

Downers Grove  
  
Sanitary District

2710 Curtiss Street

P.O. Box 1412

Downers Grove, IL 60515-0703

Phone: 630-969-0664

Fax: 630-969-0827

# Inflow and Infiltration Removal

# Downers Grove Sanitary District Background

- Special unit of local government
- Responsible for wastewater collection and treatment
- Operates 237 miles of public sewers
- Operates 9 pumping stations
- Operates one WWTF rated at 11 MGD
- 20 square mile service area
- Western suburbs of Chicago, Illinois
- 21,062 building connections
- Serves approximately 62,000 people

# Downers Grove Sanitary District I/I Problem – History

- Building Inspections and Code Enforcement
  - Began in 1973
  - Identify illegal connections (downspouts, sump pumps, etc.)
  - Every building has been inspected at least once
  - 99% Compliance

# Downers Grove Sanitary District

## I/I Problem – History

- SSES and Sewer Rehab in 1980s (USEPA grant)
  - Sewer System Evaluation Survey – 1981
    - Determine most cost effective combination of sewer system and treatment improvements
    - SSES – Over 15,000 manhours
    - Recommend combination of sewer rehabilitation and additional capacity (transport and treatment)
    - Projected peak flow = 85.44 mgd
    - Peak flow after rehab = 60.0 mgd (25.44 mgd removal)
  - Facility Plan Report approved by IEPA

# Downers Grove Sanitary District

## I/I Problem – History

- Scope of Improvements – 1980s
  - Total Cost \$18.9M
  - Excess Flow Improvements
    - 40 mgd capacity
    - Cost \$7M
  - Trunk Sewer Capacity
    - Approximately 29,000 LF of pipe 10” - 36”
    - Approximately 11,000 LF of Large Diameter 42”-54”
    - Approximately 13,000 LF of force main
    - Total Cost = \$9.8M
  - Sewer Rehabilitation
    - \$2.1M
  - USEPA Grant

DOWNERS GROVE SANITARY DISTRICT  
SEWER SYSTEM EVALUATION SURVEY

TABLE VIII

IDENTIFIED SOURCES OF INFILTRATION/INFLOW AND  
SCOPE OF REHABILITATION PROJECT

<u>Sources</u>	<u>Infiltration Identified (gpm)</u>	<u>Inflow Identified (gpm)</u>	<u>Infil. Eliminated (gpm)</u>	<u>Proposed Rehabilitation</u>		<u>Total Cost</u>
				<u>Inflow Eliminated (gpm)</u>	<u>Ineligible Cost</u>	
Open Joints and Broken Pipe	51	3,514	10	3,063	\$ 0	\$ 918,105
House Services	458	4,903	90	4,427	480,190	745,720
Manholes	522	2,802	251	2,709	0	407,380
Downspouts and Area Drains	<u>0</u>	<u>2,555</u>	<u>0</u>	<u>2,545</u>	<u>59,500</u>	<u>64,600</u>
Total	1,031	13,774	351	12,744	\$539,690	\$2,135,805

# Downers Grove Sanitary District I/I Problem – History

- Continuing SSES in late 1980s and 1990s
  - Smoke testing
  - Continue building inspections and code enforcement

# Downers Grove Sanitary District Flow Basin I-J-16 Pilot Rehab project

- February 1994 to May 1997
- Install CIPP (liner) in 5,316 LF of sewer
- Grout and install liner in 16 manholes
- Install CIPP in 69 of 85 services from main to property line
- Total Cost = \$419,193
- No reduction in I/I

