MUNICIPAL AUTHORITY OF THE TOWNSHIP OF SOUTH FAYETTE

PRIVATE SECTOR COMMITTEE REPORT
INSPECTION PROGRAM FOR PRIVATE SEWER LATERALS
NEEDS DOCUMENTATION & ADMINISTRATIVE/TECHNICAL RECOMMENDATION
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Municipal Authority of the Township of South Fayette

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Needs Documentation & Administrative/Technical Recommendations

Table of Contents

Appendices

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I. INTRODUCTION

A. SFMA System

1. History of the Organization

The initial wastewater collection and treatment system was built between 1973 and 1975 serving less than 2,000 customers. As the Township experienced growth, a significant amount of sanitary sewer was installed by the private sector. Also, the Authority undertook several additional publicly financed sewer extension projects after the original project to reduce the number of existing residences utilizing septic systems. Two of those projects were multi-municipal efforts in the Robinson Run and Thoms Run areas where the interceptor system is jointly owned, but each municipality retains ownership of the connecting sewers and customers. As a result of the above, the system has grown to serve approximately 5,650 customers at present.

The most significant event in the Authority history was the elimination of the wastewater treatment facility in 1987. This was accomplished by entering into an Agreement with the Allegheny County Sanitary Authority (ALCOSAN) (See Appendix A) in 1983. As called out in the agreement, 2.4 Million Gallons/Day (based on an annual flow average) of capacity was purchased from ALCOSAN. The Chartiers Creek Pump Station was subsequently built just upstream of the Authority's wastewater treatment plant along Presto-Sygan Road and it was placed into operation in February 1987. This facility pumps to the nearby ALCOSAN interceptor sewer which conveys the wastewater to the ALCOSAN treatment facility located in the Woods Run area of the City of Pittsburgh. The old SFMA treatment facility property was subsequently sold.

Growth within the Township has been adding over 100 new customers to the system for the past several years. A similar growth rate is anticipated into the future. The current system consists of nearly 120 miles of publicly owned sewer ranging in size from 6" through 27" in diameter. The Authority co-owns various

multi-municipal sewage conveyance facilities in the Robinson Run and the Thoms Run areas. The jointly owned Robinson Run facilities are also managed on a day-to-day basis by SFMA personnel. Those facilities include interceptor sewer from McDonald Borough to the ALCOSAN interceptor in Carnegie along with the 2.2 MGD (5.5 MGD peak) Oakdale Pump Station. The Thoms Run interceptor is co-owned with Collier Township Municipal Authority who is responsible for day-to-day operations and maintenance. SFMA also owns and operates the 2.4 MGD (6.0 MDG peak) Chartiers Creek pump station along with 2 smaller pump stations (Oakridge and South Fayette Park).

2. Historical Public Sector I/I Reduction Programs

Since the late 1970's, the Authority was aware of the need to periodically inspect the public sewer system to isolate infiltration & inflow (I/I) and to attempt to remove it from the system. Those programs included various inspections and observations by the Authority personnel.

In 1977, SFMA personnel performed smoke testing of numerous homes in an attempt to locate any improper connections that would allow I/I to enter the system. Also, SFMA personnel began a program to place plastic inserts into the frames of low lying manholes to prevent storm water from entering the sanitary sewer through manhole lids. Approximately 300 inserts were installed at that time.

In late 1978, a sewer system evaluation study was finalized by Gibson Thomas Engineering for the SFMA system. The system at that time consisted of only 43 miles of sewer. As a result of the study, certain recommendations were made for system repairs geared primarily to I/I reduction. In 1979, the Authority expended approximately $67,000 in the Fairview Manor Area for various sewer main repairs performed under Contracts 79-1 & 79-2. Contract 80-6 involved various manhole repairs and main sewer grouting at a cost in excess of $100,000. The above contracts included televising, air testing and grouting of over 28,000 linear feet (5.3 miles) of public sewer. Even then, video tapes revealed that a significant portion of I/I was emanating from private service laterals.

In 1980/1981, recommendations from an infiltration analysis of the Sygan Hollow Interceptor by Schneider Consulting Engineers (SCE) resulted in grouting main line joints on approximately 1,376' of the total 12,800 foot trunk line.

