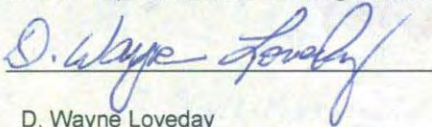


2001-2008 Sanitary Sewer Overflow Evaluation Report

Including Building Backups and Trend Analysis

Submitted to EPA on April 28, 2009

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


D. Wayne Loveday

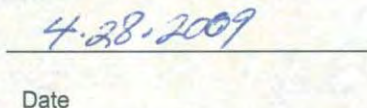

Date



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Executive Summary

2001-2008 SSOER, Including Building Backups

The Sanitary Sewer Overflow Evaluation Report (SSOER) is an assessment tool KUB uses as part of its ongoing Collection System Improvement Program (CSIP). The 2001-2008 SSOER is a summation of the sanitary sewer overflows (SSOs) between January 2001 and December 2008. The 2001-2008 building backups are included in separate spreadsheets. The report analyzes the specific causes of each overflow or building backup and categorizes them as requiring short- or long-term corrective measures, or both. Locations of all SSOs and building backups where there has not been a recurrence during the previous three years (since 2004) have been removed from the lists but remain a part of the Gravity Line Preventive Maintenance Program. Those locations are included on separate spreadsheets.

The total number of SSOs including building backups was the lowest ever in 2008, and represents an 88 percent decrease since the high in 2003. A slight increase (16 percent) in the number of SSOs occurred in 2008 due to a return to normal levels of rainfall in the latter part of 2008. During dryer periods, grease and debris tends build up in the collection system. When rainfall returns to normal, the result can be blockage-related overflows that are influenced by heavy rainfall. Thus, 43 percent of the 2008 events were due to blockages influenced by heavy rainfall.

Building backups decreased significantly to the lowest recorded amount. The 71 percent decrease can be attributed to the success of the Private Lateral Program and increased response to problems on property as part of that program. At the end of 2007, KUB began using a lateral launch camera to inspect laterals in response to problems on property. Those inspections are now used as enforcement for the Private Lateral Program.

KUB's wastewater storage facilities at Lower First Creek, Upper First Creek, Third Creek, and Walker Springs operated for a combined total of 25 times in 2008, containing a total of 41.7 million gallons of wastewater. The tanks help KUB shave peaks to prevent spikes in flow and meet requirements to address sewer overflows and protect our environment. In August 2008, KUB began construction of a fifth storage facility at Bernard Avenue as part of the Composite Correction Plan. The result of these storage facilities was an 87 percent decrease in the total volume of overflows from 2007 to 2008. From the high in 2003 to the low in 2008, KUB has experienced a 99 percent decrease in the total volume of SSOs and building backups.

As required by the Consent Decree, the SSOER and building backup summaries are sorted by chronological occurrence, and also by the basin number and street address. The type of sort is noted on the footer of each spreadsheet.

Key to the spreadsheet headings in the SSOER

1. **Date:** Date the overflow was discovered by/or reported to KUB.
2. **Street #:** The street number of the location where the overflow occurred.
3. **Street:** The street name where the overflow occurred.
4. **Plant:** Shows which wastewater treatment plant (WWTP) receives wastewater from the collection system in the area of the overflow. **Abbreviations:** EBR –

Eastbridge WWTP; **FC** – Fourth Creek WWTP; **KUW** – Kuwahee WWTP; **LC** – Loves Creek WWTP.

5. **Watershed:** A natural geographic area draining to a particular waterway, such as First Creek.
6. **Basin:** A small area of the sewer system separated by natural topography or system configuration. KUB identifies basins by a number.
7. **Overflow Location:** This location information is specific to the KUB system, listing manhole numbers (MH#), pump stations, etc., or if the overflow was on a customer lateral or at a broken pipe.
8. **Private Property Location:** 'BB' indicates that a sewer backed up into a building in association with a reportable SSO. Building backups associated with overflows are shown in the building backup spreadsheet.
9. **Cause of SSO/KUB Response:** The causes of SSOs are inflow and infiltration (I&I) from rain or flooding and blockages caused by grease buildup, roots, or debris. This column lists immediate actions KUB took in response to the SSO, such as repairing the line, etc.
10. **Volume (Gallons):** The estimated gallons of wastewater spilled in the overflow.
11. **Duration (Hours):** The estimated number of hours an overflow lasted.
12. **Event Occurred Two or More Times Within 12 Months:** Shows SSOs recurring two or more times in a 12-month period.
13. **Long-Term Capital Project:** Indicates whether the SSO requires long-term resolution, such as a capital improvement project. The five-year plan is formally updated on an annual basis and at other times during the fiscal year, as needed, to reflect changing conditions, priorities, and/or needs.
 - Completed: Construction has been completed
 - Current Construction: Work (engineering design and construction) is under way at this time
 - Future Five-Year Plan: The need for a capital project has been identified/scheduled for future
 - N/A: One-time SSOs may not require long-term projects.
14. **Short-Term Controls Blockage Abatement (BA):** Short-term resolutions to SSOs and building backups include activities intended to reduce and/or eliminate the cause of the overflow or building backup. These activities include equipment/pipe/manhole repairs, routine pipe cleaning, chemical root control, grease inspections/enforcement, power restoration, etc. In some cases when an overflow has occurred two or more times in a 12-month period, a long-term corrective action will also be needed.
15. **BA Schedule:** The frequency of scheduled maintenance for SSOs or building backups being alleviated by short-term measures.

Key to the headings in the building backup spreadsheets

1. **Date:** Date the backup was discovered by/or reported to KUB.
2. **Street #:** The street number of the location where the backup occurred.
3. **Street:** The street name where the backup occurred.
4. **Plant:** Shows which wastewater treatment plant (WWTP) receives wastewater from the collection system in the area of the backup. **Abbreviations:** **EBR** – Eastbridge WWTP; **FC** – Fourth Creek WWTP; **KUW** – Kuwahee WWTP; **LC** – Loves Creek WWTP.
5. **Watershed:** A natural geographic area draining to a particular waterway, such as First Creek.

6. **Basin:** A small area of the sewer system separated by natural topography or system configuration. KUB identifies basins by a number.
7. **Backup Location:** Identifies if the backup occurred in a building and/or other private structure (manhole, clean-out, etc.).
8. **Event Included in SSOER:** A check mark indicates if this building backup was associated with a public overflow event on the SSOER.
9. **Cause of Backup/KUB Response:** The causes of backups are inflow and infiltration (I&I) from rain or flooding and blockages caused by grease buildup, roots, or debris. This column lists immediate actions KUB took in response to the backup, such as repairing the line, etc.
10. **Volume (Gallons):** The estimated gallons of wastewater spilled in the backup.
11. **Duration (Hours):** The estimated number of hours a backup lasted.
12. **Event Occurred Two or More Times Within 12 Months:** Shows backups recurring two or more times in a 12-month period.
13. **Long-Term Capital Project:** Indicates whether the backup requires long-term resolution, such as a capital improvement project. The five-year plan is formally updated on an annual basis and at other times during the fiscal year as needed to reflect changing conditions, priorities, and/or needs.
 - o Completed: Construction has been completed
 - o Current Construction: Work (engineering design and construction) is under way at this time
 - o Future Five-Year Plan: The need for a capital project has been identified/scheduled for future
 - o N/A: One-time SSOs may not require long-term projects.
14. **Short-Term Controls Blockage Abatement (BA):** Short-term resolutions to building backups include activities intended to reduce and/or eliminate the cause of the building backup. These activities include equipment/pipe/manhole repairs, routine pipe cleaning, chemical root control, grease inspections/enforcement, power restoration, etc. In some cases when a backup has occurred two or more times in a 12-month period, a long-term corrective action will also be needed.
15. **BA Schedule:** The frequency of scheduled maintenance for backups being alleviated by short-term measures.

2001-2008 SSO and Building Backup Report Trend Analysis

The information contained in the SSOER and Building Backup Report was compiled into one overall trend analysis. These events were analyzed based on four major components:

- Annual Number of SSOs
- SSO Cause
- SSO Volume
- SSO Duration.

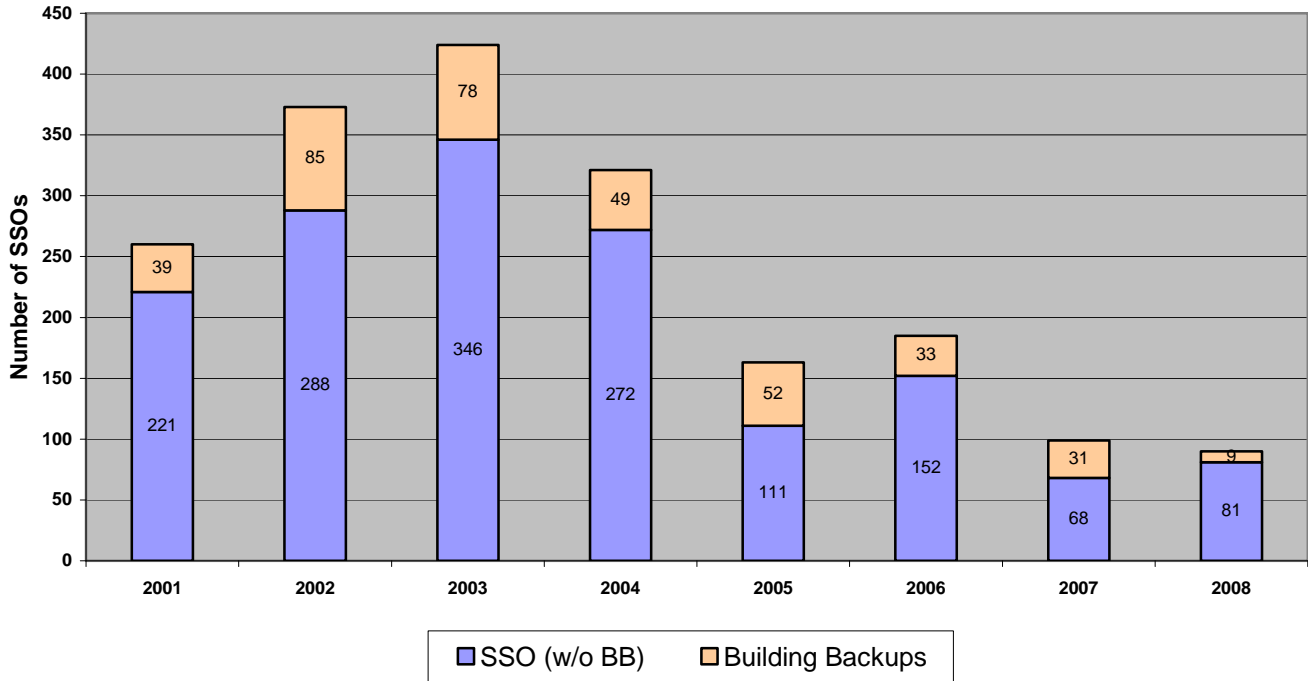
Annual Sanitary Sewer Overflow Totals

Figure 1 illustrates the annual number of overflows and building backups. The number of overflows and building backups increased from 2001 to 2003. As illustrated in this graph, both categories decreased in 2004, when KUB began PACE 10 efforts. The number of overflows in 2005 decreased by 59 percent while the number of building backups increased slightly from the 2004 total. In 2006, the number of building backups decreased by 36 percent. KUB successfully worked with cleaning crews to decrease the number of backups related to flushing operations. SSOs increased by 27 percent in 2006. This increase can be attributed to a three-day period of rain in September. During this event, rain gauges across our service territory recorded between 4.39 and 5.88 inches of rain with 1-day (24 hour) totals between 3.95 and 5.05 inches. This event, which exceeded a 25-year 24-hour storm return period, resulted in 33 rainfall-related SSOs. Those 33 events accounted for 49 percent of the wet weather SSOS that occurred during 2006.

