

Meeting Minutes

Advisory Technical Panel – Updating Infiltration and Inflow Control Program

Location: MWRD LASMA Visitor Center

Date: April 17, 2013 1:30pm to 4:30pm

Attendees: See attached Sign-in Sheet

- A. Ms. Maureen Durkin, Supervising Civil Engineer, MWRD, welcomed the ATP Members.
- B. Ms. Janet Pellegrini, USEPA, encouraged the inclusion of flow monitoring in the new I/I Program.
 - 1. Mr. Ross Dring, Kimberly Heights Sanitary District, asked if the USEPA prefers flow monitoring during rain events or continuous flow monitoring. Ms. Pellegrini stated that the USEPA will not prescribe a flow monitoring method. The municipality must determine how to best assess the response of their system to wet weather.
 - 2. Mr. John Wiemhoff, USEPA, stated that he agrees with the focused flow monitoring method to find I/I problem areas as Mr. Patrick Stevens, ADS, described at the March 20, 2013 ATP Meeting. Mr. Wiemhoff stated that an I/I program void of flow monitoring or even retaining the option of flow monitoring will be a weakness of the program. Ms. Durkin asked for clarification regarding the USEPA's position on flow monitoring being part of the I/I program. She also stated that she believes that flow monitoring can be a useful tool to help identify locations of excessive I/I; however, the reason why flow monitoring is absent is because the ordinance sets forth the minimum requirements with which all communities must comply. Mr. Wiemhoff stated that there are two questions regarding flow monitoring: 1. the flow monitoring method with respect to equipment and installation, and 2. an amount of flow that is considered excessive is the trigger for action as part of the program. He stated that having an excessive flow metric would not be different than what was done under ICAP. Ms. Durkin stated that pre- and post-rehabilitation flow monitoring was required for the cost-effectiveness option under ICAP. Mr. Wiemhoff stated that flow monitoring used as a tool should be included in the ordinance. Ms. Durkin stated that language to allow flow monitoring can be added to the draft program. She stated that several members have voiced their concern on how a community achieves compliance with the program, which has been forwarded to upper management.
- C. Ms. Durkin gave a slide presentation regarding updates to the draft I/I Program since the March 20, 2013 ATP Meeting.

1. Mr. David Weakley, City of Palos Hills, asked for confirmation that the decision to not require flow monitoring as part of the program is at the direction of the Executive Director. Ms. Durkin concurred. Mr. Weakley indicated that the draft program doesn't preclude a community from conducting flow monitoring and holding themselves to a higher standard. He stated that CMOM required flow monitoring so including flow monitoring or not within this new program may contradict the CMOM requirement. Ms. Durkin stated that currently the program does not rely on flow monitoring as a fundamental metric for compliance; however, it may be used as a tool for I/I source identification and removal.
2. Mr. Alan Hollenbeck, RJN, stated that he believes a performance based metric has not been established under the program. Ms. Durkin stated that a relative performance metric is established if a community has specific patterns of SSO's and basement backups. The community will be required to take actions to reduce and eliminate them. She also indicated that other criteria for compliance are developing a long term operation and maintenance program (LTOMP) that requires sewer rehabilitation and maintenance activities on a specific schedule, and reporting on the progress made on those activities.
3. Mr. Hollenbeck stated that the pieces of the program are coming together in terms of components of the "acceptable I/I program" but it is lacking performance metrics. He stated that since flow metering is not required under the program, SSO's and basement backups are targeted for elimination; however, a compliance metric for them have not been established for the program. Mr. Hollenbeck asked what the acceptable performance metric is for SSO's and basement backups if it is not the complete prohibition of them. Ms. Durkin gave an example of a community knowing how many SSO's and basement backups occur during a specific rain event. Mr. Hollenbeck stated that under ICAP the MWRD prescribed the design storm and cost-effective rehabilitation work was done based on the design storm. He stated that the conditions have not been established to quantify the SSO's and basement backup metrics for compliance under the new program.
4. Mr. Wiemhoff asked how the municipality will know that they have completed all required rehabilitation work and is in compliance. He stated that the program appears to be shifting from flow based criteria to the number of SSO's and basement backups. He asked what the criteria of complying with the program are and the number of SSO's and basement backups that would be acceptable. Mr. Hollenbeck stated that he is not aware of a program for a system with the magnitude and complexity that is in the MWRD service area that does not include quantification, i.e., flow monitoring as metrics. Ms. Durkin stated she believes that one of the challenges are that SSO's and basement backups are prohibited, but if they happen during a 50-year rain event it doesn't necessarily mean that the system owner is ignoring their system if they do not happen during less intense rain events. She stated that one difference between the new I/I program and ICAP is that the new program is ongoing, where the system owner must continually report SSO's and basement backups and their sewer

