ACCEPTANCE**

This Agreement and the attached exhibit(s) represent the entire understanding between us in regard to this project and may only be modified by the mutual consent of authorized parties. This offer will remain open for acceptance for 60 days. If the terms of this Agreement are acceptable to you, please sign and return one copy, which will serve as our contract and authorization to proceed.

Very truly yours,  
JOHNSON & ANDERSON, INC.



Terry E. Biederman, P.E.  
Principal

ACKNOWLEDGED AND ACCEPTED BY:  
MACOMB COUNTY PUBLIC WORKS  
COMMISSIONER

Name: \_\_\_\_\_  
Candice S. Miller, Drain Commissioner  
Macomb County Public Works

Date: \_\_\_\_\_

**Exhibit B**  
**Rate Schedule**

<i>CLASSIFICATION</i>	<i>HOURLY RATE CHARGE</i>
Engineer VI / Surveyor VI	\$ 135.00
Engineer V / Surveyor V	\$ 125.00
Engineer IV / Surveyor IV	\$ 105.00
Engineer III / Surveyor III	\$ 95.00
Engineer II / Surveyor II	\$ 83.00
Engineer I / Surveyor I	\$ 79.00
GIS/IT Technician V	\$ 105.00
GIS/IT Technician IV	\$ 95.00
GIS/IT Technician III	\$ 80.00
CAD Operator IV / Drafter IV (Drafting Supervisor)	\$ 90.00
CAD Operator III / Drafter III	\$ 87.00
CAD Operator II / Drafter II	\$ 70.00
CAD Operator I / Drafter I	\$ 65.00
Construction Inspector V* / Technician V	\$ 100.00
Construction Inspector IV* / Technician IV	\$ 90.00
Construction Inspector III * / Technician III	\$ 78.00
Construction Inspector II * / Technician II	\$ 73.00
Construction Inspector I * / Technician I	\$ 68.00
3 Man Survey Crew	\$ 185.00
2 Man Survey Crew	\$ 160.00
1 Man Survey Crew	\$ 120.00
Clerical	\$ 52.00
Mileage	\$ 0.54/(current IRS allowance)
Copy Cost – Prints	\$ 0.25 / square foot
– photocopy (8 1/2 x 11, 8 1/2 x 14)	\$ 0.20 / copy