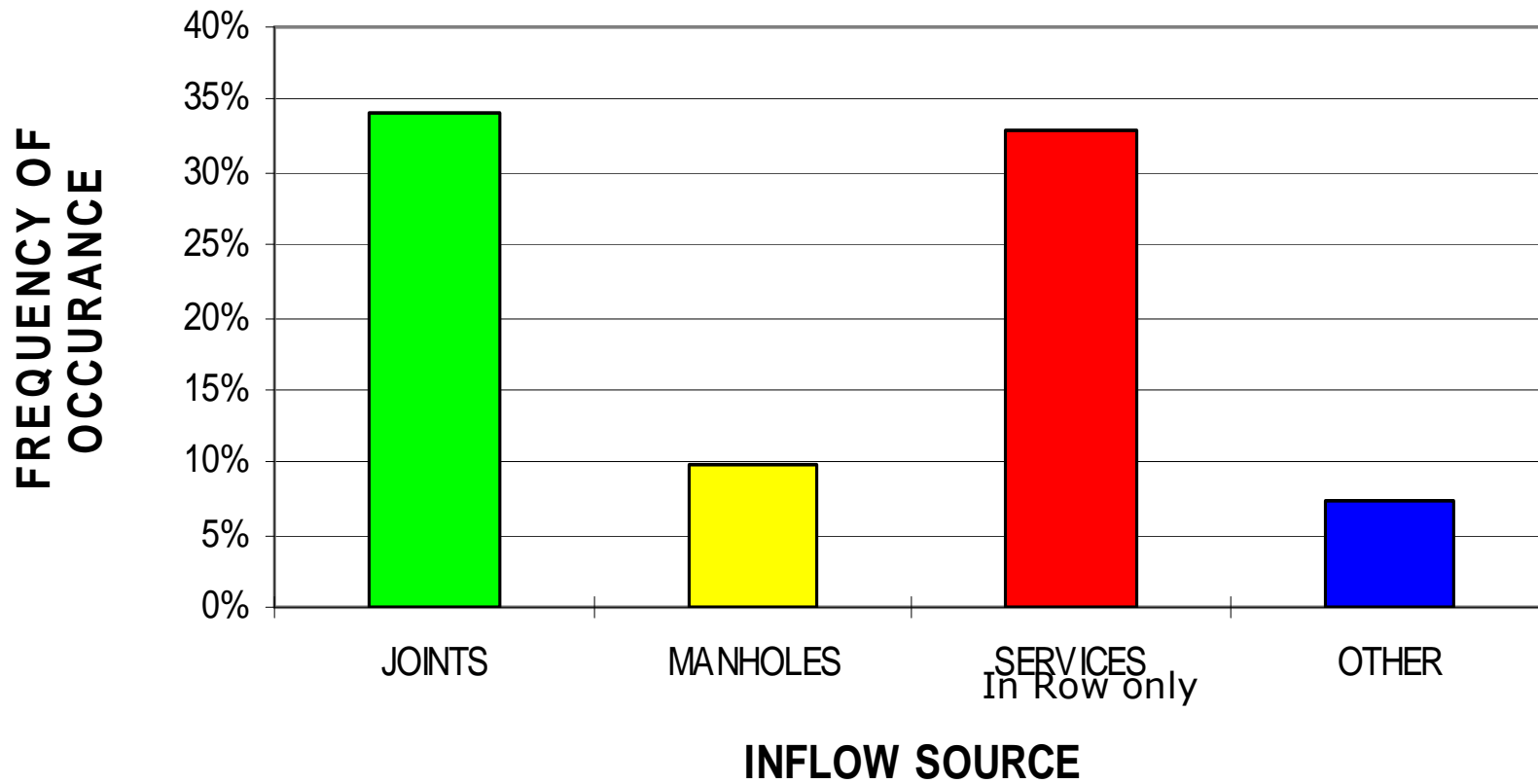
# Downers Grove Sanitary District I/I Problem – History

- Continuing SSES in late 1980s and 1990s (Flood Testing)
  - 1997 Flood Testing
    - 102 setups, approx 30,000 LF of sewer
    - Identified 1600 gpm of I/I
    - 90% of defects were joints, manholes and services (infiltration)
    - Only 3 sections with I/I greater than 100 gpm
  - 1998 Flood Testing
    - 25 setups, approx 7,500 LF of sewer
    - Only 98 gpm of I/I identified
  - 1999 Flood Testing
    - 23 setups, approx 7,000 LF of sewer
    - Only 1100 gpm of I/I identified

**Downers Grove Sanitary District  
1997 Dyed Water Flood Testing**

**EXHIBIT 3**

**Mainline Sewer Testing - Inflow Source Summary**



# Downers Grove Sanitary District I/I Problem – History

- Continued I/I problems despite SSES efforts
  - Normal dry weather flow = 8 mgd
  - Peak wet weather flow > 90 mgd
  - New direction needed