maintenance activities. Mr. Hollenbeck stated that annual reporting of sewer maintenance activity is required under ICAP. He stated that not having a performance metric in the program will be questioned.

5. Mr. Weakley stated that he favors shifting away from flow monitoring and focusing on rehabilitation work due to the difficulty of the design storm verses flow monitoring actual rain events. He stated that if the system has SSO's and basement backups, work addressing those issues should be completed first and it is more cost-effective than quantifying pre-rehabilitation flow rates because different rain events will show different results. He stated that flow monitoring may be appropriate at some point; however, he indicated that it would cost \$40,000 to flow monitor his system for three months due to the number of connections to the MWRD system. He indicated that it would be cost-prohibitive and he would rather be using those funds for sewer rehabilitation work.
6. Mr. Hollenbeck stated that having a flow based metric built into the program does result in a cost-prohibitive flow monitoring network installed. He stated that there appears to be a structure of a program but it has not established performance metrics that are equitable for the wide range of communities' sewer systems. Ms. Durkin asked how much of the sewer system should be flow monitored. Mr. Hollenbeck stated that ICAP had a compromise of flow monitoring 80% of the system and it wasn't required to be done on a continuous basis or when it had to be completed. He stated that flow monitoring is typically part of I/I reduction programs.
7. Mr. Hollenbeck asked for clarification regarding the Compliance Schedule of the draft program. Ms. Durkin explained the schedule.
8. Mr. Hollenbeck asked if there is an expectation of the amount of progress on items that are required to be completed by a specific time. Ms. Durkin stated that maintenance activities must be reported annually and indicated that progress reports are a good idea.
9. Mr. Fred Vogt, City of Rolling Meadows asked for clarification regarding the inspection and smoke testing of private sewer laterals and the prioritization of public sewers. Ms. Durkin clarified the frequency of required tasks and the prioritization of sewers.
10. Mr. Vogt asked if and how credit will be given to previous sewer lining work completed. Ms. Durkin stated that if a community can demonstrate that their sewers have been rehabilitated within the specific time frame and specific prioritization, then credit will be given to that work.
11. Mr. Patrick McAneney, Village of Glenwood, asked if credit will be given to a municipality if they had previously televised their sewers and completed a condition assessment. Ms. Durkin stated that language can be added to address previously assessed systems.

