

Notes from the May 13, 2007 Water Environment Federation Collection System Conference, Portland, OR Workshop on Private Property Programs

Laurie Chase started the Water Environment Federation (WEF) workshop at 8:25 a.m. and mentioned that the WEF Collection Systems Committee has gathered information on successful programs addressing private property issues, built the online library, and now has developed this workshop. For better networking, she encouraged people to sit away from familiar colleagues. She also noted that the people in red shirts are the local arrangements contacts and can be asked for local information.

History

In 2004, WEF held a Collection System Committee (CSC) workshop on private property I/I in Milwaukee. In 2005, WEF produced a private property Webcast. A committee project developed the WEF CSC private property virtual library which is available on the Internet at www.wef.org/privateproperty and is available to the general public.

Workshop Objectives and Topics

The workshop objectives were as follows:

- Introduce the Private Property Virtual Library (PPVL)
- Provide networking opportunities
- Identify private property-related needs for collection system committee to pursue

Presentation topics included sewer laterals by Gail Chesler of Central Contra Costa Sanitary District, California; private property entry by Danny Holmberg, formerly with Montgomery Water Works and Sanitary Sewer Board and now with Paul B. Krebs and Associates; successful private property inflow and infiltration (I/I) programs and I/I source removal by Phil Westmoreland of Orchard, Hiltz & McCliment (OHM); private property inflow removal by Carol Hufnagel of Tetra Tech; PPVL by Mike Anderson of Fuller, Mossbarger, Scott and May Engineers, Inc. (FMSM); and a collaborative work session.

Sewer Laterals

Gail Chesler of Central Contra Costa Sanitary District in California discussed sewer laterals, focusing on technical realities and public policy in the San Francisco Bay area. She noted that the length of the laterals is about the same as the length of the mains, and they are shallower and more prone to roots and surface traffic loads. Central Costa County has few problems related to I/I because they have very large mains and large plants. They do not

need a private property I/I policy, but she is building one so they will have one when the regulatory officials request one. They have a requirement to report **all** overflows, even 1-gallon overflows and known lateral overflows.

Central Contra Costa Sanitary District does not own the lateral. Their “mushrooms” for cleanouts included a floating relief ball, where backups come out of the lateral rather than going into the house.

Laterals often fail or are abused. Stressors include age, illegal connections, trees, ground movement, loads, and construction techniques. Storm sewers also pass over them. This results in increased I/I conveyed in the pipe network, more wastewater that must be treated, the potential for more backups, and possible exfiltration through the broken pipes.

Test methods for laterals include flow monitoring, smoke testing, closed-circuit television (CCTV) monitoring, water testing, and air testing. Central Contra Costa Sanitary District is using a sewer system model to identify leaky neighborhoods.

Decisions that need to be made include the following:

- How do you evaluate laterals?
- When do you evaluate laterals (for example, point of sale)?
- Do you group the neighbors all together?
- What are the costs (agency staff, permit, inspection, repair if needed)?

Regulators may issue a policy statement. They need to know the regional baseline, and they want to clarify the benefit being sought (for example, California beaches).

The San Francisco Bay Water Board encourages a private property lateral program. She showed some San Francisco Bay area ordinances controlling laterals, such as Berkeley and Richmond. There is a need to explore why the agencies have lateral programs, which are usually related to past problems. The predominance of overflows caused by downstream accumulation of upstream “cleanout” (grease balls, root balls) was noted.

Enforcing policies are **not** uniform.

There was not enough available information available to accumulate costs. Costs include staff, record keeping, permits, inspections, compliance with codes, etc.

In developing policy, be careful to identify the issue for the agency.

Questions/Answers

- How do you convince the governing board to institute a lateral program?
 - Doug Humphrey from the Stege Sanitary District, a satellite to the East Bay Municipal Utility District (EBMUD), responded that they did it because of external pressure and EBMUD capacity problems. The Stege Sanitary District Board wanted to be proactive. Its staff worked real hard with the realtor community to get a lateral program. Stege has about a 3 percent per year turnover along with some voluntary compliance, so it has had 8 percent lateral replacement in 2 years.