In 1982, SCE performed an investigation on the Boyce Road Trunk Line by plugging each manhole segment and observing at the next downstream manhole for any leaks. The findings of that investigation were that the pipe was in very good condition and no rehabilitation was necessary. It is important to note that there are very few direct house lateral connections to this trunk sewer.

In 1983, PaDER required that SFMA prepare a Corrective Action Plan and Schedule to address I/I concerns in SFMA's Chartiers Creek system. That extensive study was completed in February 1985. As part of this study, flow meters were installed in various locations throughout the system. Also, an intensive late night flow isolation program was conducted at numerous manholes in an attempt to locate areas with high infiltration rates. This study provided recommendations for televising specific sewer segments and also identified certain locations in the system where spot repairs would reduce I/I.

As mentioned previously, SFMA entered into an agreement with ALCOSAN that would allow for the elimination of the SFMA treatment facility upon construction of a pumping station that would convey wastewater to the ALCOSAN Chartiers Creek Interceptor. The effective date of that agreement was September 12th 1983 (See Appendix A). The agreement called for a purchase of 2.4 Million Gallons/Day of capacity in the ALCOSAN system for a capital fee of $1,171,700. It is important to note that the agreement has specific limitations on I/I and a formula for monetary penalties along with a further requirement to locate and eliminate I/I that exceeds that allowance. The formula to determine the monetary penalty is determined by the length and size of SFMA's public sewer system along with analysis of water consumption data and system flow monitor data on a quarterly basis. The excess I/I determined as a result of the quarterly review is subject to penalties based on the prevailing ALCOSAN rate structure. Those values have been calculated since actual connection to the ALCOSAN system on February 17, 1987. That table is attached herein as Appendix B.

When the Chartiers Creek pump station to ALCOSAN was completed and placed into operation, the PaDEP Corrective Action Plan was eliminated as there was no longer an overload to a treatment facility. At that time, the system consisted of only 2,951 customers. Therefore, for several years, there was no urgent capacity issues with the exception of limiting the monetary penalties paid quarterly to ALCOSAN when the flow values stipulated in the agreement were exceeded. As ALCOSAN began raising rates on a regular basis in the early 1990's, those penalties became much more significant, even though the quantity of excess I/I did not change dramatically. By the mid 1990's, the monies due to ALCOSAN for excess I/I became very significant (see Appendix B). Further, only 4 of the 83 communities that contributed flow to ALCOSAN were subject to such penalties; those being communities that connected to the ALCOSAN system after 1983. As

such, those communities approached ALCOSAN requesting relief from the I/I provisions of their respective agreements. Accordingly, ALCOSAN, while not agreeing to eliminate the I/I clause in those agreements, did agree to allow any calculated penalties to be held in escrow by each community to be utilized for projects associated with the reduction of I/I. For SFMA, that understanding was memorialized in a Correction Action Agreement with ALCOSAN dated September 25, 1997 (See Appendix C). That agreement required SFMA to develop a plan to reduce I/I and established procedures to periodically provide certifications to ALCOSAN as to the work being performed and the status of the escrow account. Therefore, all monies for excess I/I that were previously being forwarded to ALCOSAN were now available (beginning in June 1996) to be utilized for I/I related work in the SFMA system. Since that date through August 2006, over 1.530 Million Dollars have been used in this fashion as opposed to paying ALCOSAN.

As a result of the ALCOSAN CAP, a renewed effort was made by SFMA beginning in 1997 to aggressively attempt to identify and reduce excess I/I. In February 1997, Ordinance No. 401 was adopted by the Township that mandated an inspection of each property at time of sale for any inflow sources such as driveway drains, downspouts, area drains, etc. SFMA also put out a contract in 1997 for raising 19 manholes on the Chartiers Creek Interceptor in an effort to keep the manhole covers above the typical flood elevation. The cost of that project was approximately $22,000.

In 1997, over 50,000 linear feet of public sewer was televised, including extensive televising in the Hunting Ridge area and the entire Boyce Road Trunk Sewer and SFMA's Chartiers Creek Interceptor. The rehabilitation work subsequently performed in the Hunting Ridge area is discussed in detail in the next section of this report.

