PROJECT CASE STUDY — WATER EFFICIENCY PROJECT

W Los Angeles
930 Hilgard Avenue,
Los Angeles, CA 90024

297 Guest rooms
70% 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)			$ 12,373	per year
Investment	$ 10,674	ROI	10.4	months

Reduce Water Consumption	525,359	gallons per year
Reduce Energy Consumption	2,338	therms per year

Process

IWC's Water Use Assessment identified inefficienies 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 with the Metropolitan Water District to verify flows.

PROJECT ACHIEVEMENTS

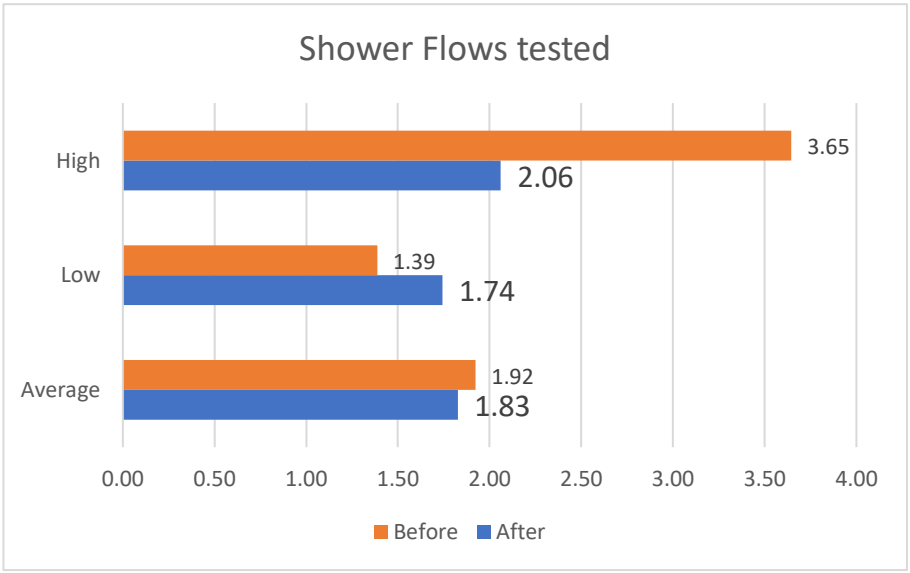
PROBLEM - SOLVED

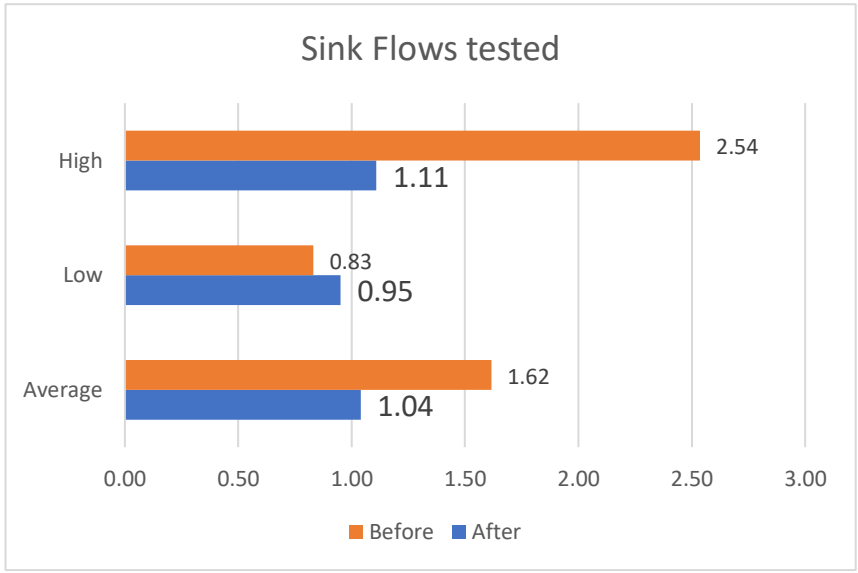
Unbalanced Shower and Sink flows were causing **inefficient water and energy use**

			COST	
Excess Water Use	525,359	gallons per year	$ 10,253	Water & Sewer
Excess Energy Use	2,338	therms per year	$ 3,616	Energy
		Excess Water, Sewer & Energy Costs	**$ 13,869**	**Annually**

