



# Using Benchmarks to Address Metering Issues

PNWS-AWWA Conference  
Spokane, Washington  
May 8, 2013

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City of Hillsboro

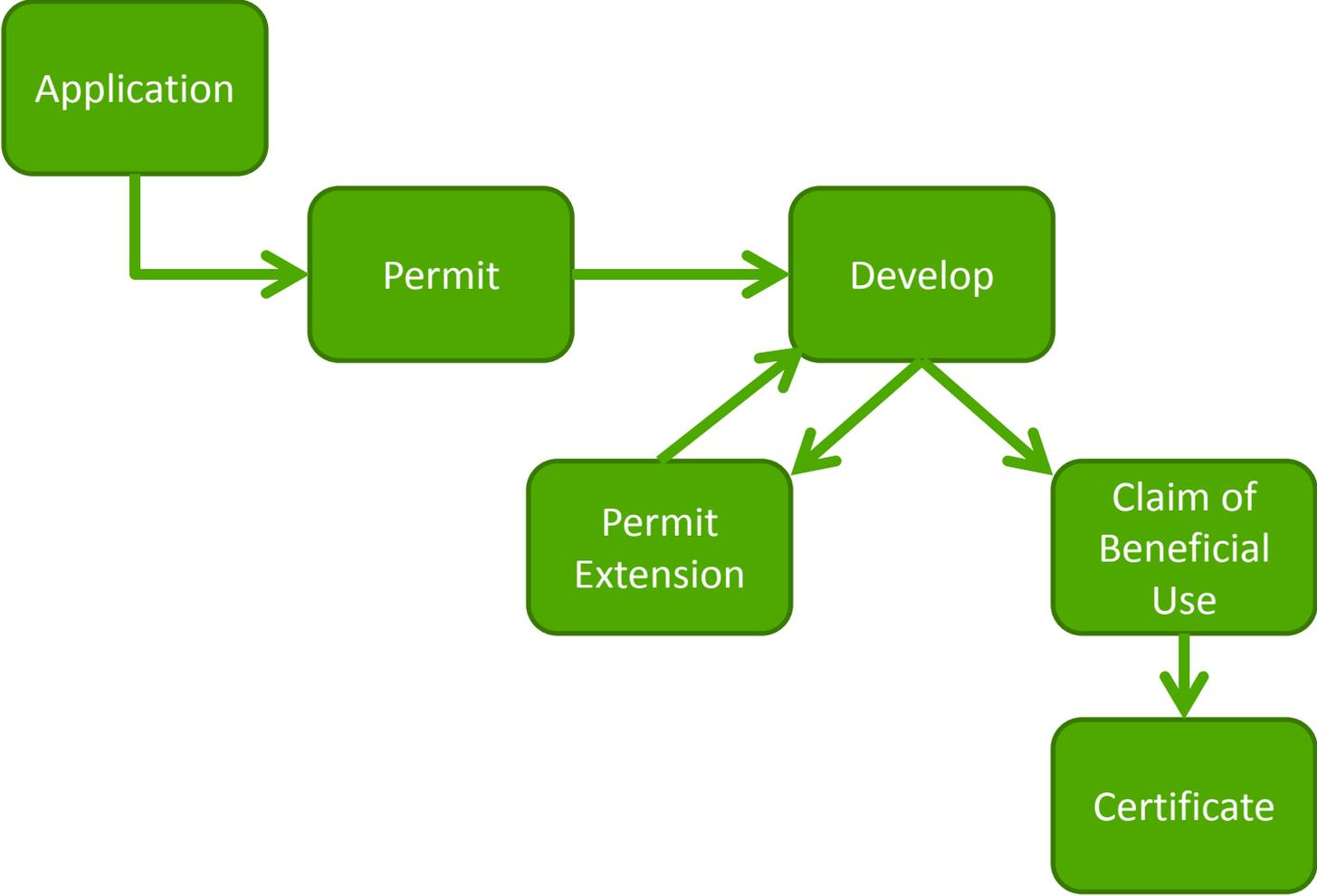


# Waste

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Continued use of more water than is needed to satisfy the beneficial use

# Oregon Water Rights Process



# Water Management and Conservation Plans

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Oregon's way to

Ensure efficient water use

Identify system leakage

Facilitate water supply planning

Utilizes benchmarks

# Water Audit



City of Hillsboro  
 Hillsboro Civic Center, 1<sup>st</sup> Floor  
 150 E. Main St.  
 Hillsboro, OR 97123-4028  
 503-681-6163  
 www.ci.hillsboro.or.us

## UTILITY BILL

Account Number      Customer Number      Bill Number  
**54321**      -      **123456**      **355549**  
 Service Dates      Current Bill Due Date  
 04/01/11 to 05/30/11      06/25/2011

Customer Name - DOE, JOHN DOE, JANE  
 Service Address - 1 SW CITY

### Message Center

CONSERVING WATER IN WINTER CAN REDUCE SEWER AND WATER BILLS. YOUR WATER USE FROM NOVEMBER TO APRIL DETERMINES YOUR SEWER USE CHARGE. EACH JULY 1ST THE USE CHARGE IS ADJUSTED BASED ON WATER USE THE PREVIOUS WINTER. CONSERVE NOW TO SAVE ON SEWER AND WATER BILLS.