# Sewer System Annual Budget

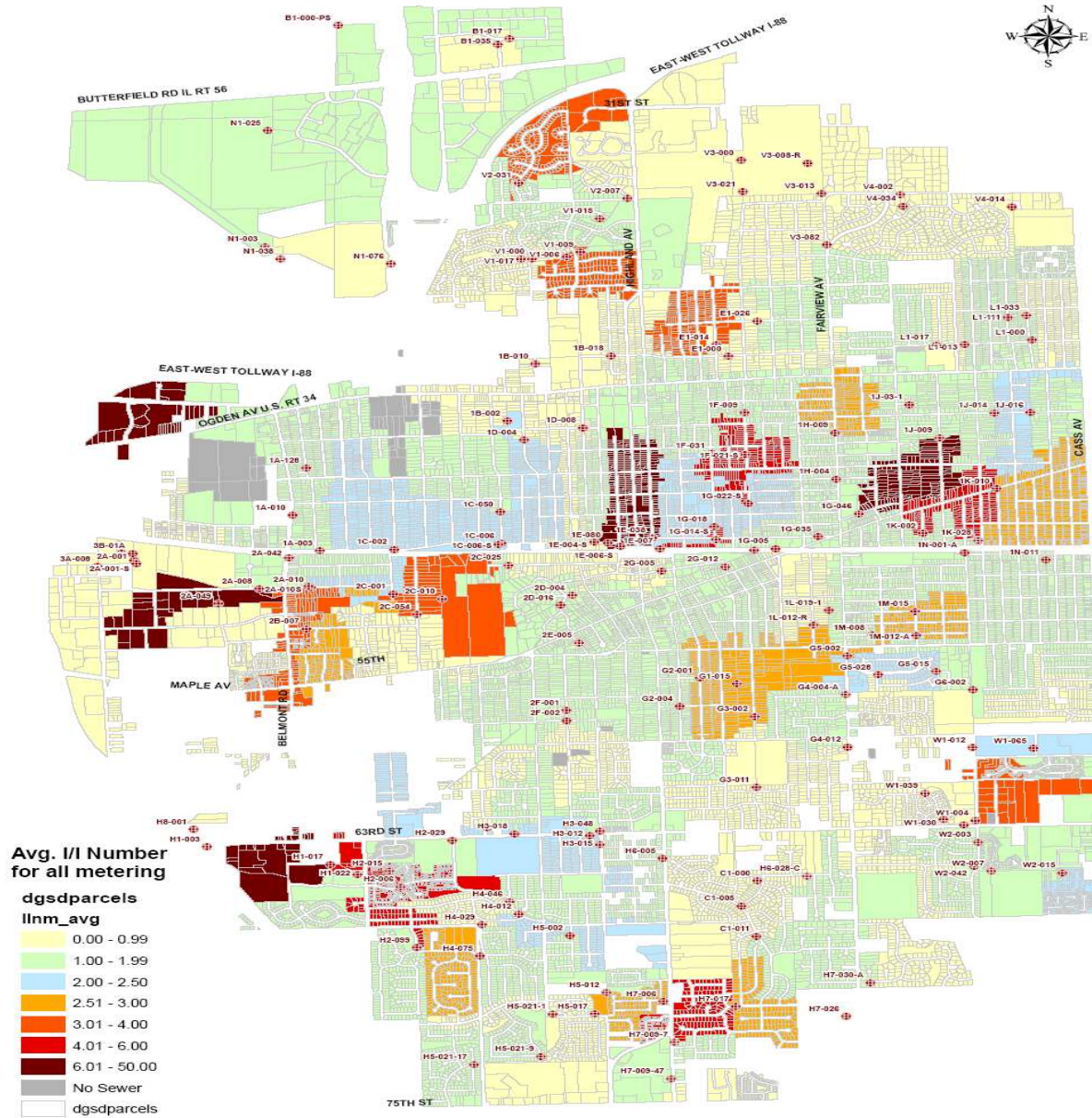
- Total \$2,455,000
- 1/3 of District's General Expenses
- \$380,000 salaries and wages
- \$1,900,000 sewer repairs
- \$175,000 equipment, supplies, misc

# Downers Grove Sanitary District Current Sewer Rehabilitation Policy

- Flow Monitoring Program
  - Program started in September 1996
  - Divide District into 151 flow meter basins
  - 147 Metering sites (Manholes)
  - Approx 8,200 LF of public sewer per basin
  - Meter basin for 9 week period every 3 years
  - Utilize portable Marsh-McBirney Flo-Totes for sewers
  - Install magnetic flow meters at pump stations
  - Purchase and install 6 rain gauges

# Downers Grove Sanitary District Current Sewer Rehabilitation Policy

- Flow Monitoring Program
  - Data Analysis
    - Determine I/I in each flow basin
      - I/I Number
    - Compare flow basin I/I numbers to prioritize rehabilitation work
    - GIS map of I/I numbers



By GMR Date: July 31, 2005

# Downers Grove Sanitary District Current Sewer System Programs

- Developed Multiple Programs, All Have Elements of I/I Removal
  - Overhead Sewer Program
  - Building Sanitary Service Repair Assistance Program (BSSRAP)
  - Target Area I&I Removal Program

# Downers Grove Sanitary District

## I/I Problem – History

- Building Inspections
  - Began in 1973
  - Identify illegal connections (downspouts, sump pumps, etc.)
  - Every building has been inspected at least once
- SSES and Sewer Rehab in 1980s (USEPA grant)
- Continuing SSES in late 1980s and 1990s
  - Flow monitoring
  - Smoke testing
  - Flood testing

# Downers Grove Sanitary District Current Sewer Rehabilitation Policy

- DGSD and Baxter & Woodman, Inc. implement new flow monitoring program
  - Program started in September 1996
  - Divide District into 151 flow meter basins
  - Approx 8,200 lineal feet of public sewer per basin
  - Meter basin for 9 week period every 3 years
  - Utilize portable Marsh-McBirney Flo-Totes for sewers
  - Install magnetic flow meters at pumping stations

