

**PROJECT CASE STUDY**

**WATER EFFICIENCY PROJECT**

Hotel Zelos  
12 4th St  
San Francisco, CA 94103

180 Guest rooms  
90% Projected Occupancy

At the Request of: PEB



How this property used Indoor Water Conservation's (IWC) Balanced Flow technology to:

Reduce Utility Costs (water, sewer & energy)	\$ 27,514 per year
	ROI 4.3 months

Reduce Water Consumption	763,998 gallons per year
Reduce Energy Consumption	4,705 therms per year

Summary

IWC's Water Use Assessment identified inefficiencies working with Management re: usage

IWC's Technicians measured variations in water pressure flow volumes and fixtures flows through the property to calibrate Flow Controller sizes.

IWC conducted a Post Installation audit to verify effectiveness of the solution.

# PROJECT ACHIEVEMENTS



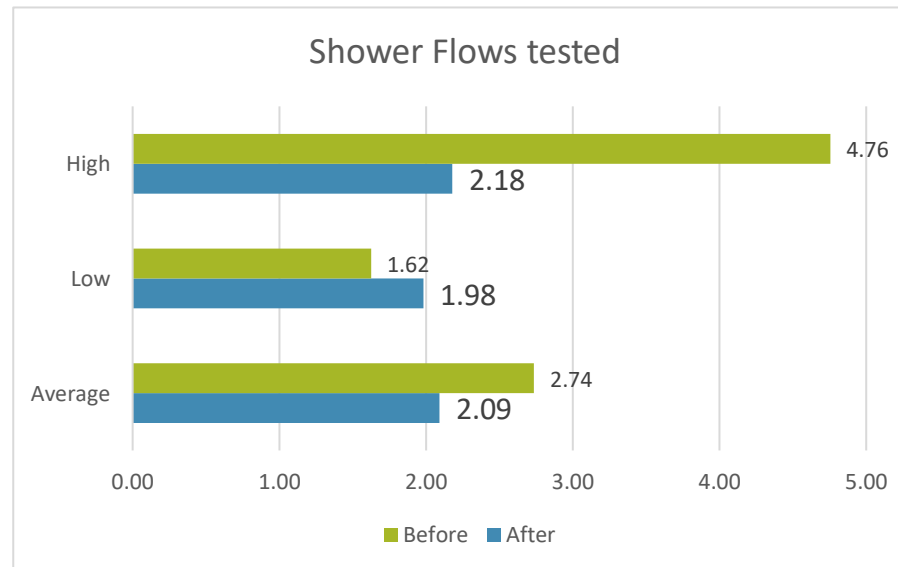
## PROBLEM - SOLVED

Unbalanced Shower and Sink flows were causing inefficient water and energy use

		COST
Excess Water Use	763,998 gallons per year	\$ 22,095 Water & Sewer
Excess Energy Use	4,705 therms per year	\$ 5,419 Energy
<b>Excess Water, Sewer &amp; Energy Costs</b>		<b>\$ 27,514 Annually</b>