In early 2001, PaDEP and ACHD, in conjunction with EPA, began notifying all 83 communities connected to ALCOSAN that they would be requiring each community to enter into a Consent Order with respect to investigation of each sewer system due to excessive I/I and due to the magnitude overflow of wastewater into streams and rivers in this area. As a result, the 83 communities worked together, as coordinated by 3 Rivers Wet Weather, Inc, to negotiate the terms and conditions of a common Administrative Consent Order that would be signed by all communities. Over a period of 3 years, an exhaustive process took place to generate a consensus as to the language to be contained in that order. Ultimately, 2 draft orders were negotiated; one for communities with combined sewer systems and the other for communities with separate sewer systems. In January 2004, SFMA entered into that Administrative Consent Order with the Allegheny County Health Department requiring an extensive investigation of the

system, including certain private sector components. A copy of the ACO is attached as Appendix D. Required work under the first phase of the ACO includes such items as manhole inspections, sewer televising, dye testing, and a regional flow monitoring program. The ACO also requires that certain identified critical system defects must be repaired within 6 months of discovery, while the repair of less serious defects can be delayed until an overall O&M program/schedule is established.

Since executing the ACO, SFMA has been aggressively working towards completing the tasks as mandated therein within the short time frame allowed. As of this writing, the dye testing of homes is nearly 85 percent complete, over 34 miles of sewer have been televised and over 2,000 manholes have been inspected. As a result of the inspection work completed thus far, certain rehabilitation projects have been undertaken. One such project, done as part of a multi-municipal bid by the South Hill Area Council of Governments (SHACOG) allowed for installation of spot liners to fix defects at various locations in the SFMA system. That work was completed by mid-2005 and included 10 spot liners at a total cost of just over $38,000. More recently, SFMA participated in another joint SHACOG bid for lining pipe between manholes. That work included relining 4,300 feet of 8" sewer in the Endler portion of the Fairview Manor Plan. That work was completed in the spring of 2006 at a cost of approximately $211,000.

Contract 2005-01 is an on-going Township wide project that consists of grouting mainline sewers and televising laterals at various locations throughout the Township. These locations were selected as a result of reviewing televising data from the recent ACO inspections. This project was released for bid in July 2005 and envisioned testing joints and subsequent grouting of approximately 20,000 linear feet of mainline sewer. The project also involves inspection and lateral grouting in certain areas as discussed in the next section of this report. The project was awarded to Sewer Specialty Services in August 2005 for an amount of $143,165 based upon estimated quantities.

II. SERVICE LATERAL PROGRAMS TO DATE

A. Hunting Ridge Grouting Program

In reviewing the results of the 1997 televising, numerous problems were identified in the Hunting Ridge sewer, including such items and protruding taps and leaks on certain house laterals just upstream of the wye connections. In that area, it was determined that approximately 639 of 805 wyes, while not necessarily leaking at the time of televising, appeared to have slightly open joints at the point of connection to the lateral. Thus, a pilot program was suggested utilizing a grouting technique that isolates the wye and the first several feet of the building lateral. A local televising contractor had acquired specialized grouting test/seal packers capable of isolating the wye and up to 8' of the lateral. Thus, SFMA elected to perform a pilot project to attempt to seal joints in that portion of the system with grout. This was the first effort by SFMA to work on pipe that most communities would consider a responsibility of the private sector. Included in the pilot program were fifteen main line sewer segments at various locations in the Hunting Ridge Plan. Of 59 wyes tested in these segments, 52 (88%) failed the air test. The total cost of the pilot program was $29,830, or $505 per tested wye ($574 per sealed wye). Observed leaks, a few in excess of 5,000 gallons/day, were effectively eliminated. Since the operation only involves grouting 8' of the lateral, the question of migration of the ground water to upstream defects in the lateral was an obvious concern.