In 2008, KUB experienced the least number of SSOs and building backups in recorded history. The number of SSOs decreased by 77 percent from the highest total in 2003, but increased by 16 percent compared to last year. The slight increase in the number of SSOs occurred in 2008 due to a return to normal levels of rainfall in the latter part of 2008 and the buildup of grease and debris during 2007, which was uncharacteristically dry. Building backups decreased significantly to the lowest recorded amount. The 71 percent decrease from 2007 can be attributed to the success of the Private Lateral Program and increased response to problems on property as part of that program. The total number of SSOs including building backups in 2008 was the lowest on record, and represents an 88 percent decrease from the high in 2003.

Figure 1

**Annual Sanitary Sewer Overflow Totals
(including Building Backups)**

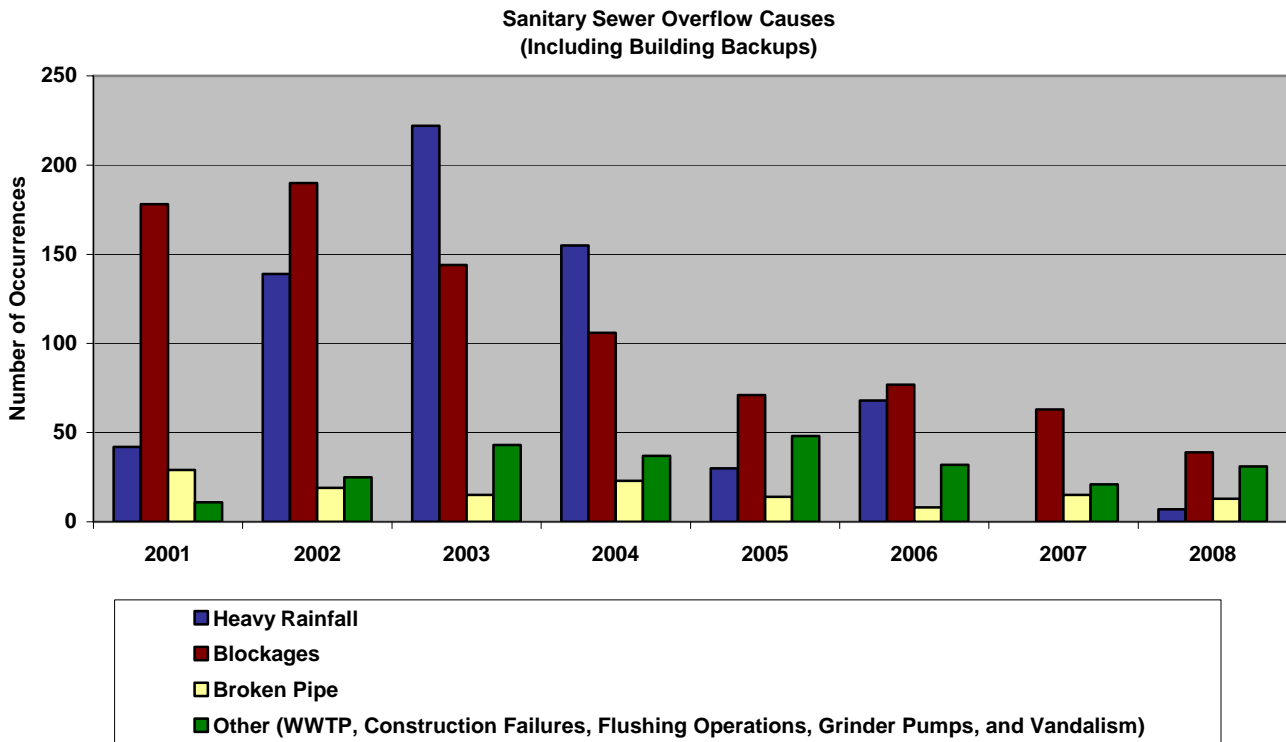


Causes of Sanitary Sewer Overflows

Figure 2 presents a comparison of SSOs by causes. In this graph, the SSOs were grouped into four categories:

- Heavy Rainfall
- Blockages (Debris, Grease, and/or Roots)
- Broken Pipe
- Other (Construction Failures, Flushing Operations, Grinder Pumps, Vandalism, WWTP, and Pump Stations).

Figure 2



The Heavy Rainfall category includes SSOs that were a direct result of rain events. This category represents events that were generally caused by heavy rainfall in the area that resulted in high flows in the collection system.

The Blockages category represents SSOs that were caused by debris, grease, roots, or some combination of the three.

The Broken Pipe category includes SSOs that were a direct result of a broken or damaged pipe.

The Other category includes SSOs that were caused by construction failures, flushing operations, grinder pumps, vandalism, or WWTP or pump station failure (mechanical, electrical, or electronic).

The SSOs for 2001 through 2008 are grouped into one of four general categories by each year. As illustrated in Figure 2, blockage-related events were the major cause of SSOs in 2001, 2002, 2005, 2006, 2007, and 2008. Rain was the largest contributor in 2003 and 2004. The number of rainfall-related events increased in 2006 due to one significant 3-day rain event in September. Increased cleaning, root removal, Grease Control Program improvements, and replacement/rehabilitation of problem lines continue to decrease the number of events, duration, and volume. With 2003 having the highest number of events due to heavy rainfall during the period reported, the 97 percent decrease since then can be attributed to the success of line replacement and rehabilitation projects. In 2006, the Walker Springs and Lower First Creek storage tanks became operational. Two additional tanks went online in 2007; Upper First Creek and Third Creek. The use of these four storage tanks during heavy rainfall events reduces the number of overflow events at chronic sites and elsewhere in the system downstream.

of the tanks. In August 2008, KUB began construction of a fifth storage facility at Bernard Avenue as part of the Composite Correction Plan.

Broken pipe-related overflows decreased by 13 percent from 2007 to 2008. The return to normal rainfall levels helps to moisten the ground and prevent shifting.

The 32 percent increase in events in the Other category is mainly due to increased inspections of KUB-owned grinder pumps. Inspectors frequently discovered and reported SSOs due to electrical failure. In response, KUB has implemented a preventive maintenance program for grinder pumps. The increase can also be attributed to increased dig-ins by contractors, construction failures due to contractors failing to reconnect service laterals, and failures of pump-around efforts. One pump-around failure occurred due to vandalism and copper theft. KUB continues to work with contractors to reduce SSOs and building backups due to construction failures.

Sanitary Sewer Overflow Causes

Figures 3.A-H illustrate the specific causes of SSOs that occurred from 2001 to 2008.

The causes listed in the graph include the following:

- Blockages
These events were a result of debris, grease, or roots in the sewer lines that triggered upstream overflows. The events may have occurred during dry or wet weather but were included in this category because blockage was involved.
- Heavy rainfall
These events were a result of extraneous water entering the collection system due to rain events that exceeded the hydraulic capacity of the system.
- Broken pipe
These events were a direct result of structural failure in the collection system.
- Other
The "Other" category represents five specific causes. They were encapsulated into one category to improve the readability of the chart. The causes represented in the "Other" category include the following:
 - Construction Failures
This category includes causes that occurred during the repair activities of the collection system or through damage of the collection system by a third party. Types of causes that comprise this category include failed by-pass pumping, third-party installation of gas line that damaged sewer line, etc.
 - Flushing Operations
These events are backups during the operation and maintenance of the collection system.
 - Grinder Pumps
These events are failures, mechanical or electrical, of KUB-maintained grinder pumps.
 - Vandalism
These events are the result of damage or blockage to the collection system caused by intentional placement of foreign objects into the sewer system or other destructive actions.
 - Wastewater Treatment Plant (WWTP) and Pump Station Failures
These events resulted from a failure at a WWTP or pump station, such as a mechanical or electrical failure.

