



**Public Works Committee Agenda
December 29, 2016 at 4:00 pm
Village Hall Board Room – 2nd Floor**

1. Call to Order
 - a. Approval of the minutes of December 13, 2016.
 - b. Discussion and Action on Private Property Infiltration and Inflow Program
 - c. Discussion and Action on Fairmount Sewer project

2. Next meeting – February 13, 2017 at 4 PM

Posted: December 22, 2016

Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. Contact Village Hall at (414) 962-6690. It is possible that members of and possibly a quorum of members of other Boards, Commissions, or Committees of the Village including in particular the Village Board may be in attendance in the above stated meeting to gather information; no action will be taken by any other Boards, Commissions, or Committees of the Village except by the Board, Commission, or Committee noticed above. Agendas and minutes are available on the Village website (www.wfbvillage.org)



Public Works Committee Minutes
Monday, December 13, 2016 at 4:00 pm
Whitefish Bay Village Hall

I. **Call to Order and Roll Call**

The meeting was called to order at 4:07 pm.

Present: Trustee Serebin, Trustee Miller, Trustee Davis, and Tom Kindschi.

Also Present: Village Manager Steven Sheiffer, Public Works Director John Edlebeck, Village Engineer Mustafa Emir, Staff Engineer Spencer Charczuk, Jerome Flogel with MMSD, Mike Martin with MMSD, and Brandon Flunker with Clarke Dietz.

I. **Approval of Minutes November 14, 2016 Public Works Committee Meetings**

Trustee Davis moved, seconded by Trustee Miller to approve minute for November 14, 2016. Unanimous in favor. Motion approved.

II. **Draft PPII Program**

Public Works Director Edlebeck stated that the attached is the most recent draft of the proposed PPII program. This would be considered an alpha year; a year of learning for the program. In 2017 there is approximately \$970,000 available to the Village through MMSD funding for PPII. The core of the proposed program will be private sanitary sewer lateral lining, secondary is foundation drain disconnection. The PPII Program is being emphasized in priority areas of the Village containing some 700 homes. The priority areas were determined from a 2013 village PPII study. Priority area 1a is high for infiltration and would focus on lateral lining. Priority 1b has high inflow and infiltration rates so foundation drain disconnection will be included in addition to lateral lining. Priority area 2 does not pose as high of a risk for basement backups within the village due to number of sanitary to storm sewer bypasses in that sanitary basin 7. Trustees questioned how it was determined if an area was impacted

more by inflow or infiltration. The determination is made by comparing graphs created using rainfall data and flow in the sanitary system graphed with time. When rainfall data mirrors the flow data it represents inflow, when there is a delay between the flow in the sanitary system and the rainfall it represents infiltration.

MMSD performed a pilot program in Shorewood to see the impact of foundation drain disconnects. Sump pumps for foundation drain disconnects were offered at no charge to residents and were monitored over the next 12 months. Three streets were part of the program; Wildwood Ave, Ardmore Ave, and Woodburn St. 7 of 22 Wildwood Ave residents accepted the pumps and discharged 86,866 gallons of clearwater over the course of 12 months. 5 of 22 Ardmore Ave residents accepted pumps and discharged 12,299 gallons of clearwater over the course of 12 months. 5 of 22 Woodburn St residents accepted pumps and discharged 5,602 gallons of clearwater over the course of 12 months. Flow rate results varied greatly between homes. Trustee Serebin question if we should implement the program based on soil conditions. Mustafa stated that there are too many variables and study costs associated with implementing a program based on soil condition from home to home.