\* Minimum charge of 4 hours



Funding Source	Apportionment	Manager	Vendor	Amount	Invoice Detail	Project Summary	Project Balance
Macomb Interceptor Administration	Chapter 20 Chesterfield - 7.1% Clinton - 21.6% Fraser - 4.3% Harrison - 5.8% Lenox - .7% Macomb - 13.6% New Haven - .9% Shelby - 9.8% Sterling Heights - 31.6% Utica - 1.9% Washington - 2.7%	Baker	Digital First Media	\$ 907.67	Invoice #644893 - 4/30/17	Apportionment Public Hearing Notice - 4/19/17	
		Astorino	8 1/2 Mile Relief Drain	\$ 1,051.18	Invoice #029-17 - 4/22/17 - 5/19/17	8 1/2 Mile Relief staff working on MIDD work	
		Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 8,182.90	Invoice #366746 - 5/3/17	Engineering Services - ending 4/21/17	GLWA engineering assistance, asset management, CIP meetings
		Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 1,120.00	Invoice #367026 - 5/3/17	Engineering Services - ending 4/21/17	AS-needed engineering services
		Baker	Foster Swift	\$ 6,000.96	Invoice #715188 - 5/16/17	Legal Services - 4/1/17 - 4/30/17	Special Assessments
		Astorino	Johnson & Anderson	\$ 2,320.00	Invoice #40395 - 5/22/17	Invoice #AR170353 - 5/12/17	Data Management Systems Support
		Baker	Macomb County Treasurer	\$ 304,793.72	Invoice #90767 - 12/14/16	Invoice #11569 - 4/20/17	First Quarter Reimbursement - Personnel & Operating Expenses
		Astorino	Motor City Electric Technologies, Inc.	\$ 712.00	Invoice #11569 - 4/20/17	Invoice #11595 - 5/22/17	SCADA - restore database and log files
		Astorino	City of Mount Clemens	\$ 17,549.82	Invoice #1757 - 4/27/17	Invoice #578736375-067 - 3/24/17 - 4/23/17	Sewage Flow Billing - 2/18/17 - 3/17/17
		Astorino	City of Mount Clemens	\$ 19,770.66	Invoice #1757 - 4/27/17	Invoice #578736375-068 - 4/24/17 - 5/23/17	Sewage Flow Billing - 3/18/17 - 4/17/17
		Astorino	NEXGEN Utility Management	\$ 2,500.00	Invoice #1093.12	Invoice #7484 - 5/26/17	License, Annual Maintenance & Support
		Astorino	Sprint	\$ 1,093.12	Invoice #578736375-067 - 3/24/17 - 4/23/17	Invoice #7484 - 5/26/17	Cell Phones - SCADA
		Astorino	Sprint	\$ 1,191.05	Invoice #578736375-068 - 4/24/17 - 5/23/17	Invoice #18827 - 4/30/17	Monthly cell phone service
		Stockel	Wild Bill and Associates	\$ 1,305.00	Invoice #18827 - 4/30/17	Invoice #18924 - 6/2/17	Acquire for Sale signs - Garfield Road
		Baker	Viviano Law	\$ 2,755.00	Invoice #18827 - 4/30/17	Invoice #18924 - 6/2/17	MID vs. Inland Waters Litigation
		Baker	Viviano Law	\$ 20,563.17	Invoice #18924 - 6/2/17	Invoice #WO17000851 - 5/4/17	Sterling Heights Lawsuit
		Astorino	DE-CAL, Inc.	\$ 896.60	Invoice #WO17000851 - 5/4/17	Invoice #006-39663 - 4/28/17	Maintenance on exhaust fans
		Astorino	Cummins Bridgeway	\$ 2,994.61	Invoice #006-39663 - 4/28/17	Invoice #WO17000911 - 5/23/17	Annual generator maintenance
		Astorino	DE-CAL, Inc.	\$ 7,425.00	Invoice #WO17000911 - 5/23/17	Monthly Electrical - 4/4/17 - 5/1/17	Maintenance on ARVs and HVAC
		Astorino	DTE Energy	\$ 16,059.34	Monthly Electrical - 4/4/17 - 5/1/17	Invoice #20145 - 4/24/17	Emergency repair - screen rake bearing
Astorino	Duperon Corporation	\$ 1,250.00	Invoice #20145 - 4/24/17	Invoice #37812 - 5/4/17	Power spray exterior, interior treat for spiders		
Astorino	Great Lakes Pest Control Co., Inc.	\$ 500.00	Invoice #37812 - 5/4/17	Invoice #65520 - 1/4/17	Back Rack with mounting plates/stainless steel bars		
Astorino	Tom's Auto Glass	\$ 825.00	Invoice #65520 - 1/4/17	Invoice #7485 - 5/26/17	Fabricate and install sign for Climbondale P.S.		
Stockel	Wild Bill and Associates	\$ 2,475.00	Invoice #7485 - 5/26/17	Invoice #16027 - 5/1/17	2016 Sinkhole		
Baker	Aloia & Associates, P.C.	\$ 11,954.75	Invoice #16027 - 5/1/17	Legal Services - 4/1/17 - 4/30/17			
Bantios	Anderson, Eckstein & Westrick, Inc.	\$ 24,585.68	Invoice #0114077 - 5/23/17	Engineering Services - 4/3/17 - 4/30/17	PCA 12A 15 Mile - sewer lining		
Bantios	Anderson, Eckstein & Westrick, Inc.	\$ 137,374.35	Invoice #0114097 - 5/25/17	Engineering Services - 4/3/17 - 4/30/17	2016 Sinkhole		
Bantios	Anderson, Eckstein & Westrick, Inc.	\$ 577,971.34	Invoice #0114099 - 5/25/17	Engineering Services - 4/3/17 - 4/30/17	Recovery Shaft		
Heaton	American Graphics Printing Co.	\$ 2,686.00	Invoice #079212 - 5/11/17	Invoice #079212 - 5/11/17	Wipes Flyer		