## SOLUTION

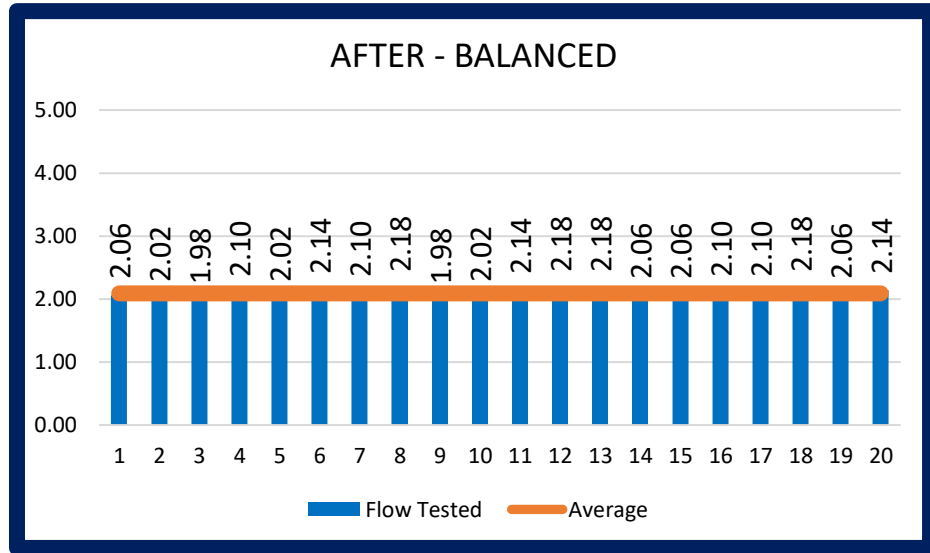
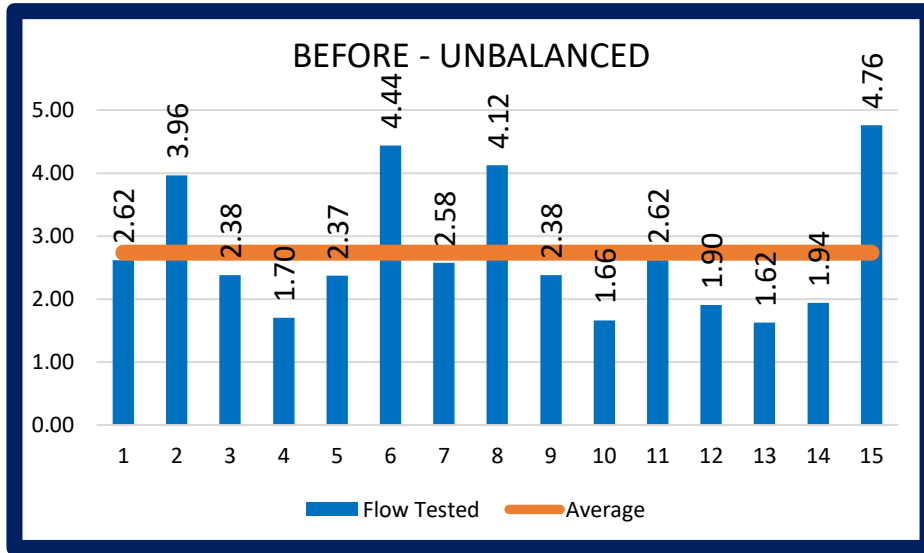
IWC Balanced flows in sinks and showers, delivering the same efficient flow in every room on every floor.





# OVERHEAD SHOWER FLOW COMPARISON

Flows are reported in gallons per minute



Comparative Chart - gallons per minute

Shower	Before	After	Delta
High	4.76	2.18	2.58
Low	1.62	1.98	-0.36
Ave	2.74	2.09	0.65
Spread	3.13	0.20	2.93

Lowered high flow by 2.58 gpm

Low flow increased, improving guest satisfaction

Lowered average flow, saving water & energy and reducing costs

Spread from high to low flows closed by almost 3.0 gpm

# COST & FLOW REDUCTION



<b>Savings per Occupied room in gallons per day</b>	<b>12.92 gallons per day/room</b>
Times: Water, sewer & energy rate per gallon	\$ 0.0360 combined utility rate per gallon
<b>SAVINGS PER OCCUPIED ROOM PER DAY</b>	<b>\$ 0.47</b>
Times: Estimated Occupied rooms per year	<u>59,130</u> (based on data provided by Management)
<b>ANNUAL UTILITY COST SAVINGS</b>	<b>\$ 27,514</b> (estimated)

<b>FLOWS TESTED</b>	<b>Sink</b>	<b>Overhead</b>	<b>Handheld</b>	<b>Kitchenette</b>	
BEFORE - Unbalanced flows average	0.00	2.74	0.00	0.00	gpm
AFTER - Balanced flows average	<u>0.00</u>	<u>2.09</u>	<u>0.00</u>	<u>0.00</u>	gpm
Savings per fixture	0.00	0.65	0.00	0.00	gpm
	#DIV/0!	24%	#DIV/0!	#DIV/0!	
<b>USAGE VARIABLES</b>					
Guests per room	0.00	2.00	0.00	0.00	
Usage per Guest (minutes)	<u>0.00</u>	<u>10.00</u>	<u>0.00</u>	<u>0.00</u>	
Total usage per room/day	0.00	20.00	0.00	0.00	minutes
Savings per fixture	<u>0.00</u>	<u>0.65</u>	<u>0.00</u>	<u>0.00</u>	gallons
<b>Savings POR per day - gallons</b>	0.00	12.92	0.00	0.00	<b>12.92</b>
Savings % per fixture	0%	100%	#DIV/0!	#DIV/0!	100%

gallons per day POR