Figure 3.A

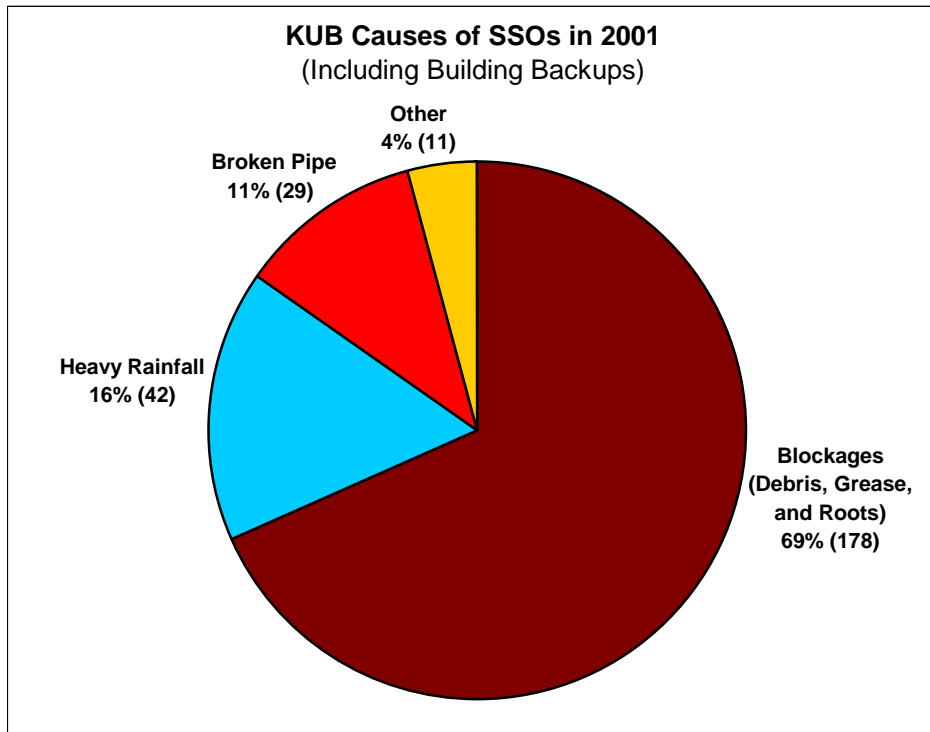


Figure 3.B

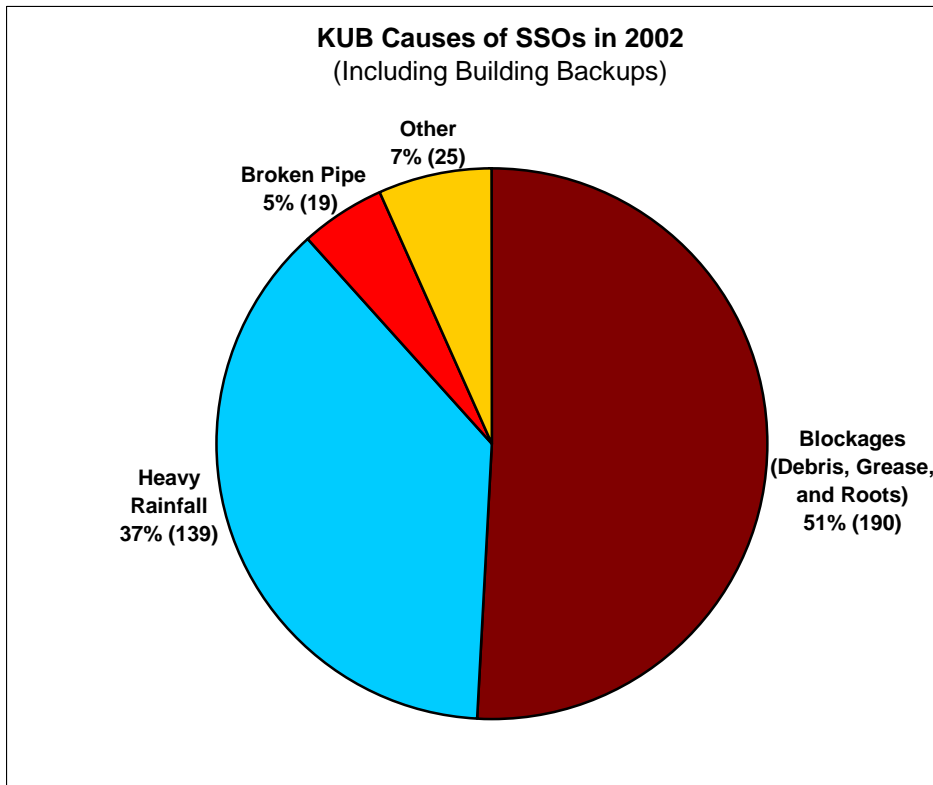


Figure 3.C

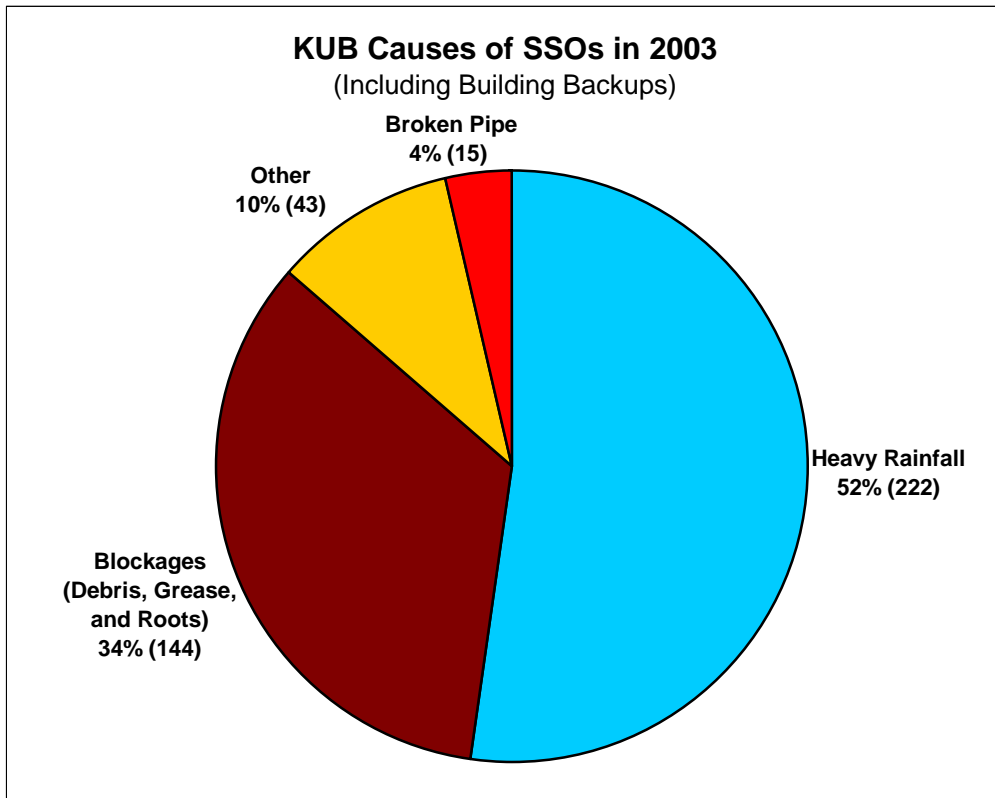


Figure 3.D

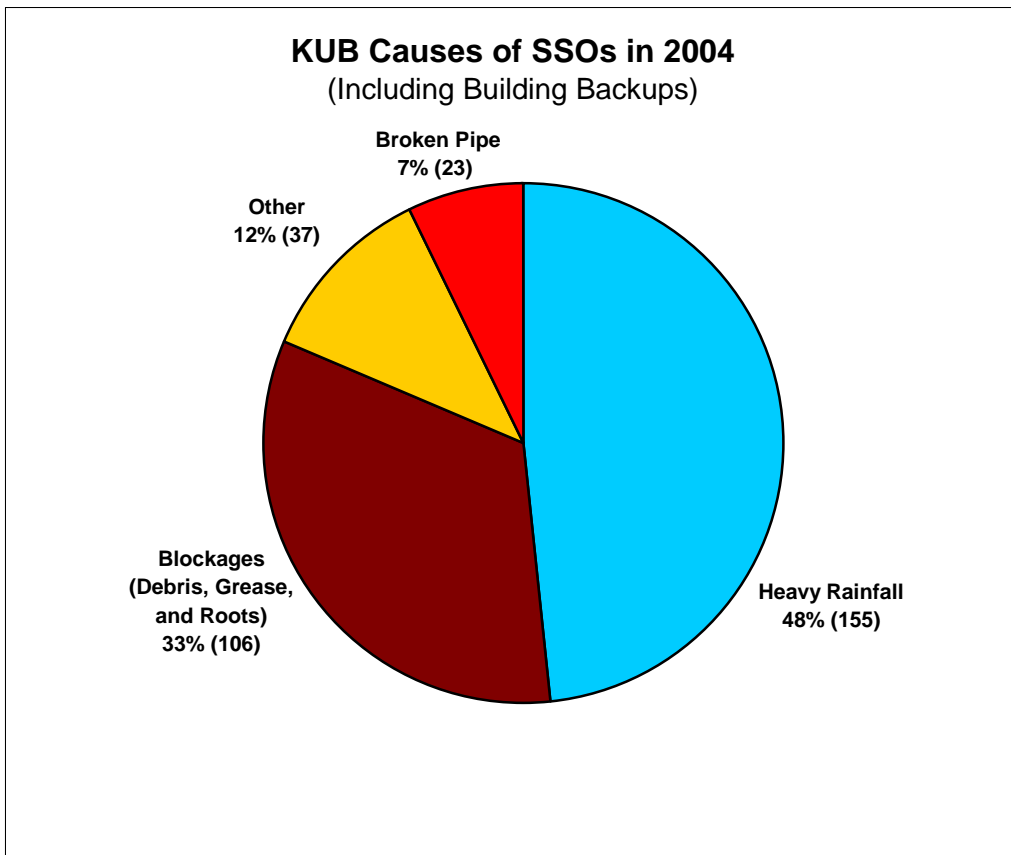


Figure 3.E

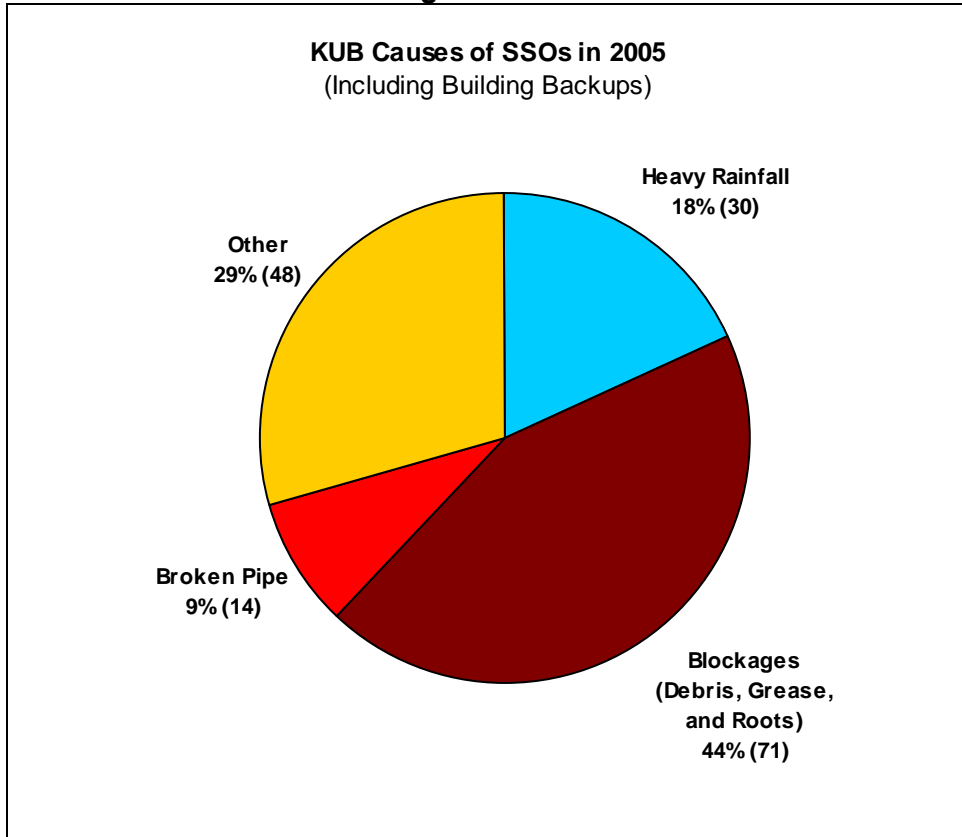


Figure 3.F

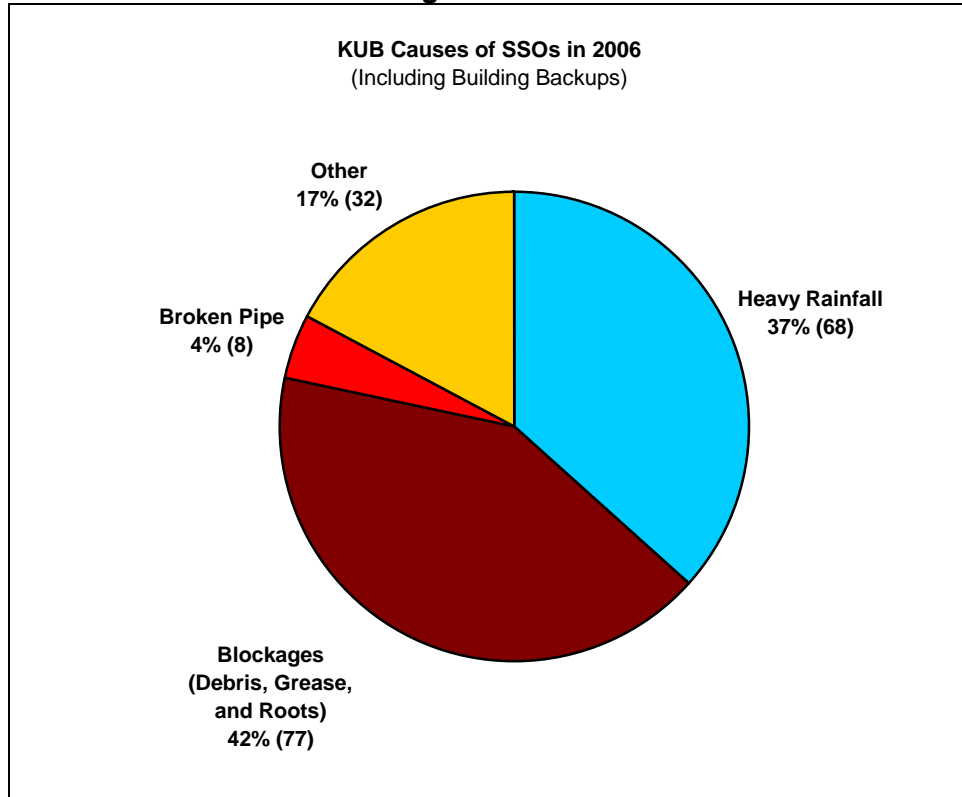


Figure 3.G

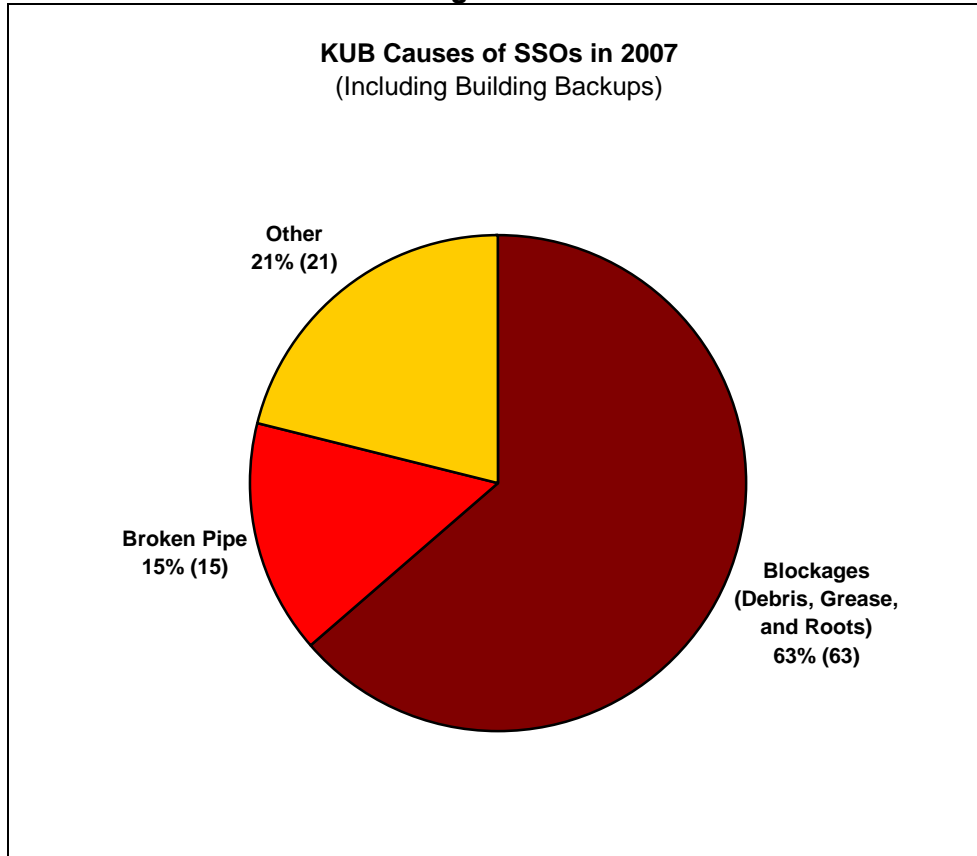
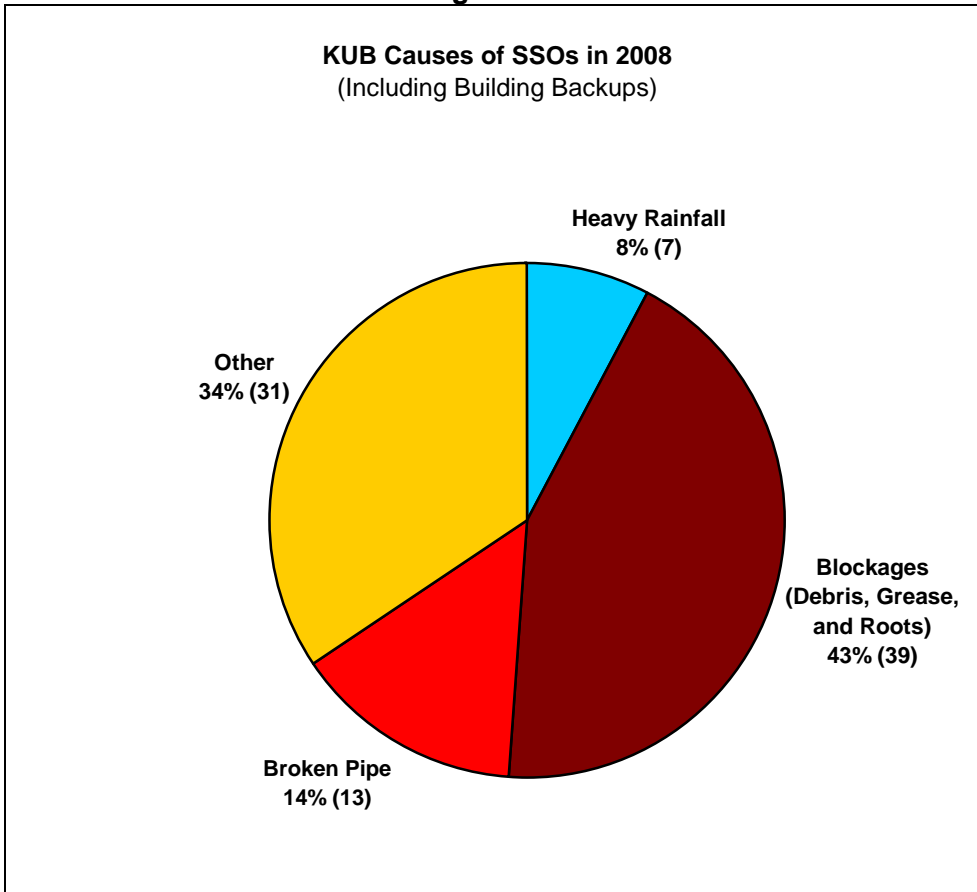


Figure 3.H



Analysis

Blockages

Blockage-related SSOs have declined significantly since 2002 (79 percent). KUB's Blockage Abatement (BA) Program, an operational and maintenance approach to blockage-related overflows, has also continuously improved over that period. For example, KUB restructured the program in 2004 to maximize cleaning efforts by updating the frequencies and type of maintenance activities. KUB also selected a contractor to perform BA maintenance in 2004 so internal resources could focus on proactive maintenance and assessment. Blockage-related events were the lowest recorded in 2008 and represented a 38 percent decrease from 2007.

Along with the BA Program, KUB's successful Grease Control Program also played a role in the decrease in blockage-related SSOs over time. Each of those programs is described in greater detail in submittals for the GLPM and Grease Control Program. An update on progress of these programs is included in the 2007 Annual MOM Progress Report.

Heavy Rainfall

The Heavy Rainfall events increased dramatically in 2002 and 2003 and decreased by 86 percent from 2003 to 2005. That increase corresponded to a dramatic increase in rainfall in the Knoxville area that caused rainfall derived inflow and infiltration (RD I/I) to exceed system capacity. In just two weekends in February 2003, for example, heavy rains that flooded roads, homes, and businesses and caused mudslides also led to 115 SSOs. The number of rainfall-related events increased again in 2006 due to a 3-day period of rain from September 22-24. During this event, rain gauges across our service territory recorded between 4.39 and 5.88 inches of rain, with 1-day (24 hour) totals between 3.95 and 5.05 inches. This event alone resulted in 33 rainfall-related overflows, which represents 22 percent of the SSOs that occurred in 2006.

