

PROJECT CASE STUDY

WATER EFFICIENCY PROJECT

Embassy Suites - LAX

222 Guest rooms

At the Request of: Eric Ryan

9801 Airport Blvd

80% Projected Occupancy

Los Angeles, Ca 90045



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

Reduce Utility Costs (water, sewer & energy)	\$ 7,636	per year
Investment	\$ 5,574	ROI 8.8 months

Reduce Water Consumption	376,259	gallons per year
Reduce Energy Consumption	1,674	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 managed the Rebate process to obtain SoCal Watersmart's device rebate.

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

PROJECT ACHIEVEMENTS



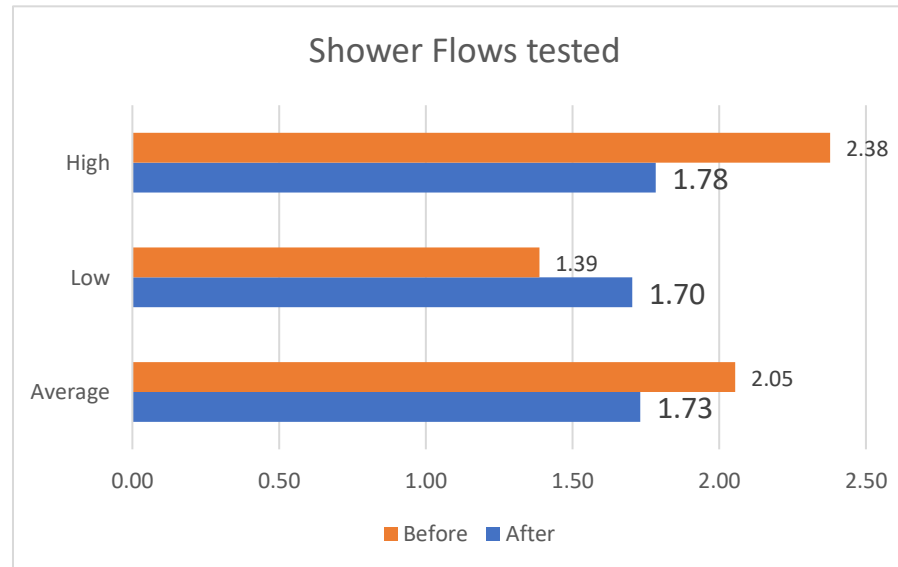
PROBLEM - SOLVED

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

		COST
Excess Water Use	296,302 gallons per year	\$ 4,827 Water & Sewer
Excess Energy Use	1,318 therms per year	\$ 1,187 Energy
Excess Water, Sewer & Energy Costs		\$ 6,013 Annually