# Downers Grove Sanitary District Current Sewer Rehabilitation Policy

- Implement new sewer rehabilitation policy
  - Establish criteria for prioritizing sewer rehab projects:
    - I/I reduction projects – Target Rehab basin
    - Road Construction projects – review sewer condition and make repairs before road work
    - Maintenance projects – identify trouble spots in the sewer system

# Downers Grove Sanitary District Sewer Rehab Policy – I/I Reduction

- Select Target Rehabilitation Basin
  - Develop Criteria / Scoring System based on:
    - Frequency of SSOs
    - Frequency of Basement Backups
    - Flow Monitoring Data
    - System Age

# Downers Grove Sanitary District BSSRAP – Program Development

- Studied for one year
- Survey sent to 20,000 building owners
- Received 5,000 completed surveys
- Prepared 231 page summary of results
- Majority of surveys favored the program
- Developed estimates of annual program costs

# Downers Grove Sanitary District BSSRAP - Procure sewer contractor

- Scope of work includes
  - Outside cleanouts
  - Point repairs
  - Total service replacement
  - Air testing
- Estimated quantities based on repair records and survey results

# Downers Grove Sanitary District BSSRAP - Procure sewer contractor

- Contract Requirements
  - Work to be complete within 6 weeks of receiving work order
  - Emergency repairs to be started the next day
  - Contract Renewal
    - 5 year renewal period
    - Adjust unit prices based on CPI
    - Provides incentive for Contractor to satisfy and partner with DGSD

# Downers Grove Sanitary District BSSRAP – Outline of Program

- Building Owner submits documentation of sewer problems
- DGSD televises sewer, inspects building and identifies defects
- DGSD determines needed repairs
- DGSD identifies I/I sources that must be removed

# Downers Grove Sanitary District BSSRAP – Outline of Program

- Building Owner signs 2 agreements:
  - Program Compliance Agreement
  - Access Agreement
- Access agreement is recorded
- DGSD Contractor completes repair within 6 weeks
- DGSD arranges for removal of I/I sources

# Downers Grove Sanitary District BSSRAP Program Costs

- Program Costs very close to initial estimate
- Approximately \$3 per month per account
- As of February 29, 2008, after approximately 5 years 10 months-
  - 1219 total repairs
  - Represents 5% of connected buildings
  - Total construction cost of approximately \$1,900,000
- Feedback from owners has been extremely positive

# Downers Grove Sanitary District Overhead Sewer Program

- Program adopted August 1997
- 50% reimbursement up to \$2,500, increased to \$3,000 in 2005
- Removal of I/I sources at DGSD expense
- Status as of October 2001:
  - 78 buildings converted to overhead sewer
  - Total cost to DGSD approximately \$140,000
  - 0.4% of buildings connected to the system

# USER & SERVICE FEES

- The District's user charge consists of two components – a volume charge based on water consumption and a monthly service fee. Effective April 15, 2007, the volume charge is \$1.60 per 1000 gallons of water consumption (\$1.20 per 100 cubic feet) and the monthly fee is \$7.50 per account.
- Commercial and industrial users may also be subject to a surcharge and a sampling and monitoring fee.

# Downers Grove Sanitary District

## Additional I/I Control: New Connections and Extensions

### ■ Connections

- Install cleanout at transition (4" to 6")
- Replace service pipe from cleanout to main
- Air test new service (\$800 each)
- 734 services tested from 8/1/01 to 3/31/07
- Televis and provide video inspection
- Drawing with as-built measurements
- Access agreement for future work

### ■ Extension

- Air Test all Mains
- Vacuum Test manholes

# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- Develop new rehab approach
- Private property inspections
  - Illegal connections
  - Flood test and building service video inspection
  - Access agreement
- Complete system rehabilitation
  - Line mains and air test
  - Grout and replace manholes
  - Line services and air test
  - Eliminate private property I/I sources

# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- Select I-H-9 Flow Basin as first target basin
  - 188 Building connections
  - Approx. 8,300 LF of sewer and 32 manholes
- Flow Data
  - 60 gpm ADF to 1,200 gpm peak flow
- Preliminary SSES work and results
  - Flood testing
  - Smoke testing
  - Small amount of I/I identified
- Inadequate storm drainage

# Main Lining

- Awarded contract to Visu-Sewer
- All liners in the mains passed an air-test before the laterals were reinstated
- Steam cured liners failed air-test, had to be re-lined
- Water cured liners passed the air test the first time

# Private Property Work

- Notice to Homeowners
- Schedule inspection
- Identify defects in building sanitary service
- Identify I&I sources
- Videos
- Inspection form