12. Mr. Vogt asked how the televising schedule of specific priority sewers of 3 years, 7 years and 12 years were determined. Ms. Durkin stated that there should be a cycle for televising based on the priority of sewer and is open to comments regarding the time cycles. Mr. Vogt stated that televising a sewer every three years is excessive. Ms. Durkin asked if it is excessive on a high priority sewer. Mr. Vogt stated that based on the definition of high priority sewer being larger than 24-inches it is excessive and expensive to televise. He stated that majority of problems occur in 8-inch and 10-inch sewers located in residential areas due to the number of connections and trees. Ms. Durkin asked what a more reasonable time cycle for inspections would be. Mr. Vogt stated that 5 years, 10 years and 15 years would be more reasonable. He stated that in his City the larger sewers do not have too many service connections or root intrusions, and do not have O&M problems.
13. Mr. Hollenbeck stated that a critical sewer is defined by the cost impact resulting from failure of a specific portion of the collection system. He cited an example of the failure of a large sewer under a highway or serving a hospital and the cost impact of that failure is much larger compared to other sewers in the system; however, that sewer may not be delivering excessive I/I flow to the system. Ms. Durkin stated that the definition of a high priority sewer under the program is those larger than 24-inches or have not been rehabilitated within the last 40 years. Mr. Hollenbeck stated that a high percentage of sewers within the system can be defined as a critical sewer, not because it is 24-inches or larger, but because they have not been rehabilitated within the last 40-years. Ms. Durkin stated that a sewer 24-inches or larger, being a small percentage of the system, is defined as a critical sewer. Mr. Hollenbeck stated that a 24-inch sewer can be a critical sewer in the context of a LTOMP, but it may not be a critical sewer in the context of an I/I reduction program. He stated that the way the program is currently written, a community would be required to rehabilitate majority of their system because they may not be able to prove that it has been rehabilitated within the last 40 years, not because sewers in the system are 24-inches or larger.
14. Mr. Wiemhoff stated that target areas identified for frequent inspection is independent of sewer size. Mr. Hollenbeck stated that the concept of critical sewers is driven by the requirements of LTOMP that focus on design life and structural integrity of the sewer. He stated that he has not seen the criteria of a critical sewer used for I/I reduction programs. Flow monitoring is the frequently used metric to determine critical areas, and he has not seen pipe diameter used as a guide for where investigation and rehabilitation should be done to reduce flows. Ms. Durkin stated that it appears that flow monitoring will help to determine the locations of excessive I/I. Mr. Hollenbeck stated that flow monitoring will determine target areas for I/I reduction. He indicated that there is a large commitment under this program to frequently investigate critical sewers which may not be a large contributor to excessive I/I flow.

15. Mr. Mark Toll, Elk Grove Township, asked what the definition of rehabilitation is under the new program. Ms. Durkin stated that lining of sewers, point repairs and manhole rehabilitation. Mr. Toll stated that the definition of rehabilitation should be included in the program. Ms Durkin stated that a definition will be added.
16. Mr. Weakley stated his concern with the frequency of televising sewers. He gave an example of rehabilitation work completed in his City in the 1990's and in 2007. He stated that in 2007 he reviewed the video of rehabilitated sewer work completed in the 1990's, and the work looked as if it was just completed. He stated that he doesn't see the benefit of the short televising time cycle and indicated that majority of the pipe defects were the result of how the sewers were originally installed in the 1960's.
17. Mr. Chris Breakey, South Lyons Township Sanitary District, stated his concern with the definition of a high priority sewer resulting in a majority of the sewer system being categorized as high priority. He suggested that high priority areas, areas that have the most problems with SSO's and basement backups, could be investigated on a 3-5 year time cycle because those problems should be corrected and it is a smaller portion of the system. Ms. Durkin explored the idea of high priority being defined as an area that is a large contributor to excessive I/I flow. Mr. Mark Emory, Christopher B. Burke Engineering, Ltd., stated that the original intent was to classify a high priority sewer as one that if it were to fail it would compromise the sewer system. Mr. Breakey stated that there are two separate questions being discussed: 1. An I/I question that doesn't necessarily mean that the sewer will collapse or be critical in nature, and 2. questioning the structural integrity of the sewer. He stated that the ATP Members are discussing an I/I program and stated that the structural integrity of the sewers should be addressed separately from the program. Ms. Durkin asked Mr. Bill Sheriff, MWRD, his thoughts on the definition of high verses low priority sewers. Mr. Sheriff stated that when the Executive Director discussed the prioritization of sewers it was regarding the structural integrity of them; however, prioritizing sewers based on I/I may be more appropriate.
18. Mr. Hollenbeck stated that the reason the ATP was created was to reduce excessive I/I, SSO's and basement backups by updating the MWRD's I/I Program. He believes that if excessive I/I flow reductions are not addressed with compliance metrics, then the I/I problem is not being addressed correctly. He indicated that there is value in LTOMP that focus on critical sewers and the structural integrity of them; however, the reason we are addressing excessive I/I is because the MWRD has seen wet weather flow rates increase at their treatment plants and lift stations. Ms. Durkin stated that if the focus is on critical sewers, then I/I reduction would follow; however we may be able to address it by the risk of excessive I/I.
19. Mr. Breakey stated that he doesn't believe the concept of critical sewers having a place in the I/I program.