SOLUTION

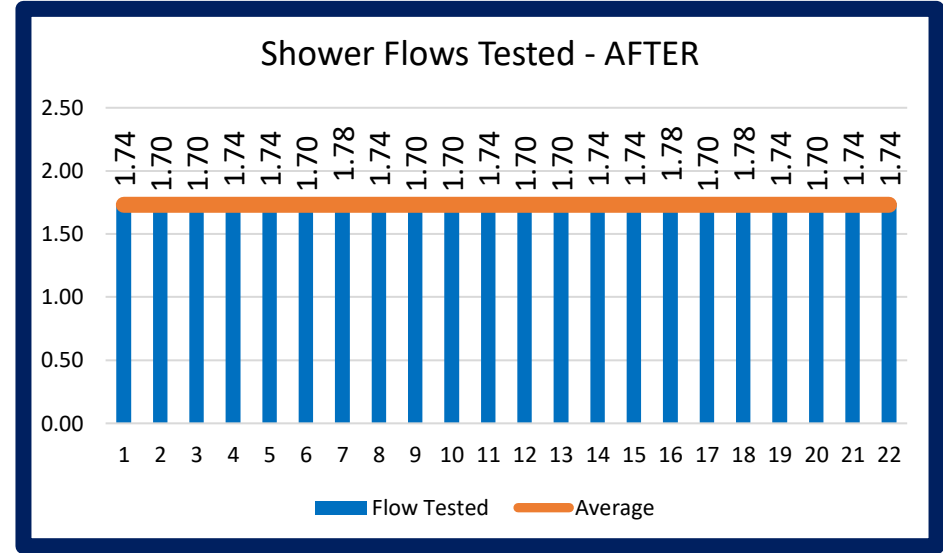
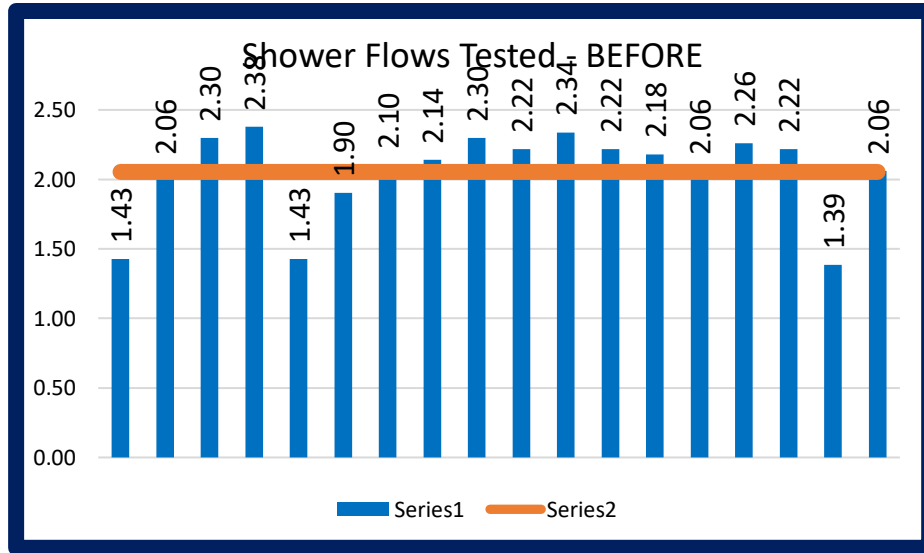
IWC Balanced flows in sinks and showers, delivering the same efficient flow in every room on every floor.





OVERHEAD SHOWER FLOW COMPARISON

Flows are reported in gallons per minute



Comparitive Chart - gallons per minute

Shower	Before	After	Delta	
High	2.38	1.78	0.59	Reduced high flow, lowering costs
Low	1.39	1.70	-0.32	Increased low flow, improving guest satisfaction
Ave	2.05	1.73	0.32	Reduced Average flows, lowering costs
Spread	0.99	0.08	0.91	Evened out spread from high to low, balancing flows

COST & FLOW REDUCTION



	BEFORE	AFTER	SAVINGS	
Water Cost	\$ 21,757	\$ 18,341	\$ 3,416	16%
Sewer Cost	\$ 17,282	\$ 14,569	\$ 2,713	16%
Energy Cost	\$ 9,597	\$ 8,090	\$ 1,507	16%
Total Costs	\$ 48,637	\$ 41,001	\$ 7,636	16%

FLOWS TESTED

	Sink	Overhead	Handheld	Kitchenette	
BEFORE - Unbalanced flows average	0.00	2.05	0.00	0.00	gpm
AFTER - Balanced flows average	<u>0.00</u>	<u>1.73</u>	<u>0.00</u>	<u>0.00</u>	gpm
Savings per fixture	0.00	0.32	0.00	0.00	gpm
		16%	#DIV/0!	#DIV/0!	

USAGE VARIABLES

Guests per room	0.00	1.50	0.00	0.00	
Usage per Guest (minutes)	<u>0.00</u>	<u>12.00</u>	<u>0.00</u>	<u>0.00</u>	
Total usage per room/day	0.00	18.00	0.00	0.00	minutes
Savings per fixture	<u>0.00</u>	<u>0.32</u>	<u>0.00</u>	<u>0.00</u>	gallons
Savings POR per day - gallons	0.00	5.80	0.00	0.00	5.80
Savings % per fixture	0%	100%	#DIV/0!	#DIV/0!	100%

gallons per day POR