In April 1999, SFMA elected to investigate the possibility of funding an expanded lateral grouting project in the Hunting Ridge area. A grant application was submitted to the Three Rivers Wet Weather Demonstration Program. As a result of that application, SFMA was awarded a 55% grant from 3RWWDP based upon a total project estimated cost of $344,900. Upon notification of the 3RWWDP grant award, the Authority, in conjunction with their consultant, KLH Engineers, assembled specifications for the expanded project (Contract 2000-01). The intent was to test and seal nearly 500 additional wyes in the same fashion as the pilot project. Basic Technical Services (BTS) submitted the low bid in the amount of $193,785 and was subsequently awarded the contract. The final cost of the work performed by BTS amounted to $203,735. A total of 499 air tests were performed on the wyes and stubs at manholes, including up to 8 foot of the service lateral. All but 47 (94%) wyes failed the test and were subsequently grouted. A total of 2,209 gallons of acrylamide grout was used, for an average of 4.4 gallons per wye. The total cost of Contract 2000-01 was $203,735, or $408 per tested wye ($450 per sealed wye).

B. 2005-01 Grouting Project

This project, while primarily involving grouting main line sewer joints, also has a provision for wye grouting in certain sewer segments and for the televising of approximately 6,000 linear feet of private laterals utilizing a "LETTS" camera. This is a specialized piece of equipment that allows a camera to be sent up the lateral from the public sewer main (up to a maximum distance of 80' per lateral).

The primary purpose of the lateral inspections was to establish documentation for the need for a system wide private lateral program. Over 100 laterals have been televised under this contract to date. The video of those lateral inspections have been reviewed and have been rated utilizing general criteria established by the universally accepted NASSCO pipe assessment criteria. A comprehensive list of all laterals investigated is attached for review as Appendix E.

The NASSCO criteria provides a rating system from 1–5 for structural and operation/ maintenance defects, with the higher the number relating to a worsening condition. For example, a slight crack in a pipe is assigned a structural rating of 1, whereas a defect such as a partially collapsed pipe is given a structural rating of 5. Likewise, a minimal leak termed a "weeper" under the NASSCO system is given a defect rating of 1 while a "gusher" is given a defect rating of 5. Individuals utilizing the NASSCO rating system must undergo specific training and become certified by NASSCO. The SFMA Manager, Engineer, and 2 field personnel have been certified under this program.

In summarizing the information in Appendix E, it was found that 53% of the laterals inspected had structural defects ranging between a value of 3 and 5. It should be pointed out that while the other 47% had either no structural defects or defects with a value of 1-2, no attempt was made during the time of inspection to inject water over the lateral (simulating wet weather conditions) to determine if the joints leaked. Had water been injected over the lateral, it is projected that several of those pipes that did not exhibit visible structural defects would leak.

C. 2006 Lateral Televising (New Homes)

In January 2006, the Authority began including a video inspection of each new sanitary sewer lateral constructed for new homes just prior to occupancy. This program was intended to verify that the newly constructed sewer lateral was not damaged as a result of other activities associated with the construction of each new home. Also, the program provides a basis for determining the typical time necessary to perform the televising of laterals under what would be assumed to be ideal conditions.

Through November 30, 2006, 88 laterals have been inspected under this program. As would be expected, the vast majority of those inspections revealed that the lateral had no visible defects. However, it is important to note that 3 different laterals were identified in this program that had significant defects that had to be addressed by the home builder.

III. FORMATION OF SFMA PRIVATE SECTOR COMMITTEE

A. Review of Meetings Held to Date

The SFMA Private Sector Committee was formed in late 2005 and has had approximately 9 meetings to date. The primary participants in the committee are Board Member Joseph Duchess, the Solicitor, Engineer, Manager, and Field Coordinator. The committee reports monthly to the full Authority Board. The committee initially addressed mandated ACO tasks that affected private property. An example of the initial work in this regard dealt with problems with implementation of the mandated area-wide dye testing program for those homes that have not been recently sold. The committee established procedures for notifying residents as to when and why the tests were being undertaken, plus a procedure for notifying property owners that did not pass the dye test. Another initial activity of the committee was to establish procedures for televising laterals for new homes.

The committee also reviewed the aforementioned results of the lateral inspections performed under Contract 2005-01. During that review, it became apparent to the committee members that simply making repairs to the public portion of the sewer collection system would not result in the reduction of I/I to the extent deemed necessary to meet the requirements of the ALCOSAN agreement. The committee members became involved in reviewing studies performed in this region and nationally that confirmed this juxtaposition. The committee recommended to the full Authority Board in January 2006 that a program be developed for inspection of all sanitary sewer laterals at the time of property sale. The Board authorized this concept to be brought to the attention of the Township Commissioners during the annual Authority/Commissioner joint meeting held on February 20, 2006.