- What about programs that purchased and sold back the lateral?
 - Greenwood, South Carolina did a quit claim then un-quit claim.
- How much emphasis on reporting all known overflows, including those from the laterals?
 - In Central Costa County, it is a requirement but not appreciated.
- How much emphasis on reporting to the board of health?
 - There are growing requirements to report to everyone.
- Any emphasis on separating stormwater?
 - All of it must be separated. If stormwater is found, you will be asked to disconnect.
- Is there an equivalent to the mushroom in an urban (paved) area?
 - Overflow goes to the pavement.
- Any experience on lateral repair programs?
 - The City of Duluth, Minnesota, at about \$8,000 per lateral, and Ronald, Washington, at about \$5,000 to \$8,000 per lateral for 50- to 150-foot laterals.
- What size spill should be reported?
 - The spill size should be reported if it makes a difference. Currently there is little national consistency in threshold reporting values.
- What is the cost to transport and treat extraneous flow?
 - The cost gets complicated, especially if you have to build something; it is a lot. Reporting a lateral repair would affect the resale value. A new lateral may help.
- Who pays for the inspection?
 - The homeowner would probably pay for the inspection.
- What about private property access?
 - Danny Holmberg will address private property access later in this workshop.
- Who paid for the lateral repairs?
 - In Duluth, the I/I reduction program extracts funds from the wastewater bills and involves primarily lining from the main or from the house. This means having a voluntary lining program and a mandatory sump pump program. You would pick the foundation drain up at the central location in the house.
- How do you address defects in the lateral during the lining program?
 - Dig it up and spot the repair. A general estimate is that one in 20 will require some digging and spot repair. The contractor makes the decision, since he guarantees for

10 years. Everyone pays into the fund, but participation in the lining program is voluntary.

Private Property Entry

Danny Holmberg, formerly with Montgomery, Alabama Water Works and Sanitary Sewer Board (MWWSSB), and now with Paul B. Krebs and Associates, spoke about customer property and gave thanks to coauthor Bill Henderson of MWWSSB, MWWSSB, and others.

The issue today is entry on customer property. The answer starts with why we want to enter and do we *really* have to go on private property. That issue has to be addressed in each municipality. If you must enter customer property, then issues need to be addressed by management, O&M, and staff engineers. Three major issues include regulation, prevention, and communication.

MWWSSB got into it when there was a lot of rain, high wet weather flows, backwater, and a 1992 consent order. Smoke testing identified 84 percent of the defects were on the private lateral. The number of defects brought up the issue of private property entry.

In Montgomery, the property owner owns from the main into the house, which gives the property owner the responsibility for anything that enters from the house. Most of the problems were upstream of the property line, which is regulated by the plumbing department.

The objectives were to improve wet weather capacity in the collection system, combat overflows, meet the consent order, and spend the capital improvement budget wisely.

The legal opinion was defined as "limited right of entry is not prohibited by the Board's Rules and Regulations."

Can we afford to risk entry onto private property? Answered, can we afford not to?

We needed to determine how to get onto the private property. We started with smoke testing, newspaper notifications, door hangers, dedicated phone lines, and a good exchange of information. We marked defects with biodegradable paints and wire flags, and included photographs with the defect notification letter. Management adopted a customer education program to keep the customers informed in all aspects of sewer operations in Montgomery. We then educated the board and staff and put it on the Web site. We received friendly, cooperative responses and thank you letters. We informed the customer that they could save a lot of money by allowing MWWSSB to enter and replace the caps, etc., and 94 percent of the defect repairs were completed over 10 years. This reduced customer complaints, lowered treatment costs, reduced overflows, satisfied the consent order, and limited legal challenges.

The policy states it is the responsibility of the owner to have laterals comply with the MWWSSB policy.

The best policy for entering private property is to prevent the need. We extended the MWWSSB inspection during construction to the entire lateral. Flow monitoring and smoke testing was conducted in newer neighborhoods to demonstrate the need, providing

investigation results for newer neighborhoods, determined peaking factors, etc. Homeowner association demonstrations in homes showed smoke in a cleanout in the drainage ditch. Nevertheless, it has less I/I and less flow than designed for.

Community acceptance of the I/I program included the following:

- Legality unchallenged for 15 years
- Satisfied regulators
- Cooperative customers
- Cooperative engineers and developers

Regulation probably does not prohibit the right to enter private property. You need to build a basis and move forward until challenged. You cannot afford not to enter, so **communicate**. If you can, prevent development of private property I/I and limit the need for future private property entrance.