Funding Source	Apportionment	Manager	Vendor	Amount	Invoice Detail	Project Summary	Project Balance
15 Mile Sinkhole (Continued)		Astorino	Dan's Excavating, Inc.	\$ 5,236,449.89	Construction Estimate #2	Recovery Shaft	
		Astorino	DTE Energy	\$ 10,644.25	Monthly electrical - 4/26/17 - 5/24/17	2016 Sinkhole	
		Bantios	DTE Group, Inc.,	\$ 5,850.00	Invoice #17-1564 - 3/31/17	Ric-Man Invoice Review Process	
		Bantios	Eversstream	\$ 40,642.00	Invoice #A-170418184418 - 4/18/17	Relocation of 15 Mile fiber lines	
		Astorino	Fraser Senior Housing	\$ 635.00	Invoice #7324-2017	Lease payment for George & Lillian Raimondi -	
		Astorino	Hubbell, Roth & Clark, Inc.	\$ 8,265.46	Invoice #0151917 - 5/16/17	SRF Funding Assistance - Phase II	
		Astorino	Omar Malik	\$ 1,950.00	Invoice #72792017	Lease payment for Tammetrice Smith and Salam Tobiya - June 2017	
		Astorino	Brandon Maxwell	\$ 2,014.50	34960 Eberlein, Fraser, MI 48026	Reimbursement and Release Agreement	
		Forlini	Minute Men Staffing Services	\$ 945.26	Invoice #48037 - 4/30/17	Staffing for sinkhole - Harrington Drain cleanout	
		Forlini	Minute Men Staffing Services	\$ 1,130.30	Invoice #48268 - 5/7/17	Staffing for sinkhole - Harrington Drain cleanout	
		Forlini	Minute Men	\$ 868.72	Invoice #48613 - 5/21/17	Staffing for sinkhole - Harrington Drain cleanout	
		Forlini	Minute Men	\$ 1,300.47	Invoice 48723 - 5/28/17	Staffing for sinkhole - Harrington Drain cleanout	
		Astorino	Nostalgia Antique Appraisal Services	\$ 6,000.00	Invoice #4192017 - 5/22/17	Appraisal for Albu's personal possessions	
		Astorino	Nikolla and Albina Nue	\$ 12,028.00	34920 Eberlein, Fraser, MI 48026	Reimbursement and Release Agreement	
		Stockel	Oceanview Excavation	\$ 3,020.00	Invoice #465 - 4/27/17	Harrington Drain cleanout	
		Stockel	Oceanview Excavation	\$ 796.00	Invoice #466 - 4/30/17	Repair nuts at fire station - Garfield and Clinton River	
		Forlini	Oceanview Excavation	\$ 5,697.50	Invoice #470 - 5/18/17	Harrington Drain Cleanout	
		Astorino	David & Kathleen Oster	\$ 15,167.15	34761 Eberlein, Fraser, MI 48026	Reimbursement and Release Agreement	
		Astorino	Federico and Lillian Raimondi	\$ 3,034.54	15370 15 Mile Road, Fraser, MI 48026	Reimbursement and Release Agreement	
		Bantios	Ric-Man	\$ 3,500,000.00		2016 Sinkhole	
		Astorino	Salam Tobiya & Tammetrice Smith	\$ 9,180.31	34960 Eberlein, Fraser, MI 48026	Reimbursement and Release Agreement	
		Stockel	Two Men and a Truck	\$ 2,100.00	Invoice #37979 - 2/6/17	Tobias/Smith family - move from storage to rental house	
		Baker	Viviano Law	\$ 6,930.63	Invoice #18826 - 5/4/17	2016 Sinkhole	
		Baker	Viviano Law	\$ 2,294.30	Legal Services - ending 4/29/17	2016 Sinkhole	
		Baker	Viviano Law	\$ 1,118.90	Invoice #18923 - 6/2/17	2016 Sinkhole	
Lenox/26 Mile Road		Baker	Viviano Law	\$ 33,430.79	Invoice #18828 - 5/4/17	Ric-Man lawsuit	\$ 322,379.41
Macomb Element & Berling Heights Arm Interceptor	SRF 5624-01	Astorino	Lauzo Lining Services, Inc.	\$ 10,526.50	Construction Estimate #11 - 4/19/17	Relining of sewers	
	SRF 5487-01	Astorino	Hubbell, Roth & Clark, Inc.	\$ 1,362.50	Invoice #0151746 - 5/8/17	Meter Pit Evaluation - Construction Services	\$ 196,996.00
		Astorino	Martin Control Services, Inc.	\$ 16,450.00	Engineering Services - ending 4/22/17	MID Meter Repair	
		Astorino	Martin Control Services, Inc.	\$ 1,475.00	Invoice #10031 - 5/15/17	MID Meter Maintenance	
		Astorino	Martin Control Services, Inc.	\$ 1,475.00	Application #6 - 5/14/17	MID Meter Maintenance	
NGI		Astorino	National Industrial Maintenance, Inc.	\$ 1,475.00	Invoice #28537 - 4/28/17	Monthly - Vector debris from rock basket	