Following the 2007 drought year during which no events were due to heavy rainfall, normal rainfall in 2008 caused seven events. From the high in 2003, this is still a 97 percent decrease and is a testament to the effort put forth rehabilitating the collection system and constructing four storage facilities.

KUB currently has 26 automated manhole surcharge indicators in place that are monitored using depth sensors and telemetry. When a manhole is in surcharging condition at an overflow level, an alarm occurs and crews are dispatched to initiate the response outlined in the Sewer Overflow Response Plan (SORP).

The "Long-Term Capital Improvement" column of the SSOER identifies areas that are susceptible to impacts of I/I and it lists ongoing or planned system improvements to address I/I issues.

Broken Pipe

Events due to broken pipe increased by 47 percent from 2006 to 2007 due to drought conditions. Dry ground can shift abruptly and weaken pipe joints. There was a 13 percent decrease from 2007 to 2008, which can be attributed to a return to normal weather conditions.

Other

Construction failures, flushing operations, grinder pumps, WWTP, and pump station issues were the primary drivers in this category. Other causes increased steadily from

2001 to 2005, but decreased in 2006 and 2007. The 32 percent increase from 2007 to 2008 is mainly due to increased inspections of KUB-owned grinder pumps. Inspectors frequently discovered and reported SSOs due to electrical failure. In response, KUB has implemented a preventive maintenance program for grinder pumps. Construction failures can be a result of operational failures during construction projects by internal and external forces. For example, a contractor failing to reconnect a service lateral is categorized as a construction failure.

The number of WWTP and pump station driven SSOs has steadily decreased since 2003 as a result of process control improvements at the plant and continued preventive maintenance improvements at the pump stations.