20. Mr. Al Berkner, Sewer System Evaluations, Inc., stated that if sewer evaluations are made according to NASSCO's [National Association of Sewer Service Companies] PACP [Pipeline Assessment and Certification Program] standards, a grade will be assigned to a televised sewer ranging from 1 (best) to 5. If a 24-inch sewer is televised and is graded as 2 or 3, NASSCO states not to televise it again for another 10 years. Mr. Berkner suggested that the frequency of televising sewers be based on NASSCO standards.
21. Mr. Dale Schepers, Village of Tinley Park, stated that there are three options to formulate an approach to a LTOMP: 1. targeting annual expenditures based on high and low priority rehabilitations, 2. based on the median household income, and 3. rehabilitation of the system that anticipates a 50-year cycle of complete replacement or rehabilitation. He voiced his concerns on all options: 1. the current reinvestment for his Village would increase 4 to 5 times what it currently is, 2. the cost would be \$32 million, and 3. it may be too aggressive given the materials that are being used today. Mr. Schepers stated that he believes the program should include an alternative approach opposed to the long term investment of operation and maintenance and rehabilitation. He stated his concern with the MWRD's approach of not requiring flow metering is because a community, which has made investments into the system, will not know if it has accomplished reduced flows with the required rehabilitation work. Mr. Hollenbeck stated that there are several examples of Chicago area communities which have completed significant sewer lining programs to restore the structural integrity of the system; however, wet weather flow reduction was not accomplished.
22. Ms. Durkin asked Mr. Schepers what he believes is a viable alternative approach to a LTOMP. Mr. Schepers stated his preference toward hydraulic modeling and flow monitoring of the system to target areas that require rehabilitation. Ms. Durkin stated that having that option is a good idea. Mr. Wiemhoff stated that Mr. Stevens' presentation indicated that targeting I/I problems areas is more cost-effective and reduced more I/I flow than addressing the entire sanitary sewer system for I/I reduction.
23. Mr. Dring stated that that program should include a mechanism for the MWRD to meet with agencies, like his small sanitary district, to review the completed and continuing efforts to reduce I/I within the system. He indicated that his sanitary district lined the entire public system, rehabilitated all the manholes, grouted half of the private laterals and they may still have excessive I/I in the system. He stated that under the program they are required to go back and do the same things that have been completed with the limited funds they have. Mr. Hollenbeck suggested a reasonableness test because he believes that majority of the communities have not done all the work Mr. Dring has completed. Ms. Durkin stated that it is worth including in the program.
24. Mr. Vogt stated he concurred with Mr. Schepers' comments on formulating an approach to a LTOMP. He stated that it is difficult to