Funding Source	Apportionment	Manager	Vendor	Amount	Invoice Detail	Project Summary	Project Balance
NGI (SAW Grant 1406-01) (Continued)		Astorino	Anderson, Eckstein & Westrick, Inc.	2,096.00	Invoice #0114020 - 5/23/17 Engineering Services - 4/3/17 - 4/30/17	Condition Assessment	
		Astorino	DE-CAL, Inc.	\$ 2,200.00	Invoice #WO17000844 - 5/4/17	Monthly ARV Maintenance on 37 & 38	
OMID		Astorino	Oakland County	\$ 4,115,595.25	Invoice #SDS0005049 - 5/2/17	Sewage disposal charges - April 2017	
		Astorino	Oakland County Treasurer	\$ 4,115,595.25	Invoice #SDS00000056 - 6/1/17	Sewerage Disposal Charges - May 2017	
		Baker	Viviano Law	\$ 972.00	Invoice #18829 - 4/30/17 Legal Services - ending 4/17/17	OMIDDD Litigation	
		Baker	Viviano Law	\$ 646.00	Invoice #18927 - 6/2/17 Legal Services - ending 5/31/17	OMIDDD Litigation	
SCADA		Astorino	Motor City Electric Technologies, Inc.	\$ 2,214.00	Invoice #90949 - 5/12/17	NextGen, SCADA upgrades	
<b>Total</b>				<b>\$ 18,359,440.45</b>			

Income Statement  
MIDDD  
As of May 31, 2017

	30-Jun-16 Total Fund	7-1-16 to 5-31-17 O&M*
Revenues		75,600,071.32
Expenditures		80,185,953.34
Equity	7,683,997.38	

**NOTES**

Projected reserve at 6/30/2017 is

\* Includes following Projects:

Dec 2016 Sinkhole

Revenue	23,131,735.23	20,000,000	county temp loan
Expenditures	34,003,247.39	3,000,000	State Grant
Net	(10,871,512.16)	131,735	Clinton Twp share of AEW Invoice

4 SAW Grants

Revenue	719,525.28
Expenditures	727,065.37
Net	(7,540.09)

Sewage Metering(SRF 5487-01)

Revenue	1,147,565.00
Expenditures	972,005.32
Net	175,559.68

Corrosion Control(Project on Hold)

Revenue	
Expenditures	120,023.54
Net	(120,023.54)