Subsequent meetings of the committee then began to concentrate on identifying problems that would need to be addressed in order for a program to be initiated. The committee also concurred that while a time of sale inspection of laterals was to be a primary goal, there would also be a need to continue to inspect laterals other than the time of sale at various locations in the system. As the committee progressed on the issues associated with the development of the program, it was ultimately decided that the preparation of this needs documentation report was necessary to encompass the full basis for ultimately

finalizing the program. As the first community in the ALCOSAN Southern Basin to implement a program of this type, a needs documentation report was deemed even more important. The committee also met with State Senator Pippy to advise him of this pending program.

B. Future Growth & Capacity Issues

One of the committee's tasks was to explore the implications of not developing a more aggressive private sector program or other alternatives that might be implemented. To do this, an understanding of the growth of the system is necessary. From the time of connection to ALCOSAN in 1987 to the present, the SFMA customers have increased from 2,951 to 5,648. The average number of customers added to the system since 1987 equates to 142 per year. This is higher that the amount added over that past several years as it includes customers added as a result of several projects undertaken by the Authority since 1987 to eliminate existing homes with septic systems. As discussed earlier in this report, the ALCOSAN agreement limits SFMA flow to 2.4 Million Gallons/Day as calculated on an annual average. Each year, the Authority must submit to ALCOSAN (for their submittal to PaDEP) a "Wasteload Management Report" that details work done on the system over the previous year, any extensions to the system, any conveyance or capacity problems and a projection for flow to be conveyed to ALCOSAN for the next 5 years. The average flow conveyed to ALCOSAN for the past 3 years as measured at the Chartiers Creek Pump Station is just under 2.0 Million Gallons/Day (MGD). The report projected that the average flow to ALCOSAN at this location by the end of 2010 would be 2.226 MGD. This projection is based upon normal growth and average climatic conditions. While the SFMA portion of flow to the jointly owned Oakdale pump station pales by comparison, it still amounts to approximately 0.130 MGD. Adding the projected 2010 Chartiers Creek average flow with the SFMA average flow to the Oakdale pump station together equates to 2.356 MGD, or just under the 2.4 MGD allowed by ALCOSAN. A copy of the SFMA's most recent Chartiers Creek Wasteload Management Report is included as Appendix F.

Taking into account residential developments already underway in the Township, it is estimated that at much as 0.150 MGD could be added to the system in the next 5 years. While commercial development usually has a nominal impact on the system, the potential for the Beazer Property (old Reichhold Site) to develop over the next several years could take the average flow to ALCOSAN over the 2.4 MGD limit by 2012. Any reduction in I/I rates could extend this time period.

Should no action be taken regarding private laterals, it can be anticipated that I/I reduction efforts on the public portion of the system will not substantially increase the duration until the 2.4 MGD benchmark is exceeded. Should this be the only issue, purchasing additional capacity from ALCOSAN would seem to be a reasonable alternative. However, the peak flows generated in the system during severe storm events

also at time cause system flow rates in excess of 7.5 MGD which exceeds the rated capacity of the Chartiers Creek Pump Station. During these periods, the system can become overloaded and sewage can overflow into local creeks or back-up into basements in certain low lying areas. System repairs, whether they are done on the public or private sector, are also intended to minimize the amount of water that gets into the sanitary sewer system during these major storm events.

Thus, a do nothing alternative would result in the need to upgrade the Chartiers Creek Pump Station most likely within a 7 year period along with the need to purchase additional capacity from ALCOSAN at approximately the same time. While the costs for a pump station upgrade are unknown, would most likely cost around $750,000. (Should holding tanks be constructed in lieu of a pump station upgrade to convey peak flow, that too would be very expensive, most likely considerably more expensive than a major pump station upgrade). Finally, the cost of purchasing additional capacity from ALCOSAN is now nearly $5.5 Million per Million Gallons/Day of capacity purchased. Assuming the Authority was to elect to purchase only 0.5 MGD of additional capacity (2.4 to 2.9 MGD) from ALCOSAN, the current fee to ALCOSAN would be around $2.75 Million. Even if these steps would be deemed appropriate, it is uncertain that ALCOSAN could accommodate such a request until such time as they construct a new Chartiers Creek Interceptor Sewer from the ALCOSAN treatment facility located along the Ohio River in the North Side of Pittsburgh to Bridgeville. This new sewer, while required by court order, is not expected to be available until 2017. Further, the do nothing alternative allows the private sector piping to continue to deteriorate, thus causing on-going problems for home owners along with allowing increasing amounts of I/I.