Questions/Answers

- How expensive is a program like this?
 - MWWSSB has a truck and a three-person crew that redoes the circuit about every 15 years.
- What about easements where access is unclear, and how do you handle access through gates, locks, dogs, etc.?
 - In their service agreements, gas and water companies have the right to go on the private property. One suggestion is to put language in the easement that it is for the benefit of the community, etc. If the language is not there, communication is very important.
- What was the process to repair the non-cleanout defects on private property?
 - Most were cleanout problems, but others also had roof leaders, French drains tied in, holes in the ground (rat holes), etc. We developed a system that automatically spit out a letter identifying the type of defect and appropriate action, gave 60 days to repair the problem, or the water service would be cut. MWWSSB cut water service less than 10 percent of the time, and 94 percent of the 6,600 defects have been repaired. Most of the private defects not repaired are in deserted properties.
- Did they verify smoke testing results?
 - MWWSSB chose smoke testing for the most effective test for a wider variety of sources. Dye testing was used in areas where smoke testing not effective. Some “plug and flood” was also done.
- Did they have urban areas, town houses, etc.?
 - Every type of development has its own issues. Whoever owned the property received the notice. Letters were sent to both the owner and the occupant.

Inflow and Infiltration Source Removal

Phil Westmoreland of Orchard, Hiltz & McCliment (OHM) discussed successful private property I/I programs and I/I source removal that were used in Auburn Hills, Michigan. Auburn Hills is a Detroit suburb with about 16,000 residents in the Detroit Water and Sewer District Evergreen/Farmington service area. The subdivision was built when plumbing code allowed connection of footing drains. The District did everything possible (testing, lining, etc.) to avoid going on private property. It considered offline storage basins (no empty space), basins and pipe storage, pipe storage with bypass piping, while a footing drain program was one-half the cost of the others. The District was able to get 526 of 532 properties to “volunteer” into the program. The cost was about \$4,000,000, averaging \$7,600 per home. The District was able to remove 59 percent of dry weather flow and 74 percent of wet weather flow.

The key was public education and public relations. Educating the public on why and how it was being done. The program included multiple neighborhood meetings, information flyers, a Web site, and press releases. We emphasized delivering a consistent message of why the District had to do it and what it would entail. The key was to be resident friendly – avoid the one angry person who would kill the program. The contractor was selected based on quality-based selection (QBS) with a need for them to be customer friendly, and they were given distinct rules. The most valuable tools were the volunteers, the guys who were getting flooded, standing up at the meeting, and talking to their neighbors. The most valuable person was the public liaison, empowered to help the residents and make the decision in the field.

The tools are on the PPVL. Before the work was done, an hour was spent with each homeowner. A volunteer request was circulated at every meeting. The public was told that they would pay 100 percent, and a rumor was passed that the funding would reduce in a couple weeks to stimulate more volunteers. A pilot program also was conducted. A time of sale ordinance was drafted and the realtors were informed to help find volunteers. Contractor selection included prequalification and interviews. The programs included home inspection forms, a video pre-work effort, maintenance flyer (personal instruction), follow up maintenance, and a warranty that made it clear that it is the property owners’ problem thereafter, post inspection and getting the homeowner to sign a completion of work release.

A reconnection was installed in the basement with a backflow preventer, and a direction bore was done for the new stormwater discharge.

In conclusion, you can do private property work. It proved more cost effective in the long term than conventional rehabilitation, and it is less disruptive than a conventional program. Public education is the key. You can never do too much.

Questions/Answers

- What happened if there was no close storm sewer? Any concern about illicit stormwater dischargers?
 - The program built the stormwater discharge structure into the existing system, and it had a lot of high-density polyethylene (HDPE) installation. It was estimated that groundwater was allowable in the storm sewer system.
- Did they hypothesize the major contributors?
 - No, they do not know how many of the new sump pumps discharge constantly.
- How did they get around the “three bids” regulations?
 - They did not. They picked the best qualified contractor. In some other situations, they asked for bids on costs per item (sump pump, etc.).
- What was the duration of the post-monitoring?
 - Meters were done for 6 months, through fall into spring.
- Did they put the backflow on the gravity, and if so, what type?
 - Yes, the backflow was put on the gravity a simple flap. The homeowner was told to maintain it, and they were shown how to check it.
- How do you overcome the fear of an electrical sump system rather than gravity?
 - There was no opportunity for gravity. We worked with Detroit Edison to get more reliable power and recommended a backup battery system. We showed them how to bail if the sump pump goes out. Other options looked at included torpedo pumps and hydraulic actuation, but we elected not to use them.
- What was the basis of the fund that paid for the program?
 - In Auburn Hills, it was general fund money. Others have set up funds composed of grants and water and sewer rates.
- Were there any call backs accusing the District of bad choices?
 - A warranty was in place, and we had to replace two laterals that failed.
- Have they back checked if the owners have reconnected?
 - There are a lot of visits in the neighborhood, and no problems have been encountered yet.