Sanitary Sewer Overflow Volumes

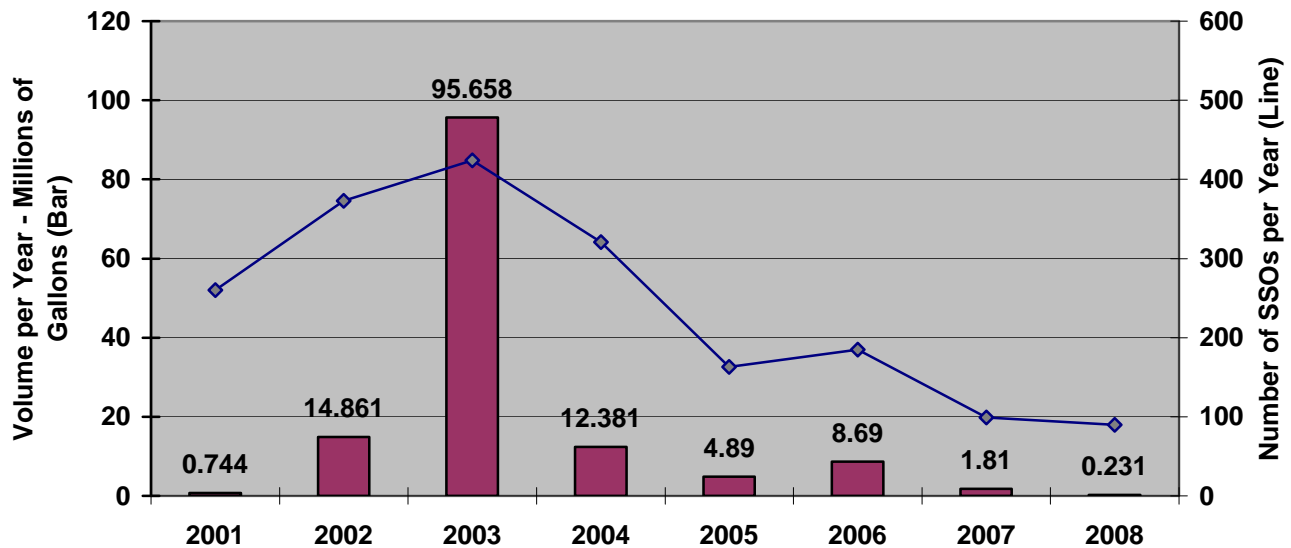
Figures 4.A and 4.B represent the SSO volumes between 2001 and 2008. For Figure 4.B, the SSO volumes were grouped into four volume ranges:

- Between 0 and 1000 gallons
- Between 1001 and 10,000 gallons
- Greater than 10,000 gallons
- Not available.

The last range describes events for which volume information was not available or was not recorded, such as for building backups.

Figure 4.A

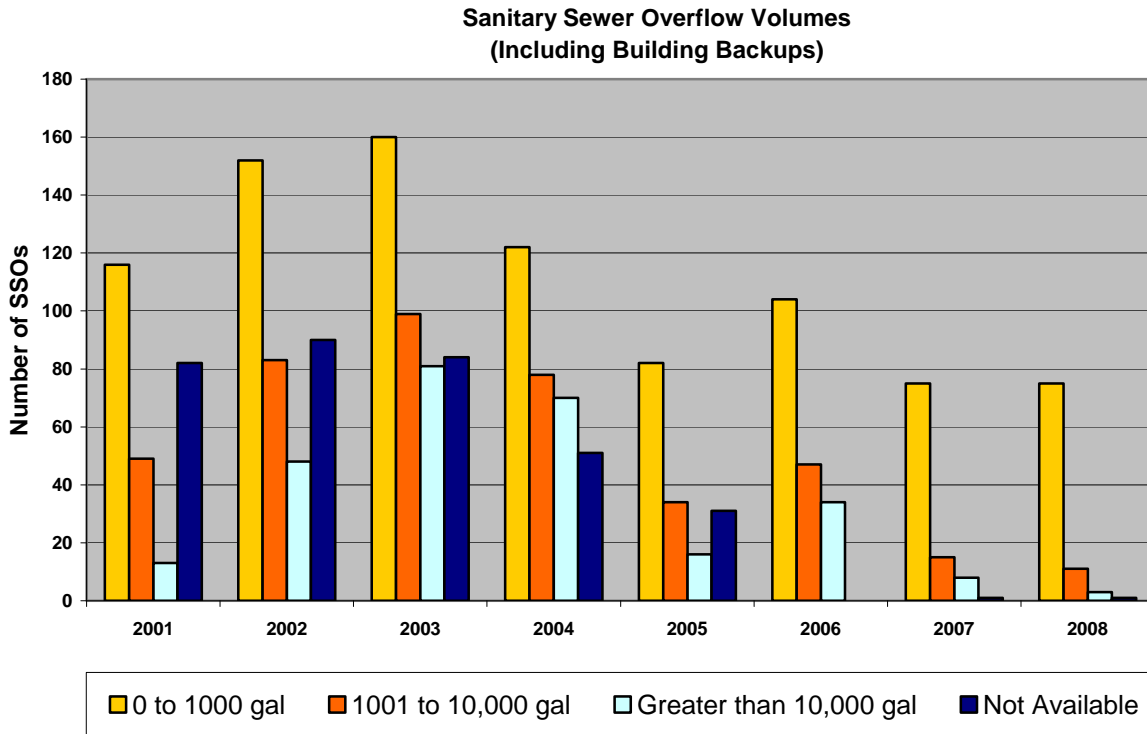
**Total SSO Volume per Year
(Including Building Backups)**



The dramatic decrease in total volume from 2006 to 2007 more attributed to very low rainfall. All of the overflows that occurred in 2007 were dry weather events. It is important to note that KUB strives to recover as much volume as possible during each event. Volume continued to decrease (99 percent) in 2008. Only one event during 2008 resulted in a greater than 100,000 gallon loss. Events are identified earlier which has resulted in smaller discharges. Also, the utilization of KUB's four new storage facilities

and rehabilitation efforts has significantly reduced the flows in the sewer system during heavy rainfall events. With a return to normal rainfall levels in 2008, chronic overflow locations have nearly been eliminated.

Figure 4.B



The SORP, updated in 2009, provides structured volume estimating techniques for field crews. The SORP provides three basic techniques to determine the amount of discharge that occurred:

- Calculating Rectangular Spill Areas
- Calculating Based on Duration and Number of Residential Services
- Calculating Based on Duration and Flow Rate.

0 to 1000 gallons

In all eight years, this volume range accounted for the most SSO events. Most of these events were related to blockages or other non-rain-related events.

1001 to 10,000 gallons

This volume range can again be related to non-rain events. The trend for this range is similar to the 0 to 1000 gallons trend.

Greater than 10,000 gallons

This volume range represents the larger volume overflow events. These volumes are normally associated with rainfall-related events. The trend from 2001-2004 is similar to the previous categories. The number of events decreased significantly in 2005, however, due in part to a lower than average amount of rainfall as well as significant improvement projects in areas of chronic wet weather overflows. The increase from 2005 to 2006 can be attributed to the significant three-day event in September. The dramatic decrease in volumes for 2007 and 2008 can be directly correlated to the construction and use of four storage facilities.

Not Available (N/A)

This volume range captures the volume estimations that responders were either not able to calculate or were not required to calculate according to KUB's record-keeping practices. KUB has not recorded the volume related to backups. Under KUB's revised SORP, crews calculate volumes for both overflows and building backups, where sufficient data is available.

Sanitary Sewer Overflow Durations

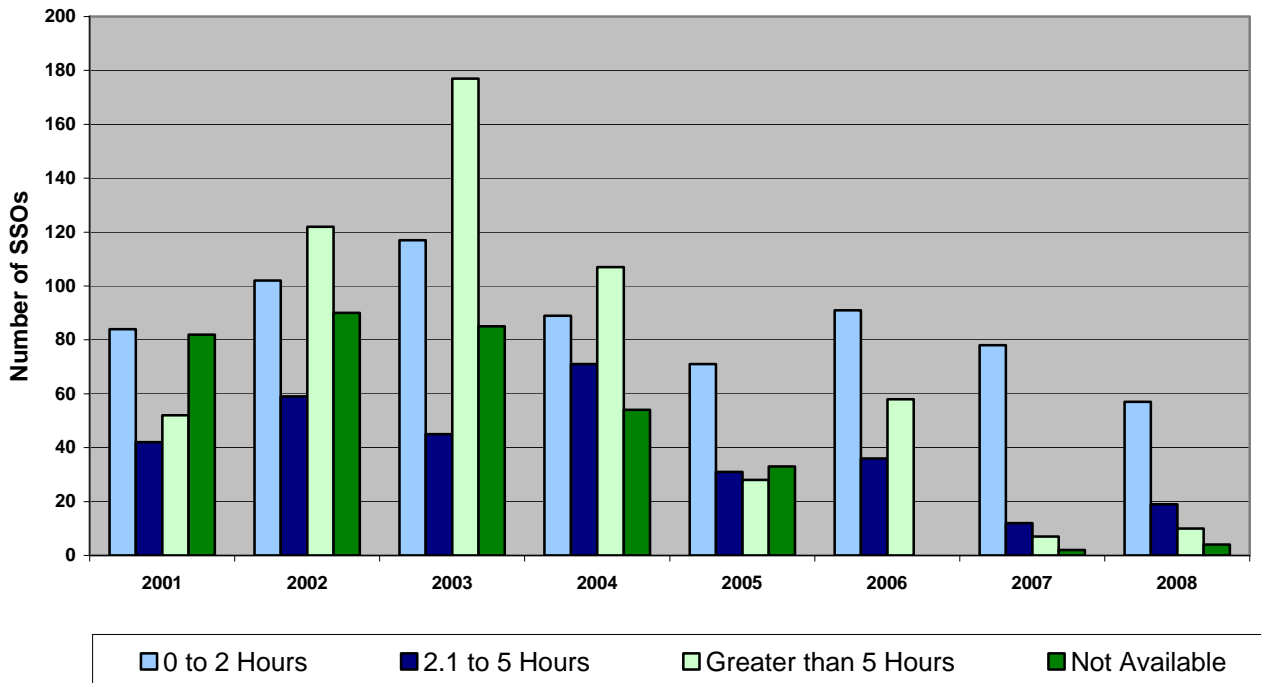
Figure 6 represents the SSO durations between 2001 and 2008. Durations are typically based on the amount of time elapsed since the overflow was first observed until the time the overflow was observed to have stopped. In cases where KUB can document or has reason to believe the overflow had been ongoing prior to observation, durations may be estimated. In many cases, KUB mitigated the overflow shortly after confirmation of the event. The SSO durations were grouped into four ranges:

- Between 0 and 2 hours
- Between 2.1 and 5 hours
- Greater than 5 hours
- Not available.