Taking all of the above into consideration, the committee has strongly recommended to the Board that an aggressive program for the private sector portion of the system is not only deemed appropriate, but is deemed necessary to allow for potential system growth without incurring unnecessary or premature capital costs.

C. General Discussion of other Municipality's Private Sector Programs

In developing the SFMA private property time of sales lateral inspection program, committee representatives met with several municipalities regarding their on-going programs. These included O'Hara Township, Fox Chapel Borough, Unity Township, and Butler Area Sewer Authority (BASA). Below in Table 1 is a tabulated summary of all communities contacted depicting key points pertaining to each lateral inspection program. The SFMA Private Sector Committee has taken most of the lessons learned by those local communities that have on-going programs and applied them to the proposed SFMA program. In general, the committee has been informed that these ongoing programs have not been challenged on a legal basis in any of the communities, and therefore would provide a solid base for the proposed SFMA program.

Table 1

Community References

Community	Customers	Public Sewer Length (Miles)	Year Lateral Televising Initiated	Inspection Fee	Private Ownership	Dyed Water Injection	Failure Criteria	Test Duration
Fox Chapel Borough	1,895	78	2001	$50 + Cost of Plumber	Home to Main	YES	Any Observed Defect	Next Sale
O'Hara Township	3,300	61	2002	$100 Res/$200 Com. + Cost of Plumber	Home to Main	YES	Any Observed Defect	Next Sale
Unity Township	6,100	140	1998	$75.00	Home to Main	NO	Any Observed Defect	3 Years
Butler Area Sewer Authority (7 Communities)	14,000	365	2003	$150.00	Home to Right of Way	YES	Any Observed Defect	5 Years
Plum Borough	10,000	100	2004	$230.00	Home to Main	NO	Any Observed Defect	1 Year
Penn Township	5,600	100	1998	$75.00	Home to Right of Way	NO	Any Observed Defect	3 Years

IV. TECHNICAL & ADMINISTRATIVE ISSUES

A. General

The impetus of this private property program comes on the heels of the ACO and ALCOSAN Agreements previously discussed. Essentially all communities, whether in the ALCOSAN service area or not, are under increased regulatory pressure to reduce peak wet weather flows from their sanitary sewer systems. As stated previously, SFMA not only needs to be concerned with reducing peak flow rates, but also has a legal obligation to ALCOSAN to minimize overall extraneous water entry into the system. As SFMA has discovered, completing work on just the mainline system is not enough to reduce I/I to levels to meet the terms of the current ALCOSAN agreement or to ensure elimination of sewer system overflows and continued system growth.

Time of sale tests and area wide dye tests are currently being completed in accordance with ACO requirements. Currently, this is limited to conventional dye testing for inflow sources such as downspouts, driveway drains, etc. This program was started long before being mandated by the ACO through an Ordinance Number 401 passed by South Fayette Township dated February 10, 1997. A copy is attached in Appendix G. In order to expand this private program to include internal CCTV inspection of the sanitary laterals, an updated ordinance is deemed desirable.

B. South Fayette Authority Delineation of Private vs. Public Portion of the System

The first determination in commencing with any private property program is to define ownership of the sanitary sewer lateral. Each community may have a different definition of ownership but in the case of the South Fayette Municipal Authority, private ownership of the lateral generally begins at the Township/State right-of-way line or edge of easement and ends and includes piping underneath the home or business. The Authority ownership is generally from the right of way line to the mainline sanitary sewer. Requirement for repairs which will be discussed later in this report should follow this same guideline and should also be required under improved areas adjacent to the dwelling such as porches, patios, gardens, planting areas, etc. There may be circumstances where the right of way line may not be the actual delineation of ownership responsibilities. An example would include an obvious pipe transition whether through different piping, pipe fittings etc. that clearly not done by the Authority contractor. There may also be instances where during the approval process of a subdivision plan that the sewer ownership line may be different than the Township right of way line. These special instances must be handled on a case by case basis but prior to initiating any corrective action work.