Private Property Inflow Removal

For the luncheon presentation, Carol Hufnagel of Tetra Tech, discussed private property inflow removal, a tale of two cities – Lansing and Port Huron, Michigan. Lansing set up a private property I/I program, and Port Huron followed the example with some modification. Both communities have deteriorated combined sewer systems. They are

building new sanitary sewers, and in the meantime, disconnecting the private property stormwater connections. It was noted that churches and schools have major inflow sources.

The approach was to remove inflow at the source. Michigan passed a law that even in combined sewer areas one must remove roof drains (within practical limitations). Footing drains have been prohibited since the late 1970s/early 1980s. Both programs require removal of stormwater, with the exception of the footing drains.

The purpose of removing inflow was to reduce sewerage costs.

The city inspects private property, which allows flexibility in the compliance schedule, and the property owner must fund the "removal." Extensive public education, letters, brochures, etc. were sent and a hotline was set up for questions. The city inspected external drains, identified issues, and communicated to the property owners which issues needed correction. The staff works with the homeowners, providing advice but does **not** provide design, labor, or cost. The community will bring a storm sewer lead up to the property line.

The city does a second inspection after the sewer separation is completed and issues additional notices if required. If progress is not being made, the property owner is referred to the city attorney for enforcement. So far, the city has support because it "has to happen" – and they have not gone to court.

Port Huron dye tests every home to verify where the sanitary sewage goes.

In both communities, over 90 percent of the properties have the inflow removed.

Lansing is also working on sanitary sewer overflow (SSO) reduction in the separated area and is looking at footing drain disconnections in the separated area.

Questions/Answers

- Are the results measured?
 - Before and after cannot be compared since they are confounded with the sewer separation. The basis of design includes 1 to 5 gallons per minute (gpm) for the footing drains. Most of the products have achieved the basis of design.
- The downspout disconnection on a splash block often comes back into the footer. Is there data to demonstrate the benefit?
 - In several places in Port Huron, they can no longer tell the difference between dry weather and wet weather; others still have peaking factors of 10:1. I am a firm believer of getting the water away from the house, not near the foundation.
- How do you tackle the issue that connections in a combined sewer become illegal when the system is separated?
 - It is the philosophy of flexibility. For example, allow a stairway drain to remain connected, but put an awning over it. The cities are opting not to enforce recalcitrant private property as long as the system functions within the design criteria.

Private Property Virtual Library

Mike Anderson of FMSM provided information on the PPVL. The WEF CSC launched the program to collect information on successful private property programs and share the information and tool on the Internet. WEF CSC did the research, submitted an article to *WEF Highlights* newsletter, answered multiple calls, and then contacted approximately 60 specific programs. They issued a questionnaire (not a survey) and requested example materials. To date, 30 questionnaires have been returned.

The challenge is turning narrative into database formats. The PPVL project team is planning on revising the questionnaire format so that it is more database-friendly.

The library is currently hosted by FMSM, being migrated to www.wef.org – technical resources – private property. For now, it is at www.wef.org/privateproperty.

The PPVL includes 30 utility answers to the questionnaire, plus forms, reports, and other useful items from the utilities.

It also has an “additional resources” section that includes resources such as past presentations, the output from the private pump stations in Florida, etc.

Utilities that want to contribute to the PPVL should contact WEF or the CSC. If any of the workshop attendees are aware of example utilities that should be included in the PPVL, the CSC would appreciate it if the utility name be forwarded to any of the committee members. The CSC will contact the utilities to complete the questionnaire and input the data into the PPVL.

A discussion thread will be added to the WEF discussion board that will add a document search option (by key word).

