



2009 Annual Report

Sanitary Sewer Overflows & Water in Basement

City of Dublin
Engineering
Streets and Utilities



CITY OF DUBLIN™

**City of Dublin
Division of Engineering**

2009 Annual SSO and WIB Report

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I. Introduction/Purpose of Report

The City of Dublin (City) and the Ohio Environmental Protection Agency (OEPA) entered into a Director's Final Findings and Orders (Orders) in February of 2009, for the resolution of Sanitary Sewer Overflow (SSO) and Water-in-Basements (WIBs) related concerns for the City's sanitary sewer collection system. In general, the Orders require the City to develop and implement a Capacity, Management, Operations and Maintenance (CMOM) program. This program will address adequate capacity to convey base flows and peak flows for all parts of the sewer system, take all feasible steps to stop and mitigate SSOs and WIBs, minimize excessive Infiltration & Inflow (I/I) and to provide notification to all parties with a reasonable potential for exposure to pollutants associated with any overflow event.

Per the Orders, the City shall prepare an annual report of all SSO events and WIB occurrences from its own sanitary sewer collection system. This is the first annual report to be submitted to the OEPA as required by the Orders, Section V, Part 9, Page 9 of 13. This report provides the required information collected by the City in 2009.

Highlights from 2009 include the following:

- The City continued its first rotation of sanitary sewer cleaning program that was initiated in 2005 and includes nine (9) sewer sheds. The current sanitary sewer cleaning program was continued in 2009 and will be completed in 2010. The new program will be initiated in 2011 thru 2018.
- The current televising program continued in 2009 in the Deer Run and North Fork Indian Run Sewer Sheds. This program was initiated in 2005 will continue through 2010. A new televising program will be initiated in 2011 and will continue in each sewer shed until completion in 2018.
- In June of 2009, the City initiated a Manhole Inspection Program using NASSCO's Manhole Assessment Certification Program (MACP) to identify other sources of I/I and structural defects in the publicly owned sanitary sewer manholes.
- As part of an on-going program the 2008-2010 Sanitary Sewer Lining Program, 25,165 linear feet of defective sanitary sewer clay tile was lined with Cured in Place Pipe (CIPP) during 2009 at an approximate cost of \$850,000.00. A total of 108,450 linear feet of CIPP has been installed to date since 1999.

II. Reporting and Monitoring of Sanitary Sewer Overflows

In February of 2010, the City formalized its internal reporting process of Sanitary Sewer Overflows (SSOs) from the sanitary sewer collection system according to the Orders issued by the OEPA. This process is outlined in the Overflow and Emergency Response and Notification Plan (OERNP) submitted to OEPA in August, 2009. All known overflow events are reported to the OEPA via phone initially and with a 5 day follow up report sent by mail or e-mail.

The City of Dublin monitors its sanitary sewer system with 24 current flow meters as designated per the Orders from the OEPA to gather information on the flow characteristics. There are 6 permanent flow meters that are established on the largest trunk sewers and there are also 18 temporary flow meters that will be moved as needed to show flow characteristics in the public sanitary sewer system. We currently monitor the City's one known repeat overflow location at MH Facility ID 3279. Appendix A lists all 24 flow meter locations installed as of January, 2010.

III. Elimination of Sanitary Sewer Overflows (SSOs) in 2009

One (1) known overflow event occurred in 2009 as a result of the public sanitary sewer system. This event was a result of excessive fats, oils and grease build up in the sewer of the Campden Lakes residential neighborhood of the Riverside Sewer Shed. See Exhibit 1 for the general location of the overflow event. The sanitary sewer pipe, pipe facility ID 2402, and manhole, facility ID 2097, associated with the overflow were jetted and cleaned removing the grease blockage. Appendix C contains the list of locations of SSO events and all the relevant details as required by the Orders.

One other known location of repeat overflow events occurs along Dublin Road in the Kerry Glen Subdivision at MH Facility ID: 3281 and on the Muirfield Village Golf Course at MH Facility ID 3726. The last known overflow at this location was on June 26, 2008. The City lined 77,440 linear feet upstream of these two locations with several significant rainfall events having occurred since our improvements were installed. These two locations have not overflowed since June 26, 2008. A flow meter is installed at MH Facility ID 3279 just downstream of these locations to give the City an indication of overflow events that are not reported. No known overflow events have occurred since the installation of the flow meter at MH facility ID 3279 on October 20, 2009.