C. Public Outreach

Prior to commencing this project, extensive public outreach should take place. This public outreach as stated earlier began with the Township Commissioners as they will be asked to pass an ordinance supporting the program. A unified position by the entire Township will help the program be successful. Aside from concurrence by the Commissioners, a daunting step will be to educate the public. This should be done initially with mailings which outline some facts and information about the Authority system and the private property program. Such a brochure is currently being developed for a planned mass mailing. Information regarding the plan background, implementation timing, etc. should also be included in the Township magazine. Information should be placed on the Authority web site, including this needs documentation report in its entirety. Finally, a public meeting should be considered for the purpose of addressing concerns of Township residents and a meeting should be considered for real estate agents, closing companies etc. These can be scheduled initially as public presentations at selected Authority meetings or held independently at times to be determined by the Authority Board.

In anticipation of this program, the Authority has previously provided certain preliminary information of their web site and Township Magazine. Copies of that previous information are attached as Appendix H.

In addition to inviting realtors to a meeting, information regarding the program should be mailed to those agents/closing companies that routinely do business with the Authority. They must be informed that a "No Lien Certificate" will not be issued unless the residence is properly tested. If the residence is found to have a defective lateral, it must be repaired and retested prior to a "No Lien Certificate" being issued, unless adequate escrow is provided along with execution of standard agreements thereto that would guarantee replacement of the lateral with a defined period.

As previously mentioned when SFMA began the dye testing program an Ordinance was drafted formally adopting the program. Subsequent to the ordinance SFMA also drafted a letter to all Realtors, property owners, etc, notifying them of the new requirements. A copy of this notice is attached in Appendix H for reference. As part of this new private lateral program, televising of the laterals at time of sale will be required. An ordinance must be passed and notification will be sent to affected parties as previously completed. A draft ordinance setting this new program into effect is attached in Appendix I

D. Program Implementation

The proposed time of sale program should consist of current dye testing (as mandated by the ACO) and be accompanied by the lateral televising work. The televising will typically be done from the fresh air vent. However, should the access point not be located in proximity to the building, or should there be evidence of leakage upstream of this access

point, the program should provide for inspection commencing inside the building. To the extent that adequate access can not be provided to allow for inspection of the lateral, the property owner should be required to provide suitable access which might require work by a registered master plumber. Such work would be at the expense of the homeowner. Once access is available, the Authority will be notified by the resident, business owner, realtor, etc to schedule an inspection. While the fee for lateral inspection should be at the discretion of the Authority Board, a recommendation is herein made that the fee should be around $75. This fee should be in addition to the $40 basic dye test fee that is required to be completed as a condition of our ACO. The Authority personnel will complete the inspection with the resident or resident's representative witnessing the work. It is recommended that the Authority adopt the NAASCO system for use in rating lateral defects. That system provides a rating scale ranging from 1-5 for various defects. It is recommended that any inspection with a level 1 to 2 rating for structural defects will generally be deemed as a passed test unless there are multiple defects of this type in a single lateral. Further, it is recommended that any observed leakage equal to a level 1 (weeper) will generally be deemed as a passed test, again assuming that there are not multiple leaks in a given segment. Should the lateral inspection pass the final criteria that will be included in the Authority Rules and Regulations, a "Document of Certification" and a "No-Lien Letter" will be issued as is the current practice.

In the event a structural defect is a level 3 or above for a identified leak is a level 2 or above the resident or business owner should be required to replace (or reline) the entire lateral from the building foundation generally to the right-of-way line. Such work must be in accordance with the Allegheny County Plumbing Code and the Authority's Rules and Regulations and must be inspected by both the County inspector and Authority's field personnel. While it is not deemed advisable that the Authority recommend plumbers to perform this work, as any registered master plumber should have the right to provide this service, it is suggested that the Board considered listing on their web site plumbers that have expressed an interest in performing this work and at a minimum are willing to maintain evidence of insurance with the Authority and a willingness to provide timely no cost estimates to property owners.