Questions/Answers

- Are the documents downloadable?
 - Yes, in PDF format.
- Are there copyright issues?
 - No, all items were donated.
- Is there any information on cost?
 - There was a section on funding. So far, there is just random information on costs.

All of the questionnaires received to date are reproduced in the workshop booklet. The PPVL will be accessible via the Internet and you do not need to be a member to access the information.

Collaborative Work Session

Next CSC Conference Information

Bill Carter of George Butler Associates provided information about the next CSC conference to be held May 18-21, 2008, in Pittsburgh. Workshop proposals are due June 15, 2007, and abstracts are due August 3, 2007. There will be a working committee meeting at the WEF Annual Technical Exhibition and Conference (WEFTEC 2007). A short committee meeting will take place in room B111-112, on Tuesday at 4:45 p.m.

Introduction to Collaborative Work Exercise

Bill discussed that the purpose of this collaborative work exercise is to help the workshop participant understand the process of developing a private lateral inspection and repair program (PLIRP) for their community or agency. By working together on one aspect of a PLIRP and sharing ideas with the workshop, the synergy of this exercise produced a practical "how to" manual for the participants future use.

Each table was given a worksheet with a specific task to address. The worksheet had areas where the participants listed their ideas and strategies.

The tasks addressed in this workshop included:

- Develop key program elements for a PLIRP
- Identify road blocks to implementing a PLIRP and provide a strategy for removing or minimizing it
- Develop program elements that would involve consultation with the local plumbing contractors
- Prepare the steps your city or agency would take to involve the local realtors in your PLIRP
- Create a news release that describes the launch of a PLIRP
- Develop an outline of a training program for your city or agency's operations and maintenance personnel
- Craft a list of ideas for educating your customers on PLIRP

A spokesperson from each table presented to the workshop participants the ideas and strategies produced for their assigned task. Each spokesperson answered questions from the audience about their presentation.

Collaborative Work Exercise Discussion

Topic 1: Key Private Property Program Elements

- Program Management
 - Define the purposes, processes, and problems
 - Regulatory mandates, compliance requirements
 - Terms of grants

- Adaptive management, plan-do-check-act
- Education/Communication
 - Stakeholders, advocacy groups
 - Public information
 - Media
- Budget
 - Funding
 - Cost sharing model
 - Staffing/equipment
- Legal
 - Ordinances – review and enforcement
 - Authorization
 - Enforcement
- Information Management
 - Get the right data
 - Track where and when you do work
 - Track progress
- Technologies/Scope
 - Prioritize
 - Pre- and post-monitoring
 - Standard designs
 - Certification/QBS
- Sustainability

Topic 2: What roadblocks are there to starting the program?

- Lack of reason
- Lack of public official support
- Structure on mandates
- Coordination with transportation authority
- Available resources, in house or our house
- Dealing with union issues
- Budget resources
- Political will and customer buy in

Topic 3: Plumbing Contractors

- What do plumbers know about conditions of laterals
- What is the best bidding process
- What do engineers need to consider about plumbing and/or electrical codes
- Testing procedures, what's feasible
- Feasible materials and methods
- Proof of license and insurance
- How to prioritize the standard list of plumbing contractors

Topic 4: Real Estate Industry Involvement

- Survey what others have done (e.g., PPVL)

- Clarify purpose
- Get support and concurrence from board
- Get a realtor contact list
- Outreach, explain why and the draft documents
- Talk to the escrow, title, and insurance companies
- Build an interested task force
- Be flexible and listen to the ideas put forth
- Let them see it as a marketing idea
- Keep a list of qualified contractors, inspect quickly
- Have a workshop involving the workshops
- Look at the lateral as an asset, upgrade
- Pre-determine the inspections costs and pre-qualify inspection contractors
- Update the plumbing code to inspect the lateral
- Put a 5-year OK on the inspection

Topic 5: News Media Release Key Points

- Who, what, when, where and why
- City of XYZ
- Private property lateral program
- Describe “conveyance to treatment” process (general)
- Describe the I/I problem
- Describe the current public operations and maintenance (O&M) program
- Describe relative laws and ordinances
- Describe the benefits, short term and long term
- Broad brush the potential responsibility (who is going to pay)
- Itemize the plan of action (testing, inspection, repair points, etc.)
- Sum it up
- Finalize with summary of future public outreach program and contacts