IV. Activities Performed to Reduce the Occurrence of SSOs and WIBs

The City of Dublin utilizes its sewer shed based maintenance program aimed at cleaning all sewers on a systematic basis to reduce the number of occurrences of SSOs

and WIBs. The current sewer shed based program initiated in 2005 will continue to runs its course until its conclusion in 2010. A new sewer shed based maintenance program of cleaning, televising and manhole inspections will take its place as noted in the Sewer System Evaluation Study (SSES) previously given to the OEPA.

The City has identified from the previous maintenance program that I/I and structural defects are mostly related to the amount of existing clay tile and concrete sanitary sewer pipe material. A higher priority is set on Deer Run, North and South Fork Indian Sewer Sheds which contain the vast majority of the clay tile and concrete sanitary sewer pipe material for structural repairs and I/I elimination. The SSES proposed phased schedule represents the priority given to these sewer sheds.

Also, listed in the SSES is the on-going flow monitoring program of the sanitary sewer collection system. The City owns and maintains all the flow meters and associated equipment to monitor the flow characteristics of its sanitary sewer collection system. The City has placed meters strategically to monitor the previous overflow location as mentioned earlier in this report. Currently, MH Facility ID: 3279 is monitored for overflow occurrences and improvements made upstream in the sewer system. Appendix B contains the summary of Flow Monitored Events in 2009.

V. Summary of Sanitary Sewer Overflows Observed in 2009

The City will report SSOs from its sanitary sewer system through its OERNP and this annual report in accordance with the Orders, Section V, Item 8 and 9 on pages 8, 9 of 13. A summary list of the dry and wet weather overflow events is located in Appendices C and D respectively.

A. Wet Weather Overflow Events

The City observed a total of zero (0) known SSO events during wet weather at zero (0) locations throughout the sanitary sewer collection system in 2009. This trend is something new for the City and hopefully will continue with our Capital Improvement Program (CIP) and all the CIPP lining that is programmed for the years to come.

1. Location, frequency and cause

N/A

2. Changes in Operations and Maintenance procedures

N/A

3. Rainfall data discussion ~ wet weather.

N/A

B. Dry Weather Overflow Events

1. Location, frequency and cause

The City identified one (1) known sanitary sewer overflow event(s) from the sanitary sewer collection system in dry weather from this one (1) location. This is a new location within the sanitary sewer system and was a result of fats, oils and grease build up in a 8-inch sanitary sewer pipe. The event occurred in Campden Lakes Subdivision within the Riverside Sewer Shed. The 8-inch sanitary sewer pipe, pipe facility ID: 2402, and manhole, facility ID: 2097, associated with the overflow were immediately jetted and cleaned when the City sewer crews arrived onsite and removed the fat, oils and grease blockage to eliminate the overflow at manhole facility ID: 2097.

See Exhibit 1 for location of SSO.

2. Changes in Operations and Maintenance procedures

This location is visited quarterly by City Sewer Crews to confirm that this blockage does not reoccur. If any debris is detected in the future then the line will be televised and cleaned then further investigation will take place to determine the source of the fats, oils and grease deposits in the sanitary sewer pipes upstream of this overflow event location.

In this event and all future events, regardless of the circumstances, City sewer crews shall be mobilized to resolve the situation as outlined in the City's OERNP.

Receiving (named) waterways downstream from the 2009 SSO event include the following:

- Summit View Creek
- Scioto River

The City of Dublin sewer service area is broken down into 9 sewer sheds as shown in Exhibit 1. The sewer sheds represent the areas served by major trunk sewers and are referred to as follows:

- Cosgray
- Cramer North
- Cramer South
- Deer Run
- Hayden Run
- Llewellyn Farms South
- North Fork Indian Run
- Riverside
- South Fork Indian Run

Table 1 summarizes the total overflows by sewer shed, including wet weather and dry weather events.

Table 1

Sewer Shed's	Total SSO's	Dry Weather	Wet Weather
Cosgray	0	0	0
Cramer North	0	0	0
Cramer South	0	0	0
Deer Run	0	0	0
Hayden Run	0	0	0
Lewelyn Farms South	0	0	0
North Fork Indian Run	0	0	0
Riverside	1	1	0
South Fork Indian Run	0	0	0
Totals	1	1	0

VI. Summary of Water-In-Basement Occurrences Reported in 2009

The City determined that one (1) Water-In-Basement (WIB) occurrence reported in 2009 was attributable to the public sewer system.