**BUILDING INSPECTION FORM**

OCCUPANT NAME _____	COMPLETED _____
ADDRESS _____	NOT HOME _____
PHONE NUMBER _____	REFUSE ENTRY _____
OWNER NAME (IF DIFFERENT) _____	VACANT _____
OWNER PHONE (IF DIFFERENT) _____	OTHER _____

DATE: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME: \_\_\_\_\_

INSPECTION CREW: \_\_\_\_\_

BUILDING TYPE (CIRCLE ONE) HOUSE TOWNHSE APT COMM INDUSTR SCHOOL CHURCH

UPSTREAM MANHOLE \_\_\_\_\_ DOWNSTREAM MANHOLE \_\_\_\_\_

**INTERIOR INSPECTION**

**A Storm Sump Pump**

1 Sump Pump Exists \_\_\_\_\_ Y N

2 Number of Pipes Entering Pit \_\_\_\_\_

Check that pipes are connected to footing tile \_\_\_\_\_

3 Discharge Location \_\_\_\_\_

4 Sump pit sealed \_\_\_\_\_ Y N

5 Sump pit condition: Wet Dry Active Water \_\_\_\_\_

6 Drain/Overflow in sump pit \_\_\_\_\_ Y N

**B Sanitary Sump Pump**

1 Sump Pump Exists \_\_\_\_\_ Y N

2 Number of Pipes Entering Pit \_\_\_\_\_

Check that upstream pipes were inspected \_\_\_\_\_

3 Foundation Drains Connected \_\_\_\_\_ Y N

4 Pipe Material \_\_\_\_\_

5 Pit Material \_\_\_\_\_

6 Condition of Pits Walls Bottom \_\_\_\_\_

7 List Plumbing Features Draining to Sump \_\_\_\_\_

8 Other \_\_\_\_\_

**C Floor Drain**

1 Number of Drains \_\_\_\_\_

2 Pipe Material \_\_\_\_\_

3 Drain Condition \_\_\_\_\_

4 Evidence of Leakage \_\_\_\_\_ Y N

5 Other \_\_\_\_\_

**D Sewer Service Data (Check One)**

1 Service Under Basement Floor \_\_\_\_\_ Y N

2 Overhead Sewer \_\_\_\_\_ Y N

3 Part Basement/Service / Part Overhead Sewer \_\_\_\_\_ Y N

**E Foundation Data**

1 Slab on Grade \_\_\_\_\_ Y N

2 Crawl space \_\_\_\_\_ Y N

3 Full Depth Basement \_\_\_\_\_ Y N

4 Shallow Depth Basement (Less than 4') \_\_\_\_\_ Y N

5 Combination - specify space \_\_\_\_\_

**E Outside Cleanout**

1 Outside Cleanout Exists \_\_\_\_\_ Y N

2 Location \_\_\_\_\_

3 Height above ground surface \_\_\_\_\_

4 Condition \_\_\_\_\_

5 Evidence of Leakage \_\_\_\_\_ Y N

**F Cisterns**

1 Cistern Exists \_\_\_\_\_ Y N

2 Condition \_\_\_\_\_

**G Catch Basins**

1 Catch Basin Exists \_\_\_\_\_ Y N

2 Discharge Location \_\_\_\_\_

3 Purpose \_\_\_\_\_

**H Yard Drain**

1 Yard Drain Exists \_\_\_\_\_ Y N

2 Discharge Location \_\_\_\_\_

**I Sewer depth at nearest manhole \_\_\_\_\_**

**J Other \_\_\_\_\_**

**INTERVIEW**

**A Name of Person Interviewed \_\_\_\_\_**

**B How long have they lived in the home? \_\_\_\_\_**

**C Have they ever experienced a sanitary sewer backup? \_\_\_\_\_ Y N**  
If yes, proceed to question D. If no, proceed to question L

**Sanitary Backup**

**D Describe the water** Clear and Odorless \_\_\_\_\_  
Raw Sewage \_\_\_\_\_  
Combination \_\_\_\_\_

**E Where did the water come from** Floor Drain \_\_\_\_\_ Laundry Tub \_\_\_\_\_  
Toilet \_\_\_\_\_ Other (specify) \_\_\_\_\_  
Cracks in Floor \_\_\_\_\_

**F Average number of times per year that sanitary backup occurs \_\_\_\_\_**

**G When did the last sanitary backup occur? \_\_\_\_\_**

**H How long did the backup last? \_\_\_\_\_**

**I Did it start immediately before or during the backup? \_\_\_\_\_ Y N**

**J How deep was the back-up? \_\_\_\_\_**

**K How much of the basement was flooded? \_\_\_\_\_**

**L Did they call the District to report the back-up? \_\_\_\_\_ Y N**

**Stormwater Backup**

**M Have they ever experienced basement flooding (stormwater)? \_\_\_\_\_ Y N**

**N Average Number of times per year \_\_\_\_\_**

**O After?** Light rainstorms \_\_\_\_\_ Y N  
Heavy Rain storms \_\_\_\_\_ Y N  
Snow melt \_\_\_\_\_ Y N

**P Source of flooding** Cracks in Floor \_\_\_\_\_ Y N  
Cracks in Walls \_\_\_\_\_ Y N  
Basement Window \_\_\_\_\_ Y N  
Floor Drain \_\_\_\_\_ Y N  
Other \_\_\_\_\_ Y N