The program would have the village will televise laterals to verify the need for lining on a home to home basis. Foundation drain disconnections will involve more work on private property and require contractors to access the home. Trustee Davis questioned the feasibility of having an incentive program to connect current sump pump discharges to the storm sewer. Trustee Miller would like to see an emphasis on lateral lining and a cost share to foundation drain disconnects. Trustee Miller would also like to see a decreasing incentive program with highest cost share from the village being offered in the early phases. Trustee Serebin would like to see a cost share to the lateral lining. Village Manager Sheffer surveyed the committee to see what percentage the village should pay. Tom Kindschi stated 75%, Trustee Davis stated %66, Trustee Miller stated 75%, and Trustee Serebin stated 75%. Manager Sheffer proposes that for 2017 the village could have 2 priority areas, 1a and 1b. The village will offer lateral lining, upon meeting set criteria, at a 25% cost to the homeowner amortized over 7 years with no interest. Village will seek out 5 potential homes to pilot foundation drain disconnects. Trustee Miller suggested that foundation disconnects should have the homeowner cover 25% of the cost. Jerome Fogel of MMSD mentioned that a pilot program will allow the village to see how a program like this will be accepted in our community. Mr. Fogel discussed the program that occurred in Greenfield, in which foundation drain disconnection was required for lateral lining, there was only a 15% participation rate. West Allis program had a \$1,500 cap to the homeowner for foundation drain disconnect and a \$4,000 cap for on lateral lining. Currently there is \$970,000 available to be directed at 2 priority areas of which homeowners would pay 25%. In 2018 there would be an additional \$135,000 available from MMSD to potentially use for foundation drains. A question was posed as to why the lining would not go all the way to the cleanout. That process would require basement access and additional liabilities to the contractor and benefits may not outweigh the benefits. Questions were posed again as to determination of the locations and how to best determine the locations for PPII monies. Mr. Martin of MMSD stated the cost to determine the best suited locations would detract from the funds to perform the project goals. PPII Program was tabled for further discussion.

III. 2016/2017 Project Update

Manager Sheiffer discussed the Good Hope Landfill. There are 3 different projects there; hot spot remediation, groundwater remediation, and vapor extraction of contaminated areas. Public Works Director Edlebeck discussed the 2016 Utility Projects.

The concrete damage that occurred on the new concrete pavement installation on Berkeley Blvd will be addressed in the spring.

Sanitary sewer boring is ongoing for the 2016 Sanitary Sewer Improvement Project. Some redesign was needed due to discovered underground utilities. Resident complaints on generator noise have been addressed by shielding the generator equipment to dampen the noise. Placement of the backup generator and control panel for the sanitary lift station for Palisades Rd is being addressed with residents.

Village monument signs are being completed shortly.

Lining of Lancaster Storm Sewer to the west is scheduled to begin in February.

Cramer Street storm sewer design is currently underway.

Future 2017 project budgets were discussed to include \$650,000 for Mill and Overlay Program, \$100,000 for Sidewalk Improvement Program, \$200,000 for Street Lighting, and \$200,000 for Utility Projects.

IV. Next Scheduled Meeting

No meeting for January. Next planned scheduled meeting to occur February 13th at 4:00pm with the Village Board being held on February 20th.

V. Adjournment

Trustee Miller motioned to adjourn, seconded by Trustee Serebin. Unanimous in favor. Motion approved. Meeting adjourned at 5:56pm.

Proposed 2017 and 2018 Private Property Infiltration/Inflow Program

- The Program would be available only to property owners in priority area 1A and 1 B
- The program would consist of five components
 - The disconnection of remaining downspouts (with areas 1A and B areas being the first priority).
 - Elimination of any other identified direct connections of storm water sources to the sanitary sewer system (esp. priority area 1B - Courtland/Glendale area).
 - Lining of approximately 225 sanitary sewer laterals (# depends on actual costs versus budget).
 - A pilot program for foundation drain disconnection and sump pump installation including connection of sump pump discharges into the storm sewers
 - A pilot program to connect existing sump pumps to the storm water system where sump connections have already been installed.
- In 2017 a lateral lining program would be offered with a goal of lining approximately 225 sanitary sewer laterals
 - The Program has an estimated cost of approximately \$1,500,000 and would be funded as follows
 - * 75% of the estimated \$6,000 cost per lateral would be funded with MMSD funds -- \$ 1,000,000
 - * The property owner would pay 25% -- \$337,500
 - * The Village would fund the 10% overhead cost for engineering services and administration--- \$133, 750
 - * The property owners share could be placed on a seven year 0% interest rate for 7 years. The Village would cover the interest cost -- \$ 35,000
- In 2017 and future years Village Staff would implement the programs for downspout disconnections and elimination of other direct connections.

