

# Clinton Oakland Management and Reporting System Improvements



Rochester Hills City Council  
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# Project Team Introductions

## OCDC:

John McCulloch

Doug Buchholz

Tim Prince

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## OHM:

Vyto Kaunelis

Robert Czachorski

## Steering Committee:

Terry Biederman, Waterford Township

Ron Melchert, Auburn Hills

Roger Rouse, Rochester Hills

# 1996 Management Agreement

- Recognized the importance of managing capacity in the system
- Allows for a maximum assignment capacity above the purchased capacities for the seven communities along the Clinton-Oakland branch
- Stipulated a monthly penalty and other disincentives for exceeding purchased capacity
- Interceptor I/I & penalties will be allocated based on purchased capacity

# Objectives of the Reporting System

- Enforce the COSDS 1996 Management Agreement
- Bill based on more equitable methodology
- Encourage incentives for I/I control & reduction
- Proactively meet the State SSO Policy
- Serve as a diagnostic tool for system performance

# Review Billing Procedures

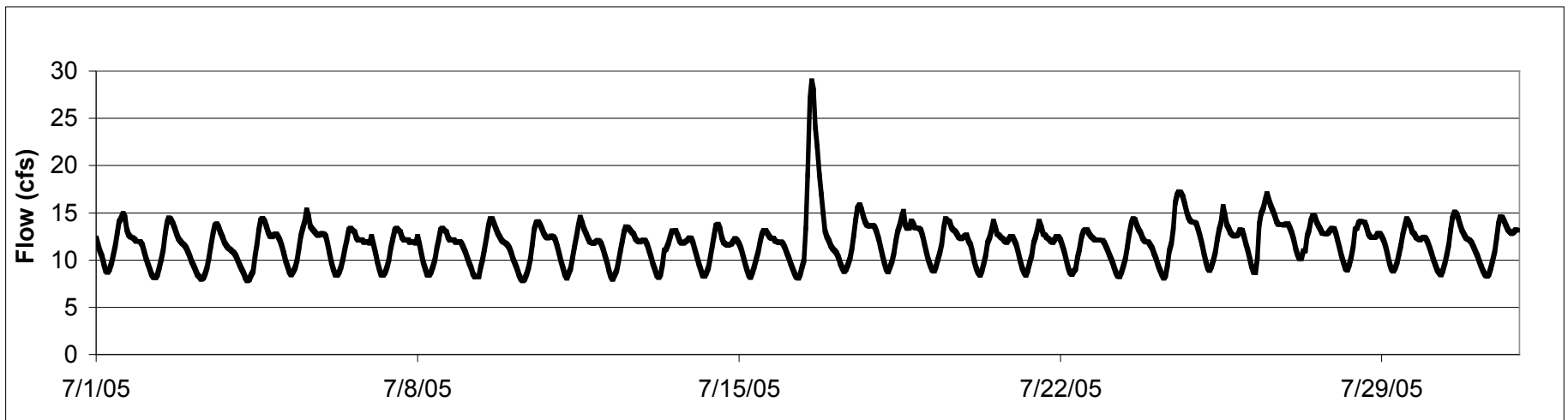
- Previous billing was based primarily on REUs
- New bill = total volume + peak flow charge
- Mock bills for new methodology computed for 1 year prior to implementation
- New billing system planned to be on line July 2007

# Metering System Enhancements

1. 28 new meters have been added to the system to improve accuracy of results
2. Periodic meter dye testing to verify accuracy of meters
3. Interceptor I/I allocation methodology
4. Mass flow balance tool
5. Hydraulic model to account for routing effects
6. Wet weather hydrologic models to verify peak flow rates

# Billing Procedure - Volume

- Base charge for total volume from each CVT
- Interceptor I/I adjustments will be made to appropriately distribute these costs
- New meters provide much better estimates
- Recognize that sewage flow metering is not an exact science



# Results

- Two quarters processed so far:
- Q4 2006: July 2006 - September 2006
- Q1 2007: October 2006 - December 2006
- Q2 2007 is in progress



# Billing Methodology Comparison

- Accounts for actual sewerage generation
- Accounts for I/I levels in local systems
- Accounts for interceptor I/I

CVT	Current Methodology (REU Basis)	New Methodology (Flow Basis)	Variance (\$)	Variance (%)
Auburn Hills	\$3,578,251	\$2,665,046	-\$913,205	-25.5%
Independence Township	\$1,660,044	\$1,573,364	-\$86,680	-5.2%
Oakland Township	\$493,627	\$565,528	\$71,901	14.6%
Orion Township	\$2,577,793	\$2,243,197	-\$334,596	-13.0%
Rochester Hills	\$5,088,384	\$5,692,729	\$604,345	11.9%
Waterford Township	\$5,255,850	\$5,967,187	\$711,337	13.5%
West Bloomfield Township	\$1,255,350	\$1,353,656	\$98,306	7.8%
Lake Orion Village	\$240,209	\$320,787	\$80,578	33.5%
Oxford Township	\$737,848	\$614,966	-\$122,882	-16.7%
Oxford Village	\$279,209	\$336,963	\$57,754	20.7%
City of Rochester	\$1,307,258	\$1,140,414	-\$166,844	-12.8%
<b>Total</b>	<b>\$22,473,823</b>	<b>\$22,473,837</b>	<b>\$14</b>	<b>0.0%</b>

# Peak Flow Results

Peak Flow Summary Fourth Quarter, 2006 (July 1 - September 30, 2006)			
Community	Purchased Capacity (cfs)	Max Assignment Capacity (cfs)	Peak Flow (cfs)
<b>Base Contract</b>			
AHC	9.20	15.00	8.47
INT/CLV	8.80	10.50	5.24
ORT	4.00	8.50	2.62
RHC	19.60	37.50	15.62
WAT	37.46	45.00	19.09
WBT	5.12	9.00	4.84
<b>Paint Creek Contract</b>			
OAT	5.61	N/A	1.92
ORT	8.84	N/A	6.80
LOV	1.84	N/A	1.22
OXT	6.73	N/A	2.62
OXV	3.20	N/A	1.49
<b>Gibson Arm</b>			
RHC	30.00	N/A	5.01

Peak Flow Summary First Quarter, 2007 (October 1 - December 31, 2006)			
Community	Purchased Capacity (cfs)	Max Assignment Capacity (cfs)	Peak Flow (cfs)
<b>Base Contract</b>			
AHC	9.20	15.00	9.93
INT/CLV	8.80	10.50	5.32
ORT	4.00	8.50	2.83
RHC	19.60	37.50	19.68
WAT	37.46	45.00	29.76
WBT	5.12	9.00	6.60
<b>Paint Creek Contract</b>			
OAT	5.61	N/A	4.80
ORT	8.84	N/A	5.25
LOV	1.84	N/A	1.19
OXT	6.73	N/A	2.88
OXV	3.20	N/A	1.69
<b>Gibson Arm</b>			
RHC	30.00	N/A	9.01

# Billing System Conclusions

- Recognize that sewage flow metering is not an exact science
- But remember the objectives:
  - ✦ Bill based on more equitable methodology
  - ✦ Enforce the operating agreements
  - ✦ Serve as a diagnostic tool for system performance
  - ✦ Encourage incentives for I/I control & reduction
  - ✦ Proactively meet the State SSO Policy
- Flow metering meets the objectives better than current REU methodology