**Q How often do sump pumps run? \_\_\_\_\_**

**F Other**

**1 Cleanouts** Number \_\_\_\_\_  
Locations \_\_\_\_\_  
Depth to basement floor \_\_\_\_\_ ft

**2 Sewer Back-up Prevention Devices**

Standpipe _____	Y	N
Plug _____	Y	N
Check valve _____	Y	N
Gate Valve _____	Y	N
Other (specify) _____		

**3 Location where Sanitary exits house (label on diagram)**  
Distance from House corner \_\_\_\_\_

**4 Location where Storm Sump Pump exits house (label on diagram)**  
Distance from House corner \_\_\_\_\_

**5 Location where Water enters house (label on diagram)**  
Distance from House corner \_\_\_\_\_

**6 Air conditioning condensate line** \_\_\_\_\_ Y N  
Discharges to \_\_\_\_\_

**7 Humidifier condensate line** \_\_\_\_\_ Y N  
Discharges to \_\_\_\_\_

**8 Distance from window well sill to basement floor \_\_\_\_\_**

**9 Distance from ground to window well sill \_\_\_\_\_**

**10 Distance from top of footing tile to basement floor \_\_\_\_\_**

**11 What access is available for televising \_\_\_\_\_**

**EXTERIOR INSPECTION**

**A Downspouts**

1 Number \_\_\_\_\_

2 Discharge Location \_\_\_\_\_

**B Window Wells**

1 Number \_\_\_\_\_

2 Drains \_\_\_\_\_ Y N

3 Discharge Location \_\_\_\_\_

**C Alleyway or stoop drains**

1 Number \_\_\_\_\_

2 Discharge Location \_\_\_\_\_

3 Size of Area Drained \_\_\_\_\_ ft by \_\_\_\_\_ ft

4 Extent of Flood Damaging \_\_\_\_\_

5 Will drain take runoff from surface beyond slope \_\_\_\_\_ Y N

6 Describe the drainage area (% impervious) \_\_\_\_\_

7 Other \_\_\_\_\_

**D Driveway Drain**

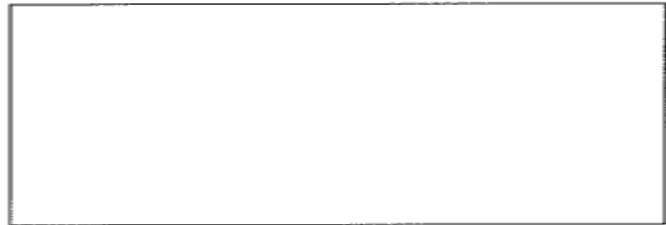
1 Location (inside/outside garage door) \_\_\_\_\_

2 Size of Driveway Area drained \_\_\_\_\_ ft by \_\_\_\_\_ ft

3 Type of Driveway \_\_\_\_\_

4 Will drain take runoff from surface beyond driveway \_\_\_\_\_ Y N

5 Other \_\_\_\_\_



**HOUSE DIAGRAM**

- Items to Label**
- 1 Storm Sump Pit Location
  - 2 Sanitary Sump Pump Location
  - 3 Location and Distance of Water and Sanitary Services
  - 4 Location and Distance of Storm Sump Pump Discharge



# Paperwork

- Application for assistance
  - Sanitary District will do most repairs for code compliance at no charge.
- Program agreement
  - Owner agrees to all program requirements.
- Access agreement
  - Allow access for repairs and testing, recorded on deed to remain in place with property, not owner.

# Downers Grove Sanitary District Target I/I Rehab Basin – Service Lining

- Selection of service rehab process
  - Non-leaking connection at main
  - Minimize disruption
  - Ability to air test
  - Rehab from main to transition at the building

# Downers Grove Sanitary District Target I/I Rehab Basin – Service Lining

- Awarded to Performance Pipelining (T-liner)
- Contract Renewal
  - 5 year renewal period
  - Adjust unit prices based on CPI
  - Provides incentive for Contractor to satisfy and partner with DGSD