- In 2017 the foundation drain disconnection/ sump pump connection pilot program would be developed. The disconnection program would be for 5 to 10 properties. The connection program goal would be established during program development. The funding would be 75% MMSD/ 25% property owner.
- In 2017 the existing sump pump connection pilot program would be developed. The connection program goal would be established during program development. The funding would be 75% MMSD/ 25% property owner.
- The two pilot programs would be implemented in 2018. There would be approximately \$135,000 in MMSD funding available for the program depending on actual costs for the lateral lining program.
- All programs would be evaluated in late 2018 and a new program would be implemented for future years. Approximately \$135,000 of MMSD funding per year should be available to fund the future program.
- Prior to program start a policy would be written for Board approval that establishes the process and criteria for the selection of the specific properties; and addresses the need for a Village Ordinance that further regulates sump pump discharges).

Proposed 2017 and 2018 Private Property Infiltration/Inflow Program

- The Program would be available to property owners in priority area 1A and 1 B
- The program would consist of four components
 - Lining 225 private laterals
 - A pilot foundation drain disconnection program
 - A pilot program to connect existing sump pumps to the storm water system
 - The disconnection of remaining roof drains and elimination of any other identified direct connections of storm water sources to the sanitary sewer system
- In 2017 a lateral lining program would be offered with a goal of lining 225 laterals
 - The Program has an estimated cost of approximately \$1,500,000 and would be funded as follows
 - * 75% of the estimated \$6,000 cost per lateral would be funded with MMSD funds -- \$ 1,000,000
 - * The property owner would pay 25% -- \$337,500
 - * The Village would fund the 10% overhead cost for engineering services and administration--- \$133, 750
 - * The property owners share could be placed on a seven year 0% interest rate for 7 years. The Village would cover the interest cost -- \$ 35,000
- In 2017 the foundation drain and sump pump connection pilot programs would be developed. The disconnection program would be for 5 to 10 properties. The connection program goal would be established during program development.
- The two pilot programs would be implemented in 2018. There would be approximately \$105,000 in MMSD funding available for the program depending on actual costs for the lateral lining program.
- All programs would be evaluated in late 2018 and a new program would be implemented for future years. Approximately \$135,000 of MMSD funding per year should be available to fund the future program

- In 2017 and future years Village Staff would implement the roof drain disconnections and elimination of other direct connections program
- A policy would be written for Board approval that establishes the process and criteria for the selection of the specific properties

Sheiffer, Steven

From: Edlebeck, John
Sent: Tuesday, December 20, 2016 12:36 PM
To: Sheiffer, Steven; mustafa.emir@clarkdietz.com
Cc: Charczuk, Spencer
Subject: RE: Disconnection of Roof Drains

Mustafa:

Please call me when you are free and we can discuss this further.

John

From: Sheiffer, Steven
Sent: Thursday, December 15, 2016 3:54 PM
To: Edlebeck, John; mustafa.emir@clarkdietz.com
Cc: Charczuk, Spencer
Subject: Disconnection of Roof Drains

When the study was completed in 2014, Spencer had a spread sheet of the properties and a draft letter. I cancelled the distribution since I was temporary part time and wasn't comfortable with the approach we were taking and who would be responding/meeting with citizens. Spencer was the only "viable" possibility for citizen contacts at that time.

I think it would be helpful to have a one page summary memo about the study; the spreadsheet; and a draft letter. We also need to identify whether additional testing should be done.

Is this a project for someone on Mustafa's staff?/

John: This your decision.

Steve

Sheiffer, Steven

From: Mustafa Emir <Mustafa.Emir@clarkdietz.com>
Sent: Friday, December 16, 2016 7:00 PM
To: jaymiller16@gmail.com; Sheiffer, Steven; Edlebeck, John
Subject: Re: Thought

Well, I did say this was my bias – meaning that I am not entirely impartial on this matter... T

hat's only relevant for the discussion regarding policy.