The last category describes events for which duration information was not available or was not recorded, such as for building backups.

Figure 5

Sanitary Sewer Overflow Durations (Including Building Backups)



0 to 2 hours

This category shows a steady increase until 2003 and then a decline in 2004 and 2005, followed by a slight increase in 2006. Durations again decreased in 2007 and 2008. With this category having the highest number of events from 2005 to 2008, the increased

response time directed by the SORP is evident. There was a 27 percent decrease from 2007 to 2008. The lowest annual number of occurrences was 57 in 2008, and the highest was 117 in 2003. This duration range is typically associated with blockage-related events.

2.1 to 5 hours

This category fluctuates over the timeframe. The range was from a low of 12 in 2007 to a high of 71 in 2004. Again, this duration is related to blockage and/or rain events.

Greater than 5 hours

This duration range represented the largest number of events from 2002 to 2004. The lowest annual number of occurrences was 7 in 2007, and the highest was 177 in 2003. The number of occurrences in this category increased by 52 percent from 2005 to 2006 due to the significant three-day event in September. The number of occurrences dropped significantly in 2007, but increased slightly in 2008. These durations are typically associated with rainfall events.

Not Available (N/A)

This category captures the durations for which responders were either not able to document or were not required to document according to KUB's record-keeping practices. Over 90 percent of the occurrences each year were related to building backups. Under KUB's revised SORP, crews document durations for both overflows and building backups, where sufficient data is available.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Date	Street #	Street	Plant	Watershed	Basin	Overflow Location	Private Property Location	Cause of SSO/KUB Response	Volume (Gallons)	Duration (Hours)	Event occurred two or more times within 12 months.	Long-Term Capital Project	Short-Term Controls Blockage Abatement (BA)	BA Schedule
2/21/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	1,320,000	2.5	✓	I/I Reduction	Changes to SOP and operator training	N/A
2/22/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	10,870,000	22.5	✓	I/I Reduction	Changes to SOP and operator training	N/A
4/10/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	1,740,000	3	✓	I/I Reduction	Changes to SOP and operator training	N/A
5/5/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	1,050,000	3	✓	I/I Reduction	Changes to SOP and operator training	N/A
5/6/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	22,060,000	15	✓	I/I Reduction	Changes to SOP and operator training	N/A
5/7/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	19,400,000	15.5	✓	I/I Reduction	Changes to SOP and operator training	N/A
11/6/03		KUWAHEE WWTP	KUJW	Third Creek	35B	Influent Structure		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	50,000	0.72	✓	I/I Reduction	Changes to SOP and operator training	N/A
4/8/08	2201	LAKE AVENUE	KUJW	Third Creek	35B	MH 27-14		The sewer main was flushed to remove the blockage caused by grease.	110	1		Future Construction Planned	N/A	N/A
1/30/08	2101	LAUREL AVENUE	KUJW	Third Creek	35B	MH 23-17		The sewer main was flushed to remove the blockage caused by rags and debris.	180	0.5		Future Construction Planned	N/A	N/A
2/15/05	2015	NEYLAND DR	KUJW	Third Creek	35B	#6 Digester		Foaming in the #6 digester resulted in a spill. Standard operating procedures are addressing the problem.	5500	0.5		N/A	Changes to SOP and Operator Training	N/A
2/22/05	2015	NEYLAND DR	KUJW	Third Creek	35B	#6 Digester		Foaming in the #6 digester resulted in a spill. Standard operating procedures are addressing the problem.	200	0.17		N/A	Changes to SOP and Operator Training	N/A
3/22/05	2015	NEYLAND DR	KUJW	Third Creek	35B	Filtrate Tank		The filtrate drain line was flushed to remove the blockage caused by debris.	200	0.1		N/A	Changes to SOP and Operator Training	N/A
4/2/05	2015	NEYLAND DR	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	9,000	1.5		I/I Reduction	Changes to SOP and Operator Training	N/A
5/20/05	2015	NEYLAND DR	KUJW	Third Creek	35B	Primaries # 3-4 Influent Boxes		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	500	0.17		I/I Reduction	Changes to SOP and Operator Training	N/A
8/23/05	2015	NEYLAND DR	KUJW	Third Creek	35B	Kuwahee WWTP Digester MH		Pipe capacity was exceeded with normal supernatant flow and sludge dewatering contractor discharge.	0	0.08		N/A	Changes to SOP and Operator Training	N/A
10/11/05	2015	NEYLAND DR	KUJW	Third Creek	35B	Septage Unloading Site		The sewer main was flushed to remove the blockage caused by grease.	1,726	0.45		N/A	BA/Grease Control	6 Months
12/9/04	2015	NEYLAND DR (KUWAHEE)	KUJW	Third Creek	35B	Influent Structure		Heavy rainfall in the area resulted in high flows in the collection system.	400,000	2.63		Future Construction Planned	N/A	N/A
3/3/07	2004	NEYLAND DRIVE	KUJW	Third Creek	35B	MH 1		Widespread power outages due to high winds resulted in a total power loss to the plant for 130 minutes.	1,170,000	1.5	✓	N/A	Repair Complete	N/A
9/23/06	2015	NEYLAND DRIVE	KUJW	Third Creek	35B	Secondary Splitter Box		The secondary splitter box momentarily overflowed when the intermediate storage tanks filled to their maximum capacity.	50	0.008		N/A	Changes to SOP and Operator Training	N/A
3/3/07	2015	NEYLAND DRIVE	KUJW	Third Creek	35B	Ruptured Force Main		Upon restoration of electrical power, a sump pump force main ruptured and was discharged into the ditch by a groundwater sump pump.	10,600	1		N/A	Repair Complete	N/A
2/18/08	2015	NEYLAND DRIVE	KUJW	Third Creek	35B	Primary Sludge Pipe		The leak from a primary sludge pipe was repaired.	2,128	0.083		N/A	Repair Completed	N/A
6/11/08	2015	NEYLAND DRIVE	KUJW	Third Creek	35B	MH 4-51		Line capacity was exceeded by a waste hauler.	50	0.02		N/A	Repair Completed	N/A
9/4/08	2015	NEYLAND DRIVE	KUJW	Third Creek	35B	Broken Pipe		A sewer main was damaged during excavation for a potable water line.	50	0.083		N/A	Repair Completed	N/A
9/26/06	2377	NEYLAND DRIVE	KUJW	Third Creek	35B	MHS 4-2, 4-36, 4-38 & 4-6		Rainfall amounts between 3.95" & 5.05" fell across the service area producing I & I and high flows in the sewer mains.	2045	1		Future Construction Planned	N/A	N/A
9/23/06	2015	NEYLAND DRIVE (420 If East)	KUJW	Third Creek	35B	Undesignated MH		One influent pump failed during the peak of a high influent flow event. The pump was returned to service as quickly as possible.	2300000	2.8		N/A	Changes to SOP and Operator Training	N/A
1/24/02		SECONDARY JUNCTION BOX @ KUWAHEE WWTP	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	1,000,000	20.5	✓	I/I Reduction	Changes to SOP and operator training	N/A
1/25/02		SECONDARY JUNCTION BOX @ KUWAHEE WWTP	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	50,000	2.5	✓	I/I Reduction	Changes to SOP and operator training	N/A
3/17/02		SECONDARY JUNCTION BOX @ KUWAHEE WWTP	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	450,000	9	✓	I/I Reduction	Changes to SOP and operator training	N/A
3/18/02		SECONDARY JUNCTION BOX @ KUWAHEE WWTP	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	200,000	5.5	✓	I/I Reduction	Changes to SOP and operator training	N/A
9/21/02		SECONDARY JUNCTION BOX @ KUWAHEE WWTP	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	3000	0.25	✓	I/I Reduction	Changes to SOP and operator training	N/A
2/14/03		SECONDARY JUNCTION BOX @ KUWAHEE WWTP	KUJW	Third Creek	35B	Secondary Junction Box		During high flow conditions, valve operations deemed necessary by operator to control flow into the WWTP resulted in an inadvertent overflow.	3000	0.25	✓	I/I Reduction	Changes to SOP and operator training	N/A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Date	Street #	Street	Plant	Watershed	Basin	Overflow Location	Private Property Location	Cause of SSO/KUB Response	Volume (Gallons)	Duration (Hours)	Event occurred two or more times within 12 months.	Long-Term Capital Project	Short-Term Controls Blockage Abatement (BA)	BA Schedule