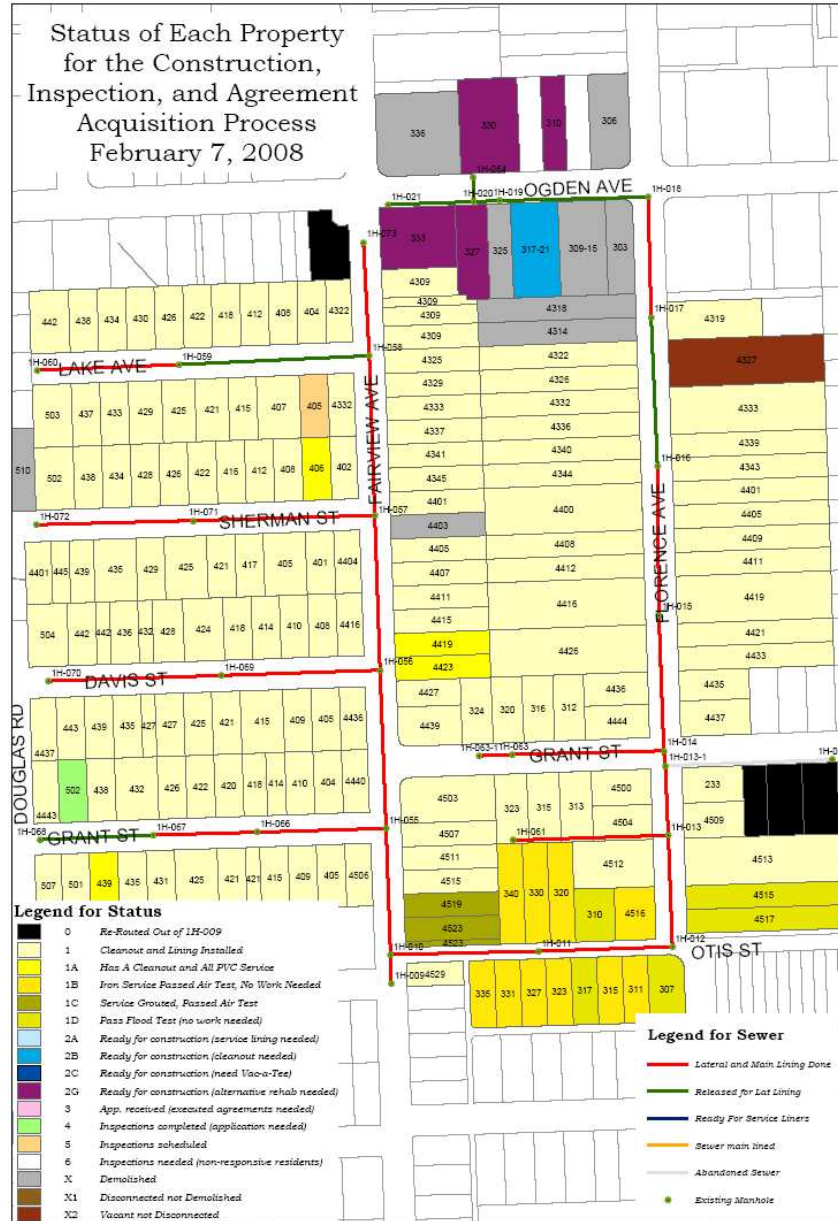
# Downers Grove Sanitary District Target I/I Rehab and BSSRAP

- Current Status of Target Basin I/I Rehab
  - Main lining and MH rehab completed
  - Service lining began fall 2004
    - 142 liners installed
    - Substantial completion August 2007
    - Currently working on punch list
  - Private Property work in progress
  - Total Cost – Approx \$1,500,000
    - Mains - \$418,000
    - Manholes - \$47,000
    - Services - \$1,013,000



# DOWNERS GROVE SANITARY DISTRICT IH-9 BASIN REHABILITATION PROJECT

Status of Each Property  
for the Construction,  
Inspection, and Agreement  
Acquisition Process  
February 7, 2008



# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- I-M-12A
  - 211 Building Connections
  - Approx. 9,442 LF of sewer
  - 34 manholes
- Flow Data
  - 60 gpm ADF
  - 2,019 gpm peak flow



# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- Previous SSES work
  - Smoke Testing
  - Flood Testing
  - Manhole Inspections
  - Small amount of I/I identified

# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- Previous work to alleviate SSO
  - Hydraulic improvements
    - 18-inch Trunk Sewer on 8<sup>th</sup> Avenue
    - Eliminate 90 angle at 8<sup>th</sup> and Cumnor
    - De-scaling of downstream CI Trunk Sewer
  - Sewer Rehabilitation
    - Sewer Lining (CIPP) - Approx 50% of mains in 1990s

# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- Hydraulic Analysis Report
  - XP-SWMM Model
  - System Capacity = 512 gpm
  - Alternatives to eliminate overflow
    - Increase Capacity
    - Boltdown Covers
    - Increase Capacity and boltdown
    - I/I Removal
  - 45% - 75% I/I Removal required
  - Select I/I Removal Alternative