As an engineer, your engineer, we can make any policy you wish to pursue, move forward in a meaningful way.

Mustafa

From: Jay Miller <jaymiller16@gmail.com>
Date: Friday, December 16, 2016 at 5:15 PM
To: Steve Sheiffer <S.Sheiffer@wfbvillage.org>, John Edlebeck <J.Edlebeck@wfbvillage.org>, Mustafa Emir <Mustafa.Emir@clarkdietz.com>
Subject: Thought

The following statement from Mustafa begs the question a little bit about whether to do a foundation disconnect pilot program at all, doesn't it? Or is the fact that we have MMSD money to use enough of a justification to go forward? A good reason to meet again, though, don't you think? Jay

Because of numbers: to register enough peak flow reduction to decrease basement backup risks, we need to achieve sheer numbers of interventions and lateral lining, by its nature, is a lot easier sell than basement modifications. The proposed program already has an inherent weakness (because it requires a home owner to pay something) and my opinion is that sump pump numbers are not going to be there to register a benefit. In addition, I personally don't believe that sump pumps will ever collect enough water to mean anything. It's my bias based on past work in this field.

Sheiffer, Steven

From: Mustafa Emir <Mustafa.Emir@clarkdietz.com>
Sent: Friday, December 16, 2016 11:21 AM
To: Sheiffer, Steven; Trustee Davis; Trustee Miller; Edlebeck, John
Subject: RE: 2017 - 2018 Private Property I and I Program

2. Area 1B was disconnected for the sanitary basin it once shared with Shorewood. Why has this change not impacted the sanitary sewer backups along that street?

It has. Every rainfall since 2012 has proven that fact. As I said at the meeting, Area 1B residents have already benefited from significant basement backup risk reduction benefits due to work performed in Shorewood and partially funded by Whitefish Bay. That's precisely the reason this area is of secondary priority i.e., "B".

3. Since INFLOW is the putative problem in 1B, why would our incentive program there include lateral linings?

Because of numbers: to register enough peak flow reduction to decrease basement backup risks, we need to achieve sheer numbers of interventions and lateral lining, by its nature, is a lot easier sell than basement modifications. The proposed program already has an inherent weakness (because it requires a home owner to pay something) and my opinion is that sump pump numbers are not going to be there to register a benefit. In addition, I personally don't believe that sump pumps will ever collect enough water to mean anything. It's my bias based on past work in this field.

4. What of the stretch of Marlborough from Hampton to Courtland (not in 1B). There is no storm sewer on that street. Will the storm sewer on Hampton suffice to eliminate ground water pooling and prevent leaching into the sanitary laterals on that short street? Modeling? Data?

My recommendation is that where no storm sewers exist, no sump discharges are allowed. Those properties would not be eligible.

BONUS COMMENT/OPINION/PERSONAL BIAS:

My perspective (bias ??) on PPII has been that its implementation must result in tangible PUBLIC SEWER SYSTEM improvements to support efforts to protect basements. My argument goes something like this: all work on the private side has to have public benefits, which are the only justification for the work. Since the only benefit that matters is a public one, requiring the homeowner to financially participate in the project makes it look like there are individual benefits associated with it. In fact, the release forms will (should) specifically state that participation in the program does NOT imply individual property protection from basement backups. In other words, if there is no individual benefit offered, what incentive does a person have to pay for it?

I wanted to let you know where I'm coming from so you can better weigh my opinion on this matter...

Mustafa Emir, PhD, PE
Clark Dietz, Inc.
414.831.2863

From: Sheiffer, Steven [mailto:S.Sheiffer@wfbvillage.org]
Sent: Friday, December 16, 2016 9:06 AM
To: Trustee Davis <TrusteeDavis@wfbvillage.org>; Trustee Miller <TrusteeMiller@wfbvillage.org>; Edlebeck, John

Sheiffer, Steven

From: Sheiffer, Steven
Sent: Friday, December 16, 2016 9:06 AM
To: Trustee Davis; Trustee Miller; Edlebeck, John; mustafa.emir@clarkdietz.com
Subject: RE: 2017 - 2018Private Property I and I Program

Garry;

Thanks. Points well taken. We won't finalize and send to Village Board until we have agreement on a revised copy.