5/30/08	5700	MELSTONE DRIVE	KUW	Third Creek	9	3 Lateral Cleanouts		A contractor-owned sewer plug was removed from the sewer main.	150	1		N/A	Repair Completed	N/A
6/11/08	2015	NEYLAND DRIVE	KUW	Third Creek	35B	MH 4-51		Line capacity was exceeded by a waste hauler.	50	0.02		N/A	Repair Completed	N/A
6/12/08	5246	BENT RIVER BOULEVARD	FC	Fourth Creek	43	Residential Grinder Pump		There was a mechanical failure of the residential grinder pump.	25	3		Construction Completed	Repair Completed	N/A
6/16/08	4107	ROBERTS ROAD	EB	Eastbridge	113	Residential Grinder Pump		There was a mechanical failure of the residential grinder pump.	6	1		N/A	Repair Completed	N/A
6/18/08	1721	IROQUOIS STREET	KUW	Williams Creek	25	Leaking Pipe		There was a leak in the sewer main.	5	3		N/A	Repair Completed	N/A
7/4/08	5241	BENT RIVER BOULEVARD	FC	Fourth Creek	43	Residential Grinder Pump		There was a mechanical failure of the residential grinder pump.	1	4		N/A	Repair Completed	N/A
7/7/08	4410	BUFFAT MILL ROAD	LC	Loves Creek	6	MH 29-289		The sewer main was flushed to remove the blockage caused by roots.	216	3		N/A	BA	6 Months
7/10/08	2904	MOUNT PLEASANT ROAD	KUW	Third Creek	50	MH 12-7		The sewer main was flushed to remove the blockage caused by grease and debris.	748	4		N/A	BA	12 Months
7/20/08	5900	NEUBERT SPRINGS ROAD	KUW	Knob Creek	41	Lateral Cleanout		Debris from a rehabilitation contractor caused a partial blockage. The sewer main was cleared and cleaned.	360	1		N/A	Repair Completed	N/A
7/22/08	6410	S. RUGGLES FERRY PIKE	LC	Loves Creek	62	MH 3		Power failure at the pump station caused by storm damage to the power lines.	300	1		N/A	Repair Completed	N/A
7/28/08	409	NORTH BELLEMEADE AVENUE	KUW	Third Creek	28	MH 3-53		Heavy rainfall in the area resulted in high flows in the collection system.	300	1		N/A	Repair Completed	N/A
7/30/08	5405	LANCE DRIVE	KUW	Third Creek	21	MH 10-85		The sewer main was flushed to remove the blockage caused by roots and debris.	4,900	24		N/A	BA	6 Months
8/4/08	5246	BENT RIVER BOULEVARD	FC	Fourth Creek	43	Residential Grinder Pump		There was an electrical failure of the residential grinder pump.	29	2.33		Construction Completed	Repair Completed	N/A
8/6/08	1019	OGLESBY ROAD	LC	Loves Creek	66	Leaking Force Main		The contractor was removing a temporary force main and allowed leakage to occur.	38	2		N/A	Repair Completed	N/A
8/7/08	7217	WASHINGTON PIKE	EB	Eastbridge	109	Residential Grinder Pump		There was an electrical failure of the residential grinder pump.	14	3		N/A	Repair Completed	N/A
8/14/08	5309	ROBERTS ROAD	EB	Eastbridge	113	Leaking Force Main		There was a dig-in on the force main during the installation of an electrical power pole.	5,030	2		N/A	Repair Completed	N/A
9/4/08	2015	NEYLAND DRIVE	KUW	Third Creek	35B	Broken Pipe		A sewer main was damaged during excavation for a potable water line.	50	0.083		N/A	Repair Completed	N/A
9/6/08	301	E CHURCH AVENUE	KUW	First Creek	30	MH 10-11		The sewer main was flushed to remove the blockage caused by debris.	1,438	8		N/A	BA	12 Months
9/8/08	438	MARYVILLE PIKE	KUW	South Knoxville	39	MHs 27-1, 27-2 & Leaking Pipe		The event was related to a partial failure of the pump-around process during a sewer replacement project.	1,570	12		Construction Completed	Repair Completed	N/A
9/28/08	5371	BENT RIVER BOULEVARD	FC	Fourth Creek	43	Residential Grinder Pump		There was an electrical failure of the residential grinder pump.	120	4		N/A	Repair Completed	N/A
9/30/08	5323	BENT RIVER BOULEVARD	FC	Fourth Creek	43	Residential Grinder Pump		There was a mechanical failure of an improperly-installed residential grinder pump.	150	4		N/A	Repair Completed	N/A
9/30/08	5915	CASEY DRIVE	FC	Fourth Creek	27	MH 22-8		The sewer main was flushed to remove the blockage caused by grease and roots.	375	0.25		N/A	BA/Grease Control	6 Months
10/6/08	1211	ROCKY HILL ROAD	FC	Fourth Creek	36	MH 55		The sewer main was flushed to remove the blockage caused by grease and roots.	217	1		N/A	BA/Grease Control	6 Months
10/22/08	438	MARYVILLE PIKE	KUW	South Knoxville	39	MH 27-2		The bypass pump was damaged and parts were removed overnight due to vandalism.	100,000	8		Construction Completed	Repair Completed	N/A
10/22/08	1224	MORRELL ROAD	FC	Fourth Creek	36	MH 56		The sewer main was flushed to remove the blockage caused by debris and pipe sags.	60	1.25		N/A	BA	6 Months
10/24/08	405	MERCHANTS DRIVE	KUW	Second Creek	5	Leaking Joint		The sewer main was flushed to remove the blockage caused by grease during a rainfall event.	280	1		N/A	BA	6 Months
10/29/08	4801	WILKSHIRE DRIVE	KUW	Third Creek	12	Cleanout		The sewer main was repaired and flushed to remove the blockage caused by a broken pipe.	1,500	3		N/A	Repair Completed	N/A
11/4/08	3413	PILKAY ROAD	KUW	Third Creek	28	MH 8-1		The sewer main was flushed to remove the blockage caused by grease and debris.	5,320	1		Future Construction Planned	N/A	N/A
11/5/08	1036	E EMERALD AVENUE	KUW	First Creek	17	MH 4-71		The sewer main was flushed to remove the blockage caused by roots and debris.	120	1	✓	N/A	Repair Completed	N/A
11/9/08	1036	E EMERALD AVENUE	KUW	First Creek	17	MH 4-71		The sewer main was flushed to remove the blockage caused by roots and debris.	120	1	✓	N/A	Repair Completed	N/A
11/9/08	120	MORRELL ROAD	FC	Fourth Creek	33	MH 53-8		The sewer main was flushed to remove the blockage caused by grease.	240	1		N/A	BA/Grease Control	6 Months
11/19/08	3600	KENILWORTH LANE	LC	Loves Creek	6	BBU and Service Lateral		A private contractor installing a gas main bored through the service lateral.	19	1		N/A	Repair Completed	N/A
11/22/08	3706	ROBERTS ROAD	EB	Eastbridge	113	Leaking LP Lateral		An exposed section of service lateral burst upon freezing and was repaired.	7	0.017		N/A	Repair Completed	N/A
11/27/08	8111	WASHINGTON PIKE	EB	Eastbridge	111	Leaking LP Lateral		There was a leak on the low-pressure service lateral.	90	5		N/A	Repair Completed	N/A
12/3/08	3413	KINGSTON PIKE	KUW	Third Creek	29	Broken Pipe		There was a collapsed pipe on an undesignated sewer main.	200	10		Future Construction Planned	N/A	N/A
12/3/08	1708	NUMBER TWO DRIVE	EB	Eastbridge	115	Leaking ARV		There was a leak from an air release valve on a force main.	423	4		N/A	Repair Completed	N/A
12/7/08	4209	LAMOUR DRIVE	KUW	Third Creek	28	MH 16-161		The sewer main was flushed to remove the blockage caused by roots.	30	2		N/A	BA	6 Months
12/8/08	1902	HIGHLAND DRIVE	KUW	First Creek	7	MH 17-32		The sewer main was flushed to remove the blockage caused by roots.	1,025	10		N/A	BA	6 Months
12/9/08	2007	RIDGECREST DRIVE	KUW	First Creek	4	MH 18-126		The sewer main was flushed to remove the blockage caused by roots.	561	5		N/A	BA	6 Months
12/10/08	1210	E. MOODY AVENUE	KUW	South Knoxville	40	MH 39		Heavy rainfall in the area resulted in high flows in the collection system.	1,100	4		Future Construction Planned	N/A	N/A
12/10/08	615	SEVIER AVENUE	KUW	South Knoxville	40	MH 1-43 & BBU		The sewer main was flushed to remove the blockage caused by debris during heavy rainfall.	615	3		Current 5 Yr Plan	BA/Grease Control	3 Months
12/11/08	4144	OAKLAND DRIVE	KUW	First Creek	2	MH 39-4		Heavy rainfall in the area resulted in high flows in the collection system.	150	2	✓	Current 5 Yr Plan	N/A	N/A
12/11/08	7112	SHADYLAND DRIVE	FC	Fourth Creek	36	MH 36		Heavy rainfall in the area resulted in high flows in the collection system.	62	1		Current 5 Yr Plan	BA	6 Months
12/11/08	1216	WATERCRESS DRIVE	KUW	First Creek	7	MH 29-9		Heavy rainfall in the area resulted in high flows in the collection system.	65	1		N/A	BA	6 Months
12/13/08	8112	AINSWORTH DRIVE	FC	Fourth Creek	32B	MH 4-46		The sewer main was flushed to remove the blockage caused by roots and debris.	2,160	12		N/A	BA	6 Months
12/21/08	6902	S. NORTHSHORE DRIVE	FC	Fourth Creek	36	MH 12-62		The sewer main was flushed to remove the blockage caused by debris.	360	1		N/A	BA	6 Months