### City of Hillsboro Water Charges

Description	Meter	Previous Meter Reading	Current Meter Reading	Usage (100 Cubic Feet)	Charge
Residential Water Base					\$19.29
Residential Water Usage	52121761	0	16	16	19.20
<b>Water Subtotal</b>					<b>\$38.49</b>

### City of Hillsboro Transportation Charges

Description	Charge
Residential Trans Utility Fee	\$6.20
<b>Transportation Subtotal</b>	<b>\$6.20</b>

### Clean Water Services & City of Hillsboro Sewer & Surface Water Management Charges

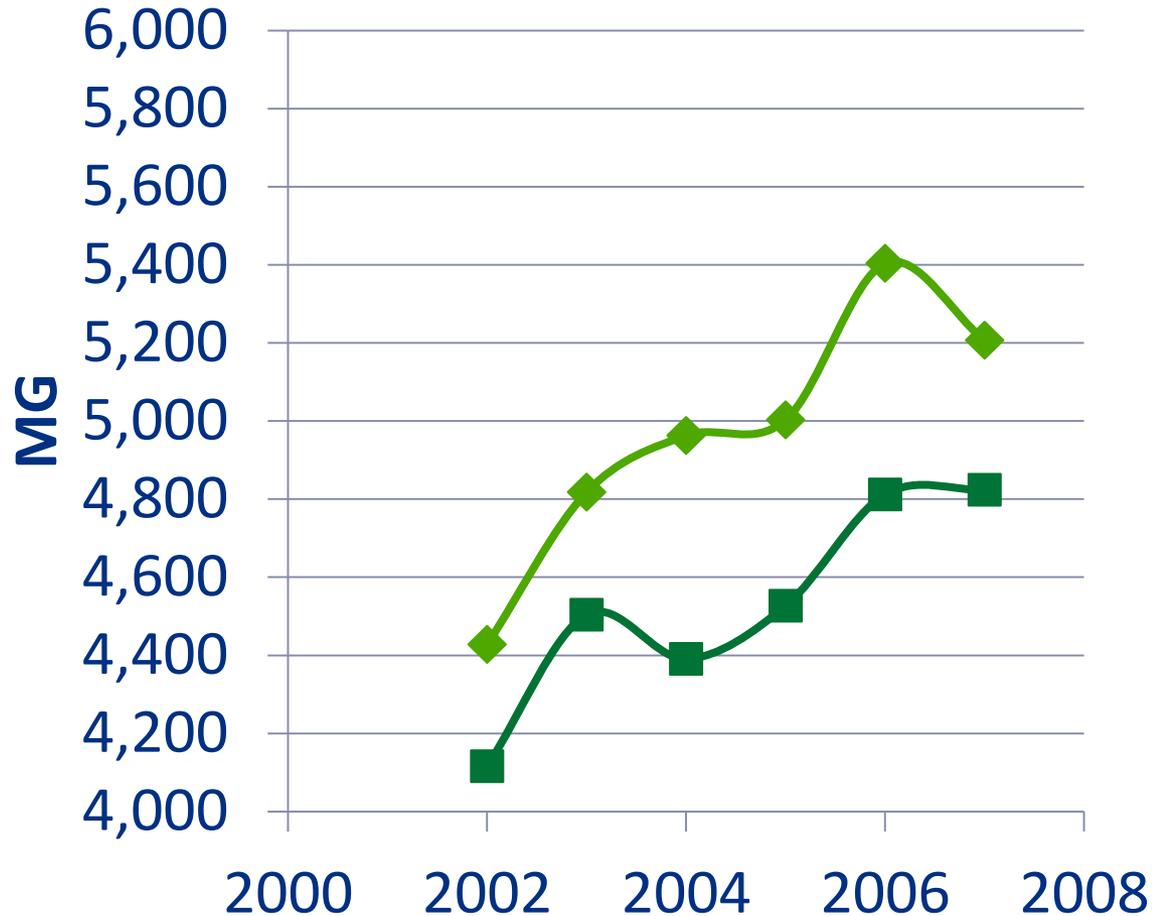
Description	Usage (100 Cubic Feet)	Charge
Residential Sewer Base		\$44.92
Residential Sewer Usage	16	24.00
Residential Surface Water Mgmt		9.50
<b>Sewer/Surface Water Management Subtotal</b>		<b>\$78.42</b>



# Water Audit



# Hillsboro Water Audit



An average system gain of 10%.