Mustafa and John will respond to points 2 thru 4.

As regards point one, there is no other reason other than circumstances. The study was finished in spring/summer of 2014. Spencer did a spread sheet and a draft letter was prepared that was "threatening". By the time I had a chance to review the information and place it in perspective Aaron, Dan and Paul Launer had left and we were ending the relationship with GAI and selecting Clark Dietz.

John was hired in May of 2015 and since then we have been involved with major construction projects.

Jay has asked that we specifically reference the work on Glendale. The next draft will also specifically reference Courtland.

Yesterday I sent Mustafa and John an email about proceeding with the implementation of the study. I asked for a short memo that provides the necessary information. My goal is to have a letter out in January so that we can have "the dialogue" with the residents in February. Given the demands on staff I think we need to complete this prior to the start of the broader program.

In summary, we should have done this earlier, but it was delayed because of circumstances.

I hope this is helpful.

Steve

From: Trustee Davis
Sent: Thursday, December 15, 2016 5:32 PM
To: Sheiffer, Steven; Trustee Miller; Edlebeck, John; mustafa.emir@clarkdietz.com
Cc: Trustee Davis
Subject: RE: 2017 - 2018Private Property I and I Program

Dear Steve,
thank you for writing up a draft of the tentative private property infiltration program as we discussed it at our Dec. 13 meeting. In the wake of the meeting, certain questions come to mind that impact my support of the plan as it was sketched out at the meeting. I copy the Chair of the PW committee here but not Trustee Serabin so as to remain within the limitations of the open records laws. Perhaps Village staff can provide answers to these questions and forward them to all Trustees on the committee:

I support I&I remediation in zone 1A without reservation. Implicit in the recommendation to address private I&I work in priority zone 1B, however, is the assumption that other areas of the Village running roughly from Santa Monica to Ardmore south of Hampton avenue have already completely addressed. In this connection I raise the following questions:

1. The 10-15 extralegal clear water connections to the sanitary sewer along Courtland have not be disconnected since the study was done. Is there any reason why?
2. Area 1B was disconnected for the sanitary basin it once shared with Shorewood. Why has this change not impacted the sanitary sewer backups along that street?
3. Since INFLOW is the putative problem in 1B, why would our incentive program there include lateral linings?
3. What of the stretch of Marlborough from Hampton to Courtland (not in 1B). There is no storm sewer on that street. Will the storm sewer on Hampton suffice to eliminate ground water pooling and prevent leaching into the sanitary laterals on that short street? Modeling? Data?

Thanks,
Garry Davis

From: Sheiffer, Steven
Sent: Wednesday, December 14, 2016 8:49 AM
To: Trustee Miller; Trustee Serebin; Trustee Davis; Edlebeck, John; mustafa.emir@clarkdietz.com
Cc: Boening, Paul
Subject: 2017 - 2018 Private Property I and I Program

Attached is my first draft of the proposed program. I tried to capture both the intent and consensus of the discussion.

Please send me your comments and changes. You can mark it up if it's easier and send me your markup.

If we could have all changes by next Monday, I could do a revised draft for your review and then we would send Mustafa's memo; the attachment and a cover memo to the full Board for their January 16 meeting.

Thanks

Steve

Sheiffer, Steven

To: Jay Miller
Subject: RE: 2017 - 2018Private Property I and I Program

I think your right and we should be more specific.

Steve

From: Jay Miller [mailto:jaymiller16@gmail.com]
Sent: Thursday, December 15, 2016 2:16 PM
To: Sheiffer, Steven; jaymiller16@gmail.com
Subject: Re: 2017 - 2018Private Property I and I Program

Steve, my one other comment is that at our PWC meeting I thought we agreed there would be a 75%/25% split between Village and homeowner with respect to the sump pump connection pilot program -- just like with the lining of privagte laterals.Should that be added? Or do you feel that's too specific at this point? Jay

On Thu, Dec 15, 2016 at 12:52 PM, Jay Miller <jaymiller16@gmail.com> wrote:
I will look at it once more, but I think you did well capturing the conclusions reached.