SOLUTION

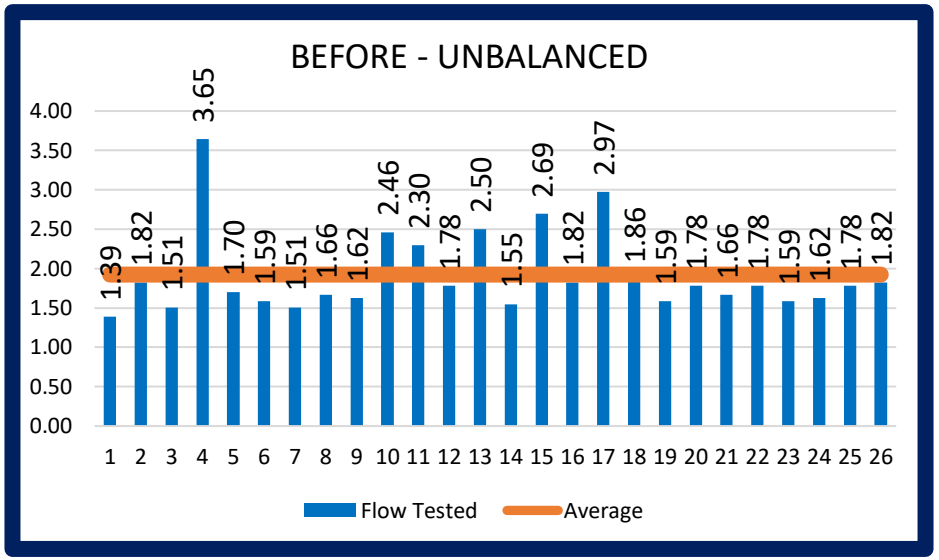
IWC Balanced flows in sinks and showers, delivering the same efficienct flow in every room on every floor.