# Mainline Replacement

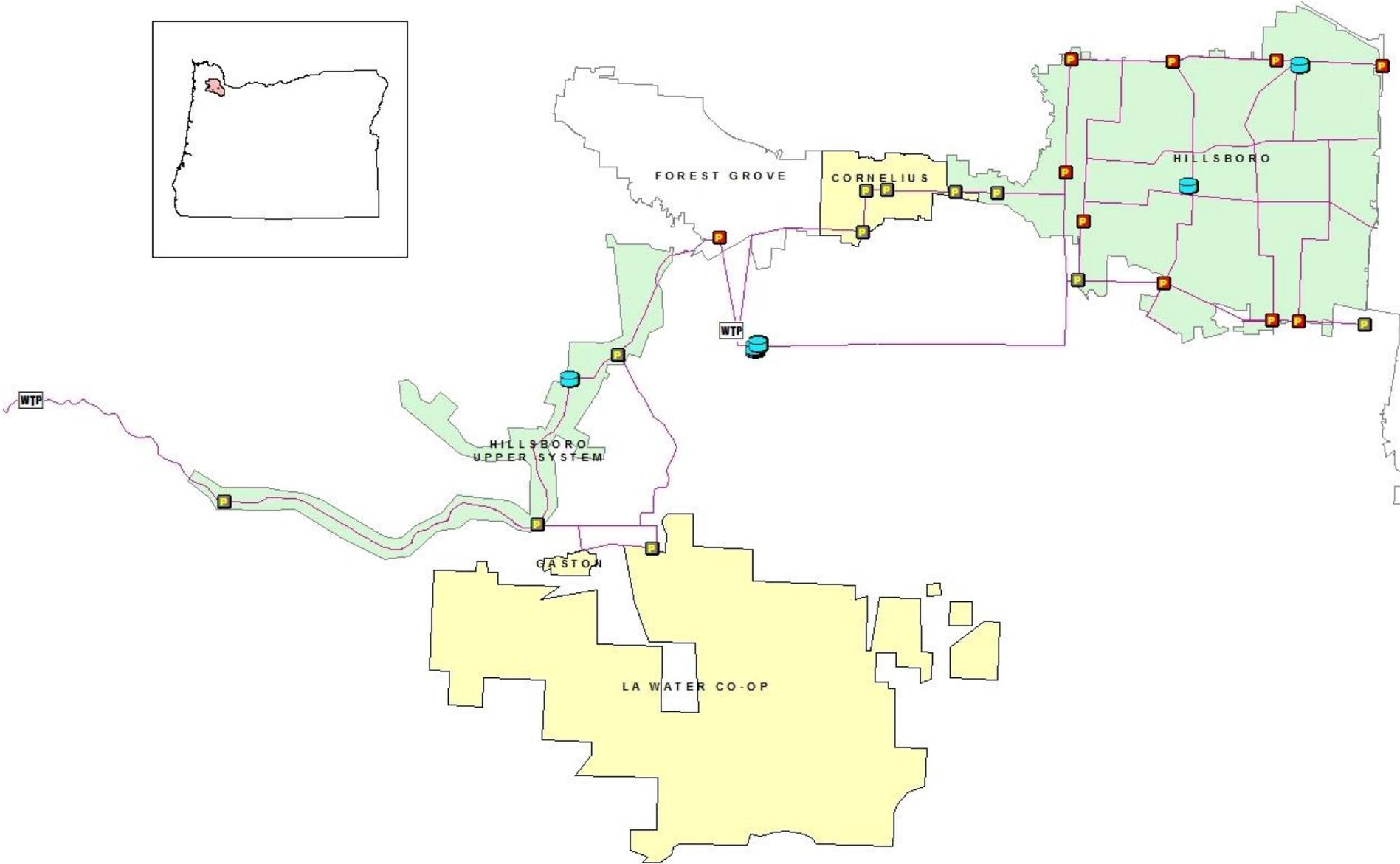


# Leak Detection & Repair



# Metering



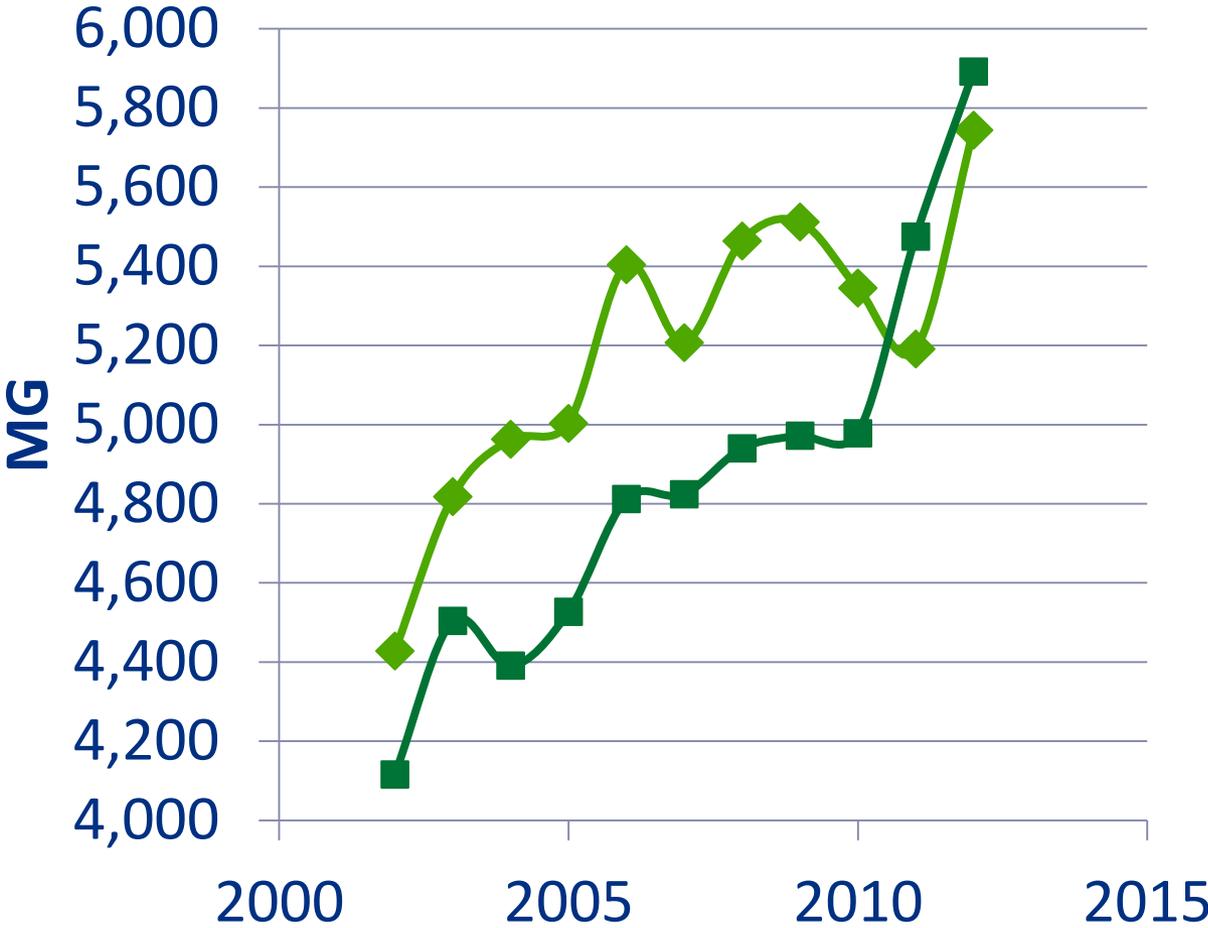


# Benchmarks

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- Replace all sonic meters with magnetic meters within 5 years
- AMR installment and replacement for customer meters
- Establish a metered bulk water program
- Purchase additional leak detection equipment

# Hillsboro Water Audit



Reversed a 9-year system gain of 10% to a 3% loss

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Most large unaccounted for water rates can be attributed to metering or billing issues

Water loss mgmt is 'hooked' to water rights

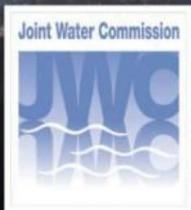
WMCPs over-simplify water system issues

Benchmarking is a useful tool to track and measure system performance



Joint Water Commission  
**Water Management  
and Conservation Plan**

prepared for



prepared by

**CH2MHILL**

and

**GSI**

Water Solutions, Inc.

August 2010

Available at  
[www.jwcwater.org](http://www.jwcwater.org)

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# Hillsboro Water Audit

Calendar Year	Total Production (MG)	Metered Consumption (MG)	Unaccounted for Water
2002	4,116	4,428	-8%
2003	4,504	4,818	-7%
2004	4,391	4,963	-13%
2005	4,527	5,003	-11%
2006	4,812	5,404	-12%
2007	4,824	5,207	-8%
<b>Average</b>	<b>4,529</b>	<b>4,970</b>	<b>-10%</b>

# Hillsboro Water Audit

Calendar Year	Total Production (MG)	Metered Consumption (MG)	Unaccounted for Water
2008	4,940	5,464	-12%
2009	4,972	5,512	-13%
2010	4,978	5,345	-10%
2011	5,475	5,191	4%
2012	5,892	5,744	3%