On Thu, Dec 15, 2016 at 11:48 AM, Sheiffer, Steven <S.Sheiffer@wfbvillage.org> wrote:

Thanks.

I will send you a revised draft early next week.

Steve

From: Jay Miller [mailto:jaymiller16@gmail.com]
Sent: Wednesday, December 14, 2016 11:48 AM
To: Sheiffer, Steven; jaymiller16@gmail.com
Subject: Re: 2017 - 2018Private Property I and I Program

Steve. a couple of initial comments. I would move the bullet that starts "disconnection of remaining roof drains" to right under "Lining of 225 private laterals". We would take on the "disconnection" before embarking on the pilot project,right? Given how Mike was surprised that we hadn't already implemented that step, maybe we should even put the bullet first. Your call.

Also, does the "disconnection" bullet include possible work on Glendale. where Mustafa admitted there might be a connection between the sanitary and storm water sewers.

I will get back to you with other thoughts (if I have them), but it's good first draft. Jay

On Wed, Dec 14, 2016 at 8:49 AM, Sheiffer, Steven <S.Sheiffer@wfbvillage.org> wrote:

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Thanks

Steve

Sheiffer, Steven

From: Tom Kindschi <TKindschi@HNTB.com>
Sent: Wednesday, December 14, 2016 12:32 PM
To: Sheiffer, Steven
Subject: RE: 2017 - 2018Private Property I and I Program
Attachments: Proposed 2017 and 2018 Private Property Infiltration.docx

Thanks Steve - cuts right to the chase.

From: Sheiffer, Steven [<mailto:S.Sheiffer@wfbvillage.org>]
Sent: Wednesday, December 14, 2016 9:23 AM
To: Tom Kindschi <TKindschi@HNTB.com>
Subject: FW: 2017 - 2018Private Property I and I Program

From: Sheiffer, Steven
Sent: Wednesday, December 14, 2016 8:50 AM
To: Trustee Miller; Tara Serebin; Trustee Davis; Edlebeck, John; mustafa.emir@clarkdietz.com
Cc: Boening, Paul
Subject: 2017 - 2018Private Property I and I Program

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Please send me your comments and changes. You can mark it up if it's easier and send me your markup.

If we could have all changes by next Monday, I could do a revised draft for your review and then we would send Mustafa's memo; the attachment and a cover memo to the full Board for their January 16 meeting.

Thanks

Steve

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom they are addressed. If you are NOT the intended recipient and receive this communication, please delete this message and any attachments. Thank you.

December 14, 2016

Proposed 2017 and 2018 Private Property Infiltration/Inflow Program

- The Program would be available only to property owners in priority area 1A and 1 B
- The program would consist of four components
 - Lining of approximately 225 private-sanitary sewer laterals, depending on the bid process received compared to allocated budget for lining
 - A pilot program for-foundation drain disconnection program and sump pump installation, including connections of sump pump discharges into the storm sewers
 - ~~A pilot program to connect existing sump pumps to the storm water system~~
 - The disconnection of remaining roof drains downspouts and elimination of any other identified direct connections of storm water sources to the sanitary sewer system
- In 2017 a lateral lining program would be offered with a goal of lining approximately 225 sanitary sewer laterals
 - The Program has an estimated cost of approximately \$1,500,000 and would be funded as follows
 - * 75% of the estimated \$6,000 cost per lateral would be funded with MMSD funds -- \$ 1,000,000
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 - * The Village would fund the 10% overhead cost for engineering services and administration--- \$133, 750
 - * The property owners share could be placed on a seven year 0% interest rate for 7 years. The Village would cover the interest cost -- \$ 35,000
- In 2017 the foundation drain and sump pump connection pilot programs would be developed. The disconnection program would be for 5 to 10 properties. The connection program goal would be established during program development.