After the installation has been properly installed and inspected, a retest can be scheduled. The Board should determine if they want to impose a second charge for this re-inspection. It is recommended that the homeowner or business owner typically be given 30 days from the initial test to make any repairs and schedule a retest, although weather conditions and other factors should be taken into consideration for possible time extensions. Upon successful completion of the retest a "Document of Certification" and "No Lien Certificate" will be issued. As mentioned earlier, should the closing and property transfer need to take place prior to the sewer replacement/relining work, provisions will need to be made to provide adequate security and agreements which will be binding on the buyer of the property in the event of cost overruns, etc. Minor modifications to existing Authority forms that are presently utilized for similar situations for failures under the dye testing program should be adequate in this regard.

It is recommended that a lateral inspection be valid for three (3) years, whereas the base dye test inspection is mandated by the ACO to be performed each time a property is sold.

E. Appeal Board

In the event a resident or business owner does not agree with the findings in the lateral investigation, it is recommended that an Appeal Board be established. The Board will have thirty (30) days to hear the appeal. In the event an appeal is filed, the thirty (30) day repair time will commence following the appeal if applicable. All fees associated with the appeal must be paid by the resident.

The thought is that this Appeal Board would consist of the Authority engineer of record, one (1) Authority Board member, and a third person that could be a real estate agent or any other person that the Board would deem acceptable. This Appeal Board should meet on an as-needed basis to address the concerns of the residents. It is assumed that the Authority Manager would be presenting the case that the replacement/relining are warranted.

F. Area-Wide Projects

The Authority should also reserve the right to complete area-wide projects if deemed necessary regarding the inspection of laterals. If the Authority determines that a section of the system is producing excessive (I/I) this area can be targeted for an area-wide program. Generally, however, inspections of laterals on an area-wide program would routinely be done from the main sewer, negating the need for entering the property to install a camera. In the event that defects are identified during any area-wide program, the Board will need to develop notification procedures and time frames for the property owner to replace/reline their lateral. It is anticipated that the Board will be more flexible under these circumstances with respect to time for the work to be performed as funds are generally not as available to the property owner as they might be at a time of sale.

G. Possible Program Subsidies

The Authority has allocated up to $100,000 in their 2007 Annual Budget to partially fund an incentive program to replace defective laterals and/or to pay for repair/replacement of the public portion of laterals that are determined to be defective. The details of any incentive program shall be developed by the Authority Board.

V. SUMMARY

It is evident through this document that hours of research by various Authority representatives have been conducted on this topic. Many case studies have been reviewed and the lessons learned from other on-going programs have been carefully incorporated into the recommendations contained herein. The committee believes that all requirements of this plan are not new but are a compilation of requirements and activities being completed in several other communities in this region. The committee does recognize that SFMA would be the first community in their immediate area to implement such a program, although discussions with neighboring communities has yielded that some have a strong interest on developing a similar program in the very near future. The Authority also realizes that new and unique circumstances may exist in the SFMA system and should reserve the right to revise the program from time to time as necessary. Committee members trust that the information contained in this document provides a solid basis for the implementation of the recommended program.

Some of the unique aspects of the SFMA private sector program include:

1. SFMA will retain ownership of the lateral generally from the mainline to the right of way line.

2. NASSCO Standards will be used to grade all lateral defects.

3. The Authority will consider an incentive program in conjunction with this private sector program.

4. The Authority reserves the right to require a repair under the floor of a structure if significant leaks are evident.

In closing, the following implementation schedule is proposed for the new program:

PROPOSED PUBLIC EDUCATION PROGRAM & RELATED TASKS

MONTH	TASK
DEC. 2006	Meeting between Authority & Township Representatives
JAN. 2007	Township Advertises Ordinance
JAN. 2007	Place final needs documentation report on Authority web site
JAN. 2007	Mail informational brochure to all customers
FEB. 2007	Schedule meeting with realtors/closing companies
MAR. 2007	Township/Authority schedule public meetings
APR. 2007	Place final rules/regulations on Authority web site
MAY. 2007	Place article in "S.F. & Neighbors" Magazine
JUN. 2007	Initiate program