25. Mr. Hollenbeck asked if the suggested funding estimate based on household income must be in the program. Ms. Durkin stated the method was included because of its simplicity. Mr. Schepers suggested modifying the calculation for a better representation of the economic status of the communities. Mr. Hollenbeck asked if there have been previous discussions by the Executive Director regarding the possibility of a funding program directed toward lower income communities. Ms. Durkin stated that providing technical assistance, not grant money, has been discussed. Mr. Vogt suggested using the miles of sewer located within a community to determine the funding for a LTOMP, stating that it would be a better representation of required funds for a LTOMP regardless of the community's economic status. Mr. Weakley concurred and hypothetically asked if the cost for the MWRD to treat sewage varies depending on the economic status of the community's sewage.
26. Mr. Jim Goumas, West Central Municipal Conference, stated that some communities have both combined and separate systems indicated that these types of systems should be differentiated in the program.
27. Mr. Hollenbeck stated that he hasn't seen a program for collection systems that require minimum spending based on household incomes. Ms. Durkin stated that the estimate for determining the amount of funding that should be allocated for the LTOMP will need clarification. She indicated that the MWRD would like communities to determine a target annual budget and expenditure for a LTOMP, not a mandate for budgeting and spending. Mr. Hollenbeck suggested that the criteria to estimate budgeting and spending be based on the miles of sewers within the system, which would be unrelated to the financial capability of the community, because right now there appears to be a disconnect between the two estimates and one may be more aggressive than the other.
28. Mr. Dring stated that he believes that agencies being required under the program to submit unit cost quantities of equipment and labor is overbearing. He suggested reporting a percentage of the annual budget for rehabilitation, not a commitment to that number. Ms.

Durkin stated that there are options available on the budget to be reported. The goal of the exercise is to have the communities do a reasonable budget calculation and compare it to their actual budget they have been using to determine if it is reasonable and appropriate. Mr. Dring stated his concern with the amount of paperwork and cost associated with it to do the reporting.

29. Mr. Hollenbeck stated that under ICAP sewer grants supported large rehabilitation programs. There were 60% to 90% grants available to complete rehabilitation work. The sewer rates were able to only support sewer maintenance, not an ongoing rehabilitation work on a large scale. He doesn't believe that ongoing sewer rehabilitation work can be done without raising sewer rates since grants are not available. Mr. Hollenbeck stated that tying the budget of annual rehabilitation work to household income is not a good correlation. He also indicated that he believes that communities have continued on with their LTOMP's because for them to do more would require them to raise their sewer rates.
30. Mr. Weakley gave an example of bonds being sold for construction of new schools or additions and then the money is collected from the tax payers to pay for the bond. He asked if the MWRD would entertain raising taxes, which would then be returned to the communities for rehabilitation work. Ms. Durkin stated that it is a good idea. Mr. Hollenbeck stated that there has been discussion of an SRF loan program for communities that could help doing the initial rehabilitation work without raising sewer rates. Ms. Durkin stated that the rehabilitation component may need to be a separate section of the program because it may be financially burdensome to include it.
31. Mr. Toll asked if the MWRD has compared its cost of transporting and treating excessive I/I to the cost the communities would have to undertake to remove it from their systems and suggested that the more cost-effective approach be taken. Ms. Durkin stated that the MWRD is developing this program under the premise that the MWRD is not building new interceptors or increasing treatment plant capacity. Mr. Hollenbeck stated that the MWRD was not going to increase its conveyance and treatment capacity back when ICAP was developed and implemented and will not do it now. He indicated that the difference between now and then is that ICAP had metrics in the program that determined the amount of rehabilitation work that needed to be done to reduce flow rates down to the design storm. Mr. Vogt stated that comparison of the cost of the MWRD increasing its capacity to the cost of the communities removing excessive I/I from the system will likely be asked during the public review period. He also stated that the convey and treat option was discussed at the first ATP meeting, but additional information was not provided to the ATP members.
32. Mr. David Tang, MWRD, stated that increasing capacity for excessive I/I flow in separate sewer areas is not the solution. Excessive I/I flow, SSO's and basement backups must be reduced by assessing the local system and rehabilitating it. Ms. Durkin hypothetically asked that

even if the MWRD were to increase capacity, considering I/I flows will continue to rise without rehabilitation, at what point is capacity enough. The MWRD facilities, serving separate sewer areas, are designed to convey dry weather flow and a small amount of infiltration; therefore, the MWRD isn't considering increasing facility capacity because it's receiving flows that it shouldn't. Mr. Vogt stated that he isn't suggesting increasing capacity; he is requesting a cost comparison. Mr. Toll concurred, indicating that if it were cost-effective for the MWRD to increase capacity then it would be a disservice to the community to require them to rehabilitate their system knowing it would cost more.