DGSD - 10-Year Event - Reach 1 Exhibit 2

Day [0] Time 11:13:00 Step 673



581.6      1123.2      1684.8      2246.4      2808.0      3369.6      3931.2      4492.8      5054.4

60 Link59 Link58 Link57 Link56 Link55 Link54 Link53 Link52 Link51 Link50 Link49 Link48 Link47 Link46 Link45 Link44 Link43 Link42 Link41 Link40 Link39 Link38 Link37 Link36 Link35 Link34 Link33 Link32 Link31 Link30 Link29 Link28 Link27 Link26 Link25 Link24 Link23 Link22 Link21 Link20 Link19 Link18 Link17 Link16 Link15 Link14 Link13 Link12 Link11 Link10 Link9 Link8 Link7 Link6 Link5 Link4 Link3 Link2 Link1 Link0

0.20 0.55 5.44 8.04 10.78 13.42 16.06 18.70 21.34 23.98 26.62 29.26 31.90 34.54 37.18 39.82 42.46 45.10 47.74 50.38 53.02 55.66 58.30 60.94 63.58 66.22 68.86 71.50 74.14 76.78 79.42 82.06 84.70 87.34 89.98 92.62 95.26 97.90 100.54 103.18 105.82 108.46 111.10 113.74 116.38 119.02 121.66 124.30 126.94 129.58 132.22 134.86 137.50 140.14 142.78 145.42 148.06 150.70 153.34 155.98 158.62 161.26 163.90 166.54 169.18 171.82 174.46 177.10 179.74 182.38 185.02 187.66 190.30 192.94 195.58 198.22 200.86 203.50 206.14 208.78 211.42 214.06 216.70 219.34 221.98 224.62 227.26 229.90 232.54 235.18 237.82 240.46 243.10 245.74 248.38 251.02 253.66 256.30 258.94 261.58 264.22 266.86 269.50 272.14 274.78 277.42 280.06 282.70 285.34 287.98 290.62 293.26 295.90 298.54 301.18 303.82 306.46 309.10 311.74 314.38 317.02 319.66 322.30 324.94 327.58 330.22 332.86 335.50 338.14 340.78 343.42 346.06 348.70 351.34 353.98 356.62 359.26 361.90 364.54 367.18 369.82 372.46 375.10 377.74 380.38 383.02 385.66 388.30 390.94 393.58 396.22 398.86 401.50 404.14 406.78 409.42 412.06 414.70 417.34 420.00 422.64 425.28 427.92 430.56 433.20 435.84 438.48 441.12 443.76 446.40 449.04 451.68 454.32 456.96 459.60 462.24 464.88 467.52 470.16 472.80 475.44 478.08 480.72 483.36 486.00 488.64 491.28 493.92 496.56 499.20 501.84 504.48 507.12 509.76 512.40 515.04 517.68 520.32 522.96 525.60 528.24 530.88 533.52 536.16 538.80 541.44 544.08 546.72 549.36 552.00 554.64 557.28 560.00

308.00 280.00 229.00 287.00 308.00 243.00 244.00 238.00 220.00 411.00 329.00 333.00 335.00 311.00

# Downers Grove Sanitary District Target I/I Rehabilitation Basin

- I-M-12A Rehabilitation Schedule
  - Manhole Inspections – Complete
  - Sewer Televising – Complete
  - Survey work – Complete
  - House inspections
    - 90% complete by July 2008
  - Determine Rehabilitation Scope and Cost
    - September 2007

# Downers Grove Sanitary District 1M-012-A Rehabilitation Area Status 4/4/2007



**Legend For Status**

	Inspection Needed
<b>Status</b>	
	Shared Unable To TV
	Disconnected Not Demolished
	Ready For Construction (Cleanout Needed)
	Appointment No Show
	Inspection Scheduled
	Inspection Done(Needs LETS TV)
	Inspection Done(application needed)

**Legend for Sewers**

**Mainlines**

**Material**

- DIP
- Lined
- VCP
- Existing Manhole

# Downers Grove Sanitary District Sewer System Rehabilitation Program

## ■ Summary

- No quick fix to I/I
- Must view sewer system as a whole
- Removal of private I/I is crucial
- Ability to test sewer system for leaks
- Encourage partnership with contractors
- Sewer system data and record keeping
- Impact of I/I Removal on inadequate storm drainage

# Questions?

- Nicholas Menninga, General Manager
  - Downers Grove Sanitary District
  - 630-969-0664
  - [nmenninga@dgsd.org](mailto:nmenninga@dgsd.org)
- 
- Bob Swirsky, Sewer System Maintenance Supervisor
  - Downers Grove Sanitary District
  - 630-969-0664
  - [bswirsky@dgsd.org](mailto:bswirsky@dgsd.org)