Topic 6: Training of O&M Personnel

- Identify the necessary standard operating procedures (SOPs)
 - Call taking
 - Work order coordination (identify the needs)
 - Use of the geographic information system (GIS) to identify
 - Lateral
 - Identify the restoration
 - Verify with final CCTV inspection
 - Oops marking, etc.
- Educate the staff
- Give field crews media training, key messages
- Give field crews knowledge that the customer is the client
- Record keeping
- **Document, document, document**
- Methodologies, overall process, safety
- Inspection methods; video document before, during, and after

- Planning the work
- Applicable permits
- Homeowner advise – what you will do, what you are doing, what you did
- Debrief
- Implement, review, adjust
- If you ask them to do it, they want to know why and what the benefits
- Relationship to other existing programs
- Explain the authorities and ordinances issues, do’s and don’ts

Topic 7: Public Education

- Seek volunteers
- Educate the plumbers
- Identify a mascot
- Work with environmental educators
- Work with a public outreach specialist
- Advertise at special events
- Showcase projects (ribbon cutting)
- Door hangers with the smoke testing
- Produce a four-page ad in a newspaper (and subsequent media coverage)
- Election timing
- Press conference
- Board of Realtors involvement
- What is happening inserts (Portland)
- Tap into the friends of XYZ creek, inform the homeowner how it helps
- Establish ownership with the residents
- Outline benefits to the home owners, get them enthusiastic
- Put out general education materials
 - What is a lateral
 - Schematics
 - Ownership
 - Responsibilities
- Television, radio, home owners events
- Get out to the junior high schools
- Note that early education reduces reaction
- Take environmental programs to the schools, ask the kids to take the lesson home
- Recognize the limitations, make the staff accountable to understand

Two Tables Not Discussed

- Industrial mismanagement of laterals
- Industries accountable to the sewerage authority but not to the municipality
- The poorer owners who cannot afford it
 - The PPLV includes a San Antonio “laterals for people” program
 - Post a lien to be paid upon transfer of property

There are a lot of communities that are funding the lateral programs. Each community is different. Duluth provides funds, but it is the visits to each property that really helps. It is the customer involvement end that needs the work.

If you have issues, put them on the index cards. The CSC PPLV team will try to pursue them.

Greenwood, South Carolina Legal Issues

George Martin provided a discussion of Greenwood, South Carolina legal issues. Greenwood is a special purpose district that has some latitude not available to others. It contains many disadvantaged "Mill villages." Flow isolation was conducted, identifying the need for lateral work. The leaks were flagged. The first call was that "the old aunt can't afford it."

The attorney came up with a quit claim on the service lateral. The quit claim is legal until it is challenged. They fixed a lot of service lines. They got grief, just like they had a lot of grief over the first capacity management, operations, and maintenance (CMOM) fee. They received a Community Block Development Grant to get a main line up to the service line, then they got the owners permission before they did the quit claim. When done, they undid the quit claim - which it was pre-agreed that the original owners would take it back - and they did. They also took over several subdivisions, as they did not want it back.

Albany, California, "Mushrooms"

Rich Cunningham presented information on Albany mushroom cleanout caps, similar to the mushrooms utilized in the Central Contra Costa Sanitary District. There are at least three commercial varieties. There is a sewer popper available for below ground applications, and you can check the Internet for information on them.

San Francisco used prearranged liens when he was there. The questions that come up are about nominal interest rates usually attached to the liens.

Agency ownership of the lower laterals was discussed. Most agencies who do not own them, do not want them. For those that do own them, it is part of the responsibility to maintain the right-of-way. If they do not own the lower lateral, then repairs to the roadway are often poor, and taps to the main are often poor.

Rich noted that the measure of the quality of the workshop is the number of people who stay the full time (we were doing great). CEUs help, too.

Seattle, Washington, Business Case Analysis

Martha Berth of Seattle discussed the business case analysis prepared by Seattle. They are looking at the option of assuming ownership at least within the right-of-way. Seattle believes they will be adding more services, a lien program, an insurance program, and maintaining the laterals within the right-of-way. They are looking at the cost with trenchless technology (reduces costs), and the benefits are more likely to outweigh the costs, particularly since many laterals do not have a cleanout. This could require a cleanout as a condition of cleaning the lateral. Not much public outreach has been conducted, only some

focus groups. The “volunteers” who had a horror story were often the only ones who knew they had side sewers.