- The two pilot programs would be implemented in 2018. There would be approximately \$405,135,000 in MMSD funding available for the program depending on actual costs for the lateral lining program.
- All programs would be evaluated in late 2018 and a new program would be implemented for future years. Approximately \$135,000 of MMSD funding per year should be available to fund the future program
- In 2017 and future years Village Staff would implement a program for the roof drain downspout disconnections and elimination of other direct connections. program
- A policy would be written for Board approval that establishes the process and criteria for the selection of the specific properties

Comment [ME1]: Do you mean selection criteria for lateral lining and foundation drain disconnection pilot program? Or just one of those?

Sheiffer, Steven

To: Village Board; Jaekels, Christopher J.
Cc: Boening, Paul; Heyden, Jenny; Edlebeck, John; mustafa.emir@clarkdietz.com
Subject: Fairmount Sewer Construction

This morning Jay, Tara, John, Mustafa and I met with the Project Manager/Safety Director for Advanced Construction and we had an excellent discussion. I have talked with a number of you separately or you've sent me emails.

I informed the contractor that we would **NOT** grant permission for twenty four hour construction, but we would actively manage a specific problem if it occurred. I also asked for some cost estimates concerning open trench versus boring.

Let me provide some additional information.

The boring process starts in an approximately 12 foot wide by 40 foot in length open cut. Rails are installed and a hydraulic machine then pushes a twenty foot casing that is 30 inches in diameter with an auger inside forward. As the process proceeds each twenty feet a new section of casing is welded on and an additional auger section is attached. The pushing machine is powered by a gasoline/diesel engine. The casing/auger sections are lowered into the open hole by a hydraulic crane mounted on a truck that is powered by a gasoline/diesel engine. The crane then uses a clam shell bucket to remove the excavated soil and it is placed on the ground for removal during the day.

The digging of the open cut is a noisy operation and is conducted during the day. The concrete must be broken and opening excavated. There will be six openings since the boring occurs in sections and manholes must be placed approximately every 400 to 450 feet. They can bore approximately 60 feet in a 10 hour work day. They are working Monday thru Friday from 7 AM to 5 PM.

There is a ground water problem and they have installed a dewatering system that operates twenty four hours a day. This operation generated a noise complaint and steps have been taken to reduce the noise and the citizen contacted John to say they are pleased. The noise from the boring operation would be significantly louder than the dewatering equipment, but may be muffled by the trench. The loudest noise is the digging of the openings.

The contractor is very concerned about the soil conditions due to the groundwater and the potential the casing/auger will become stuck if they stop each day. The wettest section is the east end near Marlborough.

The first boring section is only about 220 feet since an open cut had to be made to address some utility conflicts. They have started the bore and are in about 110 feet without a problem. The next open area has already been excavated since it is both the receiving point for the first bore and the starting point for the next one. There does not appear to be a soil problem.

The first bore will be finished later this week and the area will be cleaned up prior to Chanukah and Christmas. The next bore will start after January 1, 2017. There may be some excavation/earth moving work in the interim, but it will occur during the normal work day.

I asked for the following information from the contractor for next week.

A cost estimate of making additional openings so that the boring distances are shortened.

A cost estimate to open cut the remaining four boring sections.

This will allow the Public Works Committee to consider whether we should switch any or all of the remaining four sections to open trench cut.

If we decide to start boring the next section or for the current section underway, the contractor concludes that based on the soil conditions encountered that there is a major risk the casing/auger will become stuck, then with the advice of the contractor, John and Mustafa, I will immediately make one of the two following decisions to manage the specific situation that has occurred.

To continue on the normal work schedule and if it becomes stuck to stop the bore and open trench from where it is stuck to the next planned opening/manhole location.

OR

If the bore to the next opening can be completed in less than twenty four hours, to allow one day of twenty four hour boring.

A recommendation would then be developed for submittal to the Public Works Committee concerning the remaining three bore sections.

There is a lot of additional information I could provide so please call me if you would like additional information or would like to discuss the above..

Thanks.

Steve