33. Mr. Mark Emory asked if the USEPA and the IEPA consider transport and treatment a viable option to address excessive I/I flow. Mr. Jay Patel, IEPA, stated that the IEPA is concerned with protecting public health by the elimination of SSO's and basement backups. He stated that it's the MWRD's decision on how they want to address reducing excessive I/I and the elimination of SSO's and basement backups. Mr. Hollenbeck stated that it is unlikely to obtain an NPDES permit to increase the peak discharge to a receiving stream. Therefore, if the MWRD were to increase capacity there need to be a storage element included to preclude the peak discharge increase. He believes that even if the MWRD wanted to increase capacity, it would be unlikely to obtain an NPDES permit to increase the peak discharge. Mr. Adam Gronski, MWRD, concurred with Mr. Hollenbeck and added that if MWRD facilities were to expand, they would be required to meet nutrient removal standards.
34. Mr. Schepers stated that he believes the ATP deserves a response from the MWRD regarding them not increasing their capacity for I/I. He indicated that he receives questions regarding transport and treat not being an option even though it was there under ICAP. Mr. Hollenbeck stated that transport and treat under ICAP was for the foundation drains because they were not cost-effective to remove them considering the reduction of flow produced from them. Ms. Durkin indicated that while she understands Mr. Schepers point, the MWRD's policy is not to increase its capacity.
35. Mr. Hollenbeck suggested removing the estimate for the LTOMP based on a percentage of household income because there will be several questions, pushback, and he indicated that there are other methods to estimate LTOMP costs. The ATP members agreed to the suggestion of removal. Ms. Durkin suggested a LTOMP cost estimate based on the miles of sewers.
36. Mr. Vogt suggested that the disparity of income levels among the communities may be an issue when it comes to funding rehabilitation work. Mr. Schepers stated that he is encouraged to see the MWRD and the IEPA in talks regarding the MWRD managing SRF funds so that the communities don't have to obtain them on their own. Mr. Hollenbeck stated that loan funding for the new program will be important for it to move forward like the grants did for ICAP. Mr. Schepers stated that communities that have less favorable bond

ratings can take advantage of the loans because they wouldn't affect the bond capacity or the bond rate. Mr. Toll stated that an outline of a funding mechanism will help with the proposal of the new I/I program because there is fear that taxes would have to be raised to complete the sewer work required under the program. Ms. Durkin indicated that the loan program is being worked on but the schedule will not allow for it to be included as part of the I/I program. Mr. Hollenbeck asked if there could be a structure of an MWRD managed loan program without including it in the ordinance, that way communities could see the entire intent of the program. Ms. Durkin stated that the loan program could not be developed within the timeline and it would be up to the MWRD Board to issue a statement of intent of a loan program. Mr. Toll suggested including a statement of intent from the IEPA. Ms. Durkin stated that the exact role between the MWRD and the IEPA has not been worked out. Mr. Sheriff stated that the IEPA would have to change several of its loan rules. Mr. Patel concurred and stated that SRF funds are available for sewer projects. Mr. Kevin Fitzpatrick, MWRD, stated that the MWRD could provide assistance to communities applying for SRF loans because the MWRD receives SRF loans for projects and could provide examples of submittals.

37. Mr. Goumas asked if the program will only be a public sector program or include a private sector portion. Ms. Durkin stated that the private sector section of the program will largely resemble what is currently in the ordinance where the communities must develop their own private sector program.

38. Mr. Chris Staron, Northwest Municipal Conference, asked how long the public review period will be. Ms. Durkin stated that the current schedule allows for a two week review period.

39. Mr. Hollenbeck asked if there is value in having the ATP review the draft program before it goes to the Board incase they ask if we have seen the draft program. Ms. Durkin stated that it may be possible.

D. The MWRD will notify the ATP Members for the next meeting, which is anticipated to be in September 2013.