A summary of WIB's by **Sewer Sheds** is as follows:

Cosgray	= 1
Cramer North	= 0
Cramer South	= 0
Deer Run	= 0
Hayden Run	= 0
Llewelyn Farms South	= 0
North Fork Indian Run	= 0
Riverside	= 0
South Fork Indian Run	= 0
Total	= 1

Location, frequency and cause

The location of the one (1) WIB occurrence was a result of debris in the line at Dublin Manhole Facility ID: 4117, which is located at 6351 Shier Rings Road on City of Dublin property. The corresponding upstream residences affected by the WIB are listed as follows:

- 6170, 6174 and 6182 Kendall Ridge Loop
- 6165, 6175 and 6186 Tuswell Drive.

See Exhibit 1 for location of the WIB.

The debris in the line was a direct result of improper maintenance at the vehicle wash down area in the maintenance facility west of the manhole facility ID: 4117. The debris collected in this manhole and blocked the 8 inch sanitary sewer pipe to the south of this manhole.

Changes in Operations and Maintenance procedures

The City’s sewer maintenance crews responded to the call that sewerage was backing up into several basements as noted above. Crews removed the debris from the manhole and cleaned the pipe segments south of the manhole that services the addresses listed above. The City’s sewer maintenance crews now inspect this location on a quarterly basis to ensure that sanitary sewer manhole is clear of debris.

Appendix E contains a summary of all identified Water-In-Basements events.

VII. Report Public Notification

As required by the Orders, the City will make the public aware of this annual report by issuing a press release to the local media of its availability and by making the report available on the City of Dublin web site. Interested parties may download and print this report from the web site address of <http://www.dublin.oh.us/engineering/sewer> available under the [Engineering](#) area of the site. This report will also be available at the City of Dublin, Department of Development, 5800 Shier Rings Road, Dublin, OH 43016 or by calling Todd Garwick at (614) 410-4665.

Appendix A

Flow Meter Locations

Flow Meter Locations

FLOW METERS

Available

Flow Totes			18 total		18 installed	0
FlowDar			6 total		6 installed	0

Status	Number of Meters	Install Date	Meter Facility ID	Manhole Facility ID	Pipe Size	Meter Type	SAS System	
IN	1	10/12/2009	46002528	433	21	Flow Tote 3	North Cramer	
IN	2	10/12/2009	46002532	255	21	Flow Tote 3	North Cramer	
IN	3	10/12/2009	46002531	350	21	Flow Tote 3	South Cramer	
IN	4	10/12/2009	46001369	1313	21	Flow Tote 3	Cosgray	
IN	5	10/19/2009	#2955 w/ 2928	3255	21	Flo-Dar	Cosgray	
IN	6	10/13/2009	46003903	547	24	Flow Tote 3	SFIR	
IN	7	10/19/2009	#2956 w/2529	2973	24	Flo-Dar	SFIR	
IN	8	10/13/2009	46003905	701	24	Flow Tote 3	NFIR	
IN	9	10/14/2009	46003937	692	24	Flow Tote 3	NFIR	
IN	10	10/13/2009	46001409	3472	15	Flow Tote 3	NFIR	
IN	11	10/14/2009	46002523	1875	24	Flow Tote 3	NFIR	
IN	12	10/14/2009	46002530	2438	12	Flow Tote 3	Deer Run	
IN	13	10/14/2009	46003904	3302	10	Flow Tote 3	Deer Run	
IN	14	10/20/2009	2957 w/2924	3279	36	Flo-Dar 2957	Deer Run	
IN	15	10/20/2009	2952 w/2925	2782	36	Flo-Dar 2952	Deer Run	
IN	16	10/9/2009	46002535	3720	15	Flow Tote 3	Deer Run	
IN	17	10/9/2009	46002533	3734	15	Flow Tote 3	Deer Run	
IN	18	10/9/2009	46002537	3695	18	Flow Tote 3	Deer Run	
IN	19	10/20/2009	#2954 w/ 2927	3169	36	Flo-Dar	NFIR/Deer Run	
IN	20	10/14/2009	46001771	3089	18	Flow Tote 3	Riverside	
IN	21	10/14/2009	46002526	3186	8	Flow Tote 3	Riverside	
IN	22	10/1/2009	#2957w/ 2*930	3184	42	Flo-Dar	Riverside	
IN	23	10/14/2009	#2951 w/ 2424	4313	12	Flow Tote 3	Riverside	
IN	24	10/14/2009	#2953 w/ 1764	3673	12	Flow Tote 3	Delaware County	

Appendix B

Annual Summary of Flow Monitored Overflow Events

Appendix C

Annual Summary of Wet Weather Overflows Events

Appendix D

Annual Summary of Dry Weather Overflow Events

Appendix E

Annual Summary of Water-In-Basement Occurrences