2001-2008 Building Backups

Date	Street #	Street	Plant	Watershed	Basin	Backup Location	Event included in SSOER	Cause of Backup/KUB Response	Volume	Duration (Hours)	Event Occurred two or more times within 12 months	Long-Term Capital Project	Short-Term Controls Blockage Abatement (BA)	BA Schedule
3/6/07	3831	TALILUNA AVENUE	KUW	Third Creek	38	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	3	0.5		N/A	B A	3 Months
4/8/05	143	INGERSOLL AVE	KUW	South Knoxville	39	Building Backup		Building backup due to sewer main flushing.	N/A	N/A		N/A	Changes to SOP and Operator Training	12 Months
5/29/07	1705	SOUTH HILLS DRIVE	KUW	South Knoxville	39	Building Backup		A contractor-operated bypass pump failed during a sewer main replacement project.	244	1		N/A	Repair Complete	N/A
6/5/07	1705	SOUTH HILLS DRIVE	KUW	South Knoxville	39	Building Backup		There was a brief surcharge in the sewer main during restoration.	0	0.05	✓	N/A	Repair Complete	N/A
1/27/05	1109	SPRUCE DR	KUW	South Knoxville	39	Building Backup		Building backup due to sewer main flushing.	N/A	N/A		N/A	Changes to SOP and Operator Training	6 Months
1/17/06	4132	W MARTIN MILL PIKE	KUW	South Knoxville	39	Building Backup & MH 62-1	✓	The sewer main was flushed to remove the blockage caused by grease and influenced by heavy rainfall.	1	0.05		Future Construction Planned	BA/Grease Control	6 Months
4/12/06	2408	ABERDEEN LANE	KUW	South Knoxville	40	Building Backup		Routine sewer main flushing resulted in a building backup at this residence.	10	0.5		Construction Completed	Changes to SOP and Operator Training	N/A
5/22/07	2408	ABERDEEN LANE	KUW	South Knoxville	40	Building Backup		Routine sewer main flushing by a private contractor resulted in a building backup at this residence.	4	0.05		N/A	Operator Training	12 Months
8/3/05	2135	BEREA AVE	KUW	South Knoxville	40	Building Backup		A pressure regulator malfunctioned during the air test of a new CIPP liner installation causing a blast of air back up the sewer lateral.	1	<0.01		Construction Completed	N/A	N/A
7/22/06	1115	E RED BUD ROAD	KUW	South Knoxville	40	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	2	0.5		N/A	BA	6 Months
7/7/05	1907	ISLAND HOME AVE	KUW	South Knoxville	40	Building Backup		The new CIPP liner collapsed causing a partial blockage in the sewer main while I & I caused high flows. The CIPP liner was repaired.	60	1		Construction Completed	BA	3 Months
9/5/05	3433	JUNE ST	KUW	South Knoxville	40	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	100	48		N/A	BA	6 Months
5/16/07	909	KINGLAND AVENUE	KUW	South Knoxville	40	Building Backup		Routine sewer main flushing by a private contractor resulted in a building backup at this residence.	3	0.05		N/A	Operator Training	N/A
8/17/05	2314	LLOYD AVE	KUW	South Knoxville	40	Building Backup		Building backup due to sewer main flushing.	2	0.03		Construction Completed	Changes to SOP and Operator Training	N/A
1/3/06	2810	MAYFAIR DRIVE	KUW	South Knoxville	40	Building Backup		Routine sewer main flushing by a private contractor resulted in building backup at this residence.	1	0.01		Construction Completed	Changes to SOP and Operator Training	N/A
12/27/04	1822	PRICE AVE	KUW	South Knoxville	40	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	N/A	N/A	✓	N/A	BA	6 Months
4/14/01	615	SEVIER AVE	KUW	South Knoxville	40	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	N/A	N/A	✓	Future 5 Yr Plan	BA	3 Months
3/19/02	615	SEVIER AVE	KUW	South Knoxville	40	Building Backup & MH 1-43	✓	The sewer main was flushed to remove the blockage caused by grease and debris.	N/A	N/A	✓	Future 5 Yr Plan	BA	3 Months
3/22/04	1024	VALLEY AVE	KUW	South Knoxville	40	Building Backup		The back-up occurred while maintenance crews were flushing the sewer main outside the house.	N/A	N/A		N/A	Changes to SOP and Operator Training	N/A
2/22/05	1024	VALLEY AVE	KUW	South Knoxville	40	Building Backup		Building backup due to sewer main flushing.	N/A	N/A		N/A	Changes to SOP and Operator Training	3 Months
2/22/05	1025	VALLEY AVE	KUW	South Knoxville	40	Building Backup		Building backup due to sewer main flushing.	N/A	N/A		N/A	Changes to SOP and Operator Training	3 Months
9/30/02	418	WOODLAWN PK	KUW	South Knoxville	40	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	N/A	N/A		N/A	BA	12 Months
4/15/05	418	WOODLAWN PK	KUW	South Knoxville	40	Building Backup		The sewer main was flushed to remove the unidentified blockage.	N/A	N/A		N/A	BA	12 Months
4/4/05	708	EDWARDS DR	KUW	Knob Creek	41	Building Backup		Building backup due to sewer main flushing.	N/A	N/A		Construction Completed	Changes to SOP and Operator Training	N/A
07/08/08	102	LAKEVIEW DRIVE	KUW	Knob Creek	41	Building Backup		Failure by contractor to reinstate the service connection after sewer rehabilitation.	94	Unknown		N/A	Repair Completed	N/A
2/28/05	114	LINDY DR	KUW	Knob Creek	41	Building Backup		Building backup due to sewer main flushing.	N/A	N/A		Construction Completed	Changes to SOP and Operator Training	N/A
3/3/05	4725	PROSPECT RD	KUW	Knob Creek	41	Building Backup		The sewer main was under construction for CIPP lining when the event occurred.	N/A	N/A		Construction Completed	Changes to SOP and Operator Training	N/A
9/13/05	312	STONE RD	KUW	Knob Creek	41	Building Backup		A private contractor failed to notify the customer to refrain from water usage during the installation of a CIPP liner in the sewer main.	5	0.5		Construction Completed	Changes to SOP and Operator Training	N/A
5/8/07	7309	HARDY LANE	LC	Loves Creek	63	Building Backup		Routine sewer main flushing by a private contractor resulted in a building backup at this residence.	1	0.05		Project Complete	N/A	N/A
10/26/06	7556	PALMER LANE	LC	Loves Creek	63	Building Backup		Routine sewer main flushing resulted in a building backup at this residence.	1	0.02		N/A	BA	6 Months
5/30/06	714	DRAKEWOOD DRIVE	EB	Eastbridge	72	Building Backup		Routine sewer main flushing resulted in a building backup at this residence.	2	0.07		N/A	Changes to SOP and Operator Training	N/A
12/27/07	2013	COUNTRYHILL LANE	FC	Fourth Creek	32A	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	<1	<0.05		N/A	B A	12 Months
11/6/06	8323	CORTLAND DRIVE	FC	Fourth Creek	32B	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	80	72		N/A	BA	6 Months
10/19/05	315	JAMES AGEE ST	KUW	Second Creek	35A	Building Backup		The service lateral was not reconnected to the sewer main during a construction project.	800	24		N/A	Repair Completed	N/A

2001-2008 Building Backups

Date	Street #	Street	Plant	Watershed	Basin	Backup Location	Event included in SSOER	Cause of Backup/KUB Response	Volume	Duration (Hours)	Event Occurred two or more times within 12 months	Long-Term Capital Project	Short-Term Controls Blockage Abatement (BA)	BA Schedule
2/11/07	3807	LONAS DRIVE	KUW	Third Creek	25	Building Backup		The sewer main was flushed to remove the blockage caused by grease.	400	2		N/A	B A / Grease Control	12 Months
3/6/07	3831	TALILUNA AVENUE	KUW	Third Creek	38	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	3	0.5		N/A	B A	3 Months
4/15/07	4105	MILTON STREET	KUW	First Creek	16	Building Backup		The sewer main was flushed to remove the blockage caused by roots, grease and debris.	2150	Unknown		N/A	B A / Grease Control	6 Months
5/7/07	401	GEORGIA STREET	KUW	First Creek	24	Building Backup		The sewer main was flushed to remove the blockage caused by debris due to a broken pipe.	2	0.25		N/A	Repair Complete	N/A
5/8/07	7309	HARDY LANE	LC	Loves Creek	63	Building Backup		Routine sewer main flushing by a private contractor resulted in a building backup at this residence.	1	0.05		Project Complete	N/A	N/A
5/15/07	220	CLINCH AVENUE	KUW	First Creek	30	Building Backup		A contractor inadvertently left a sewer plug in a customer's service lateral after a manhole rehabilitation.	300	3		N/A	Repair Complete	N/A
5/16/07	909	KINGLAND AVENUE	KUW	South Knoxville	40	Building Backup		Routine sewer main flushing by a private contractor resulted in a building backup at this residence.	3	0.05		N/A	Operator Training	N/A
5/22/07	4 & 2408	ABERDEEN LANE	KUW	South Knoxville	40	Building Backup		Routine sewer main flushing by a private contractor resulted in a building backup at this residence.	4	0.05		N/A	Operator Training	12 Months
5/29/07	1705	SOUTH HILLS DRIVE	KUW	South Knoxville	39	Building Backup		A contractor-operated bypass pump failed during a sewer main replacement project.	244	1	✓	N/A	Repair Complete	N/A
6/5/07	1705	SOUTH HILLS DRIVE	KUW	South Knoxville	39	Building Backup		There was a brief surcharge in the sewer main during restoration.	0	0.05	✓	N/A	Repair Complete	N/A
6/30/07	5901	LOICE LANE	LC	Loves Creek	20	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	100	2		N/A	B A	6 Months
7/28/07	3808	KINCAID STREET	KUW	First Creek	16	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	225	1		N/A	B A	6 Months
7/28/07	1434	NOLAN AVENUE	KUW	Third Creek	22	Building Backup		The sewer main was flushed to remove the blockage caused by grease.	450	1.5		N/A	B A / Grease Control	6 Months
8/2/07	4213	WALROCK LANE	KUW	Third Creek	12	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	540	1.66		N/A	B A	12 Months
8/3/07	4416	DEERFIELD ROAD	KUW	Third Creek	11	Building Backup		The sewer main was flushed to remove the blockage caused by grease and roots.	75	1		N/A	B A / Grease Control	12 Months
8/19/07	3550	PLEASANT RIDGE ROAD	KUW	Third Creek	22	Building Backup		The sewer main was flushed to remove the blockage caused by grease and debris.	8,860	2		N/A	B A / Grease Control	1 Month
8/23/07	501 W.	MAIN STREET	KUW	Second Creek	23	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	100	1		N/A	B A	6 Months
8/23/07	6220	WESTERN AVENUE	KUW	Third Creek	11	Building Backup		The sewer main was flushed to remove the blockage caused by grease.	10	1		N/A	B A / Grease Control	3 Months
8/29/07	3428	LAKE VIEW DRIVE	KUW	Third Creek	38	Building Backup		The sewer main was flushed to remove the blockage caused by roots and debris.	1,870	1.5		N/A	B A	6 Months
10/12/07	530	S. GAY STREET	KUW	First Creek	30	Building Backup		The broken sewer pipe was repaired.	24,480	4		Project Complete	N/A	N/A
11/15/07	3254	WILDERNESS ROAD	KUW	First Creek	18	Building Backup		Routine sewer main flushing resulted in a building backup at this residence.	5	0.08		N/A	Operator Training	N/A
11/26/07	1316	KIRBY ROAD	FC	Fourth Creek	33	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	250	5		N/A	B A	3 Months
11/27/07	2905	BELLEVUE STREET	KUW	First Creek	16	Building Backup		The sewer main was flushed to remove the blockage caused by roots and debris.	91	5		N/A	B A	6 Months
12/14/07	503	HOUSTON STREET	KUW	Williams Creek	19	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	32	0.5		N/A	B A	12 Months
12/27/07	2013	COUNTRYHILL LANE	FC	Fourth Creek	32A	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	<1	<0.05		N/A	B A	12 Months
01/25/08	2446	MARTIN L. KING JR. AVE	KUW	Williams Creek	19	Building Backup		The contractor did not re-establish the service connection after a rehabilitation project.	450	Unknown		N/A	Repair Completed	N/A
02/04/08	3500	ARGYLE DRIVE	LC	Loves Creek	26	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	2	0.5		N/A	B A	6 Months
07/08/08	102	LAKEVIEW DRIVE	KUW	Knob Creek	41	Building Backup		Failure by contractor to reinstate the service connection after sewer rehabilitation.	94	Unknown		N/A	Repair Completed	N/A
08/07/08	2428	LAWSON AVENUE	KUW	First Creek	17	Building Backup		A plug failure occurred during a post-construction pipe pressure test by the contractor.	3	0.001		N/A	Repair Completed	N/A
10/08/08	2800	FAIRVIEW STREET	KUW	First Creek	16	Building Backup		The sewer main was flushed to remove the blockage caused by grease and roots.	200	1		N/A	BA/Grease Control	6 Months
11/01/08	4707	SEMINOLE ROAD	KUW	First Creek	7	Building Backup		The sewer main was flushed to remove the blockage caused by grease and roots.	50	1.5		N/A	BA/Grease Control	3 Months
11/15/08	3321	GODFREY STREET	KUW	First Creek	16	Building Backup		The sewer main was flushed to remove the blockage caused by roots.	100	5.25		Future Construction Planned	N/A	N/A
12/10/08	5816	HOLSTON HILLS ROAD	LC	Loves Creek	26	Building Backup		There was a power failure at a pump station.	50	1		N/A	Repair Completed	N/A
12/22/08	105	SOUTH GAY STREET	KUW	First Creek	30	Building Backup		The sewer main was flushed to remove the blockage caused by debris.	10	0.5		N/A	B A	6 Months

Table with 15 columns: 1 Date, 2 Street #, 3 Street, 4 Plant, 5 Watershed, 6 Basin, 7 Overflow Location, 8 Private Property Location, 9 Cause of SSO/KUB Response, 10 Volume (Gallons), 11 Duration (Hours), 12 Event occurred two or more times within 12 months, 13 Long-Term Capital Project, 14 Short-Term Controls Blockage Abatement (BA), 15 BA Schedule. Rows list various incidents with details on location, cause, volume, duration, and abatement schedule.