Virginia Beach, Virginia, Cleanout

Virginia Beach maintains from the cleanout at the property line to the main. They will maintain it if the cleanout is there; otherwise, the property owner has to retain a plumbing contractor licensed to do work in the right-of-way.

Cincinnati, Ohio, Water in Basement Program

Bob Campbell mentioned that the Cincinnati water in basement (WIB) program was developed from a consent order judge who prohibited storing wastewater in basements. Attorneys decided they could have one because of the public health issues. Cincinnati received a 7.5 percent rate increase to fund it and spent about \$42 million. They usually installed sump pumps since most systematic WIB was a combination of capacity and lateral. They found that about 85 percent of the lateral problems were not systematic. They described the program included the “dry out” program and paid for the loss (not at replacement). The average payment of claims was about \$2,800. The average payout for protection was about \$4,800 per home protected. Cincinnati put a bid for unit prices, picked the top three or four, and then asked the three best to give a price on specific homes. The board decided the homeowners should not have to pay. Cincinnati takes care of the lateral from the property line to the main; they do not own it by the repair in the right-of-way. The Metropolitan Sewer District (MSD) installs the cleanout if needed, at MSD cost.

Louisville, Kentucky, Water in Basement Program

Tim Kraus presented the MSD Louisville WIB program, which was started in 1993. The flood of 1992 caused problems. MSD had a commitment to get to the home within 4 hours of a backup, and they no longer have too many of these calls. The WIB program passed the “red face” test. Marty Schindler from Louisville is the current program manager. The program started as a dual-valve program (flap and ball valve) and evolved to a sump pump. They only disconnect the basement portion of the facilities. It was noted that the most expensive backflow valves were not the best performers. Program costs have been documented and are not high. The program started in the combined sewer area, and then opened to the entire county in 1997.

Lessons learned include do not over-plan; the most expensive device is not the best; include a release form (owner hires the plumber); identify wet areas; investigate water in vaults; the “wow it *is* free” factor; if you can imagine it, it exists; understand the co-payment (to the plumber and the owner); you need a dedicated electrical service for pumps; transferred all oversight in house in 2003; and downsized the information packet. Additional information is available at schindle@msdlouky.org.

Portland, Oregon, Bureau of Maintenance Backflow Preventor Program

Matt Hicky of Portland Bureau of Maintenance discussed the need to have a backflow preventor program for the combined sewer service area. The homeowner gets the plumber, sends in the bill, and will be reimbursed for up to \$1,500. The inspector will verify that rain drains come in below the device.

- Is it more cost effective to convey and treat, or to remove the private property I/I?
 - From some communities that have tried I/I reduction, and the response to the Webcast, it is necessary to address private I/I. By acknowledging that this type of program forces maintenance of the infrastructure, we get the background solution of rehabilitating the infrastructure. When dealing with enforcement, they will often say if you do the work, you are in compliance. Conferences verify that there is no hard data on getting the I/I out. Please do the pre- and post-monitoring to help the industry.

Orange County, California, Incentive Program

Orange County provided an incentive program, offering a cost reduction to satellites that lined the sewers. One community (Sunset Beach) got the deduction, even though they lined only the main in an area below the tidal fluctuation. Even the main only got a substantial decrease in I/I. For the higher areas, they do not get much I/I, so it is not worth lateral I/I. Things to do include flow monitoring, looking at the system, and determining if it is worth it.

Grant Funding

Clean Water Act 319 (watershed based) grant funding has been used for lateral repairs in Texas for the Edwards Aquifer. The Edwards Aquifer is a drinking water source for which the Texas State Legislature has adopted specific controls and prohibitions.

Lateral Identification

When other utilities (e.g., telephone, gas, water, etc.) do horizontal drilling, they sometimes clip the private laterals. Wastewater utilities are looking for ordinances or rules that avoid the problem. Many of these other utilities have agreements with the cities saying they will repair whatever they pierce, and cities go back and ask them to repair them even several years later. Georgia's one-call system rewrote the location rules in 2005, wanting to ask municipalities to "mark" all laterals. Now the Georgia law requires the municipality to assist the directional driller to locate the laterals. Right now, it is in the hand of "Common Ground Alliance." The industry is moving toward the municipality locating the laterals, ergo put a cleanout on them, and make them locatable.

Minnesota changed the law, now requiring that the municipality must locate the "new" laterals.