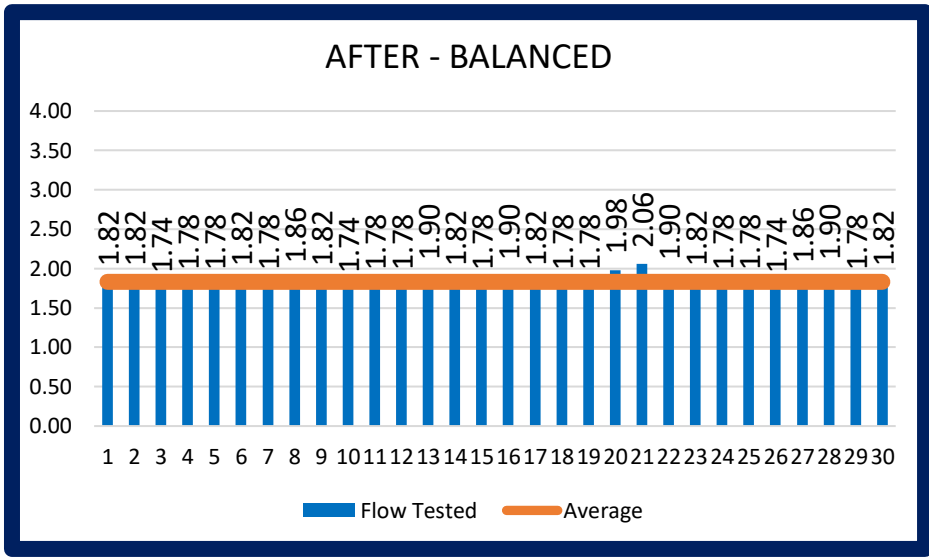




OVERHEAD SHOWER FLOW COMPARISON

Flows are reported in gallons per minute

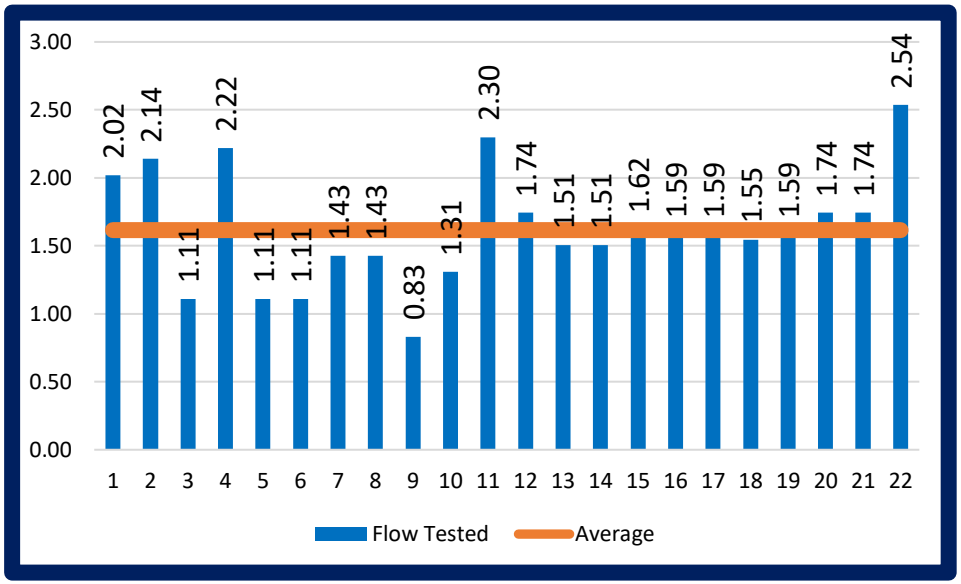


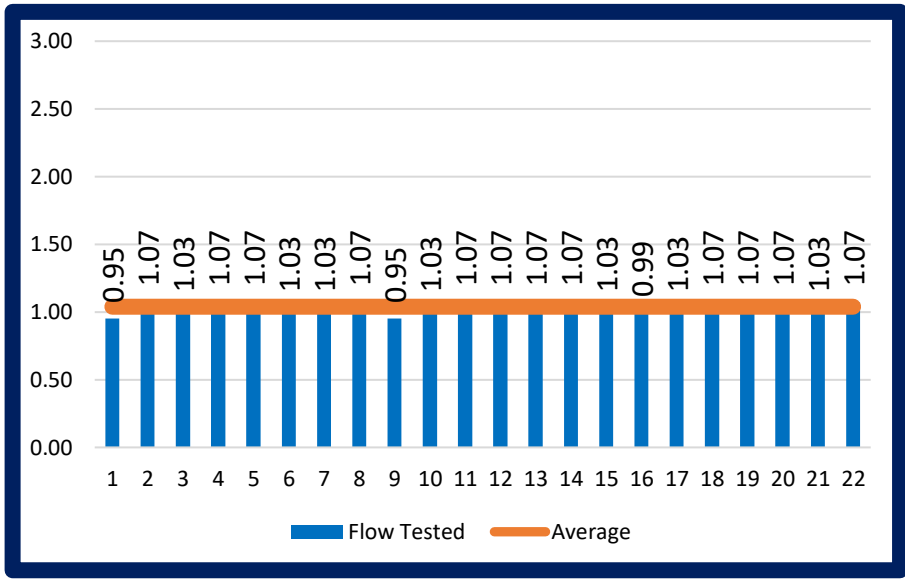


Comparitive Chart - gallons per minute

Shower	Before	After	Delta	
High	3.65	2.06	1.59	Reduced high flow tested from 3.65 gpm to 2.06 gpm
Low	1.39	1.74	-0.36	Increased low flow tested from 1.39 gpm to 1.74 gpm
Ave	1.92	1.83	0.09	Reduced average flows from 1.92 gpm to 1.83 gpm
Spread	2.26	0.32	1.94	Reduced spread between highest and lowest flow from 2.26 gpm to 0.32 gpm

BATH SINK FLOW COMPARISON DETAIL





Comparitive Chart - gallons per minute

Shower	Before	After	Delta	
High	2.54	1.11	1.43	Reduced highest flow tested from 2.54 gpm to 1.11 gpm
Low	0.83	0.95	-0.12	Increased lowest flow tested from 0.83 gpm to 0,95 gpm
Ave	1.62	1.04	0.58	Average sink flow reduced from 1.62 gpm to 1.04 gpm
Spread	1.70	0.16	1.55	Difference between high and low flows reduced from 1.7 gpm to 0.16 gpm

COST & FLOW REDUCTION

COST REDUCTION - costs reduction for fixtures with Balanced Flows, most recent average utility rates.

	BEFORE	AFTER	SAVINGS	
Water Cost	$ 34,203	$ 29,386	$ 4,817	14%
Sewer Cost	$ 30,751	$ 26,420	$ 4,331	14%
Energy Cost	$ 22,906	$ 19,680	$ 3,226	14%
Total Costs	$ 87,859	$ 75,486	$ 12,373	14%

FLOW REDUCTION

FLOWS TESTED	Sink	Overhead		
BEFORE - Unbalanced flows average	1.62	1.92	gpm	
AFTER - Balanced flows average	1.04	1.83	gpm	
Savings per fixture	0.58	0.09	gpm	
	36%	5%		
USAGE VARIABLES				
Guests per room	1.50	1.50		
Usage per Guest (minutes)	6.00	12.00		
Total usage per room/day	9.00	18.00	minutes	
Savings per fixture	0.58	0.09	gallons	
Savings POR per day - gallons	5.19	1.66		**6.85**
Savings % per fixture	76%	24%		